Development

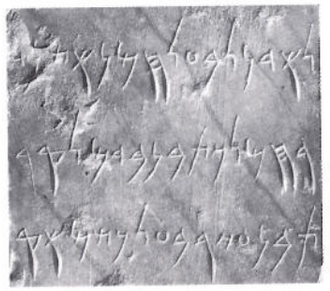
An alphabet is a series of culturally agreed upon marks—letters—that represent specific sounds. Before the Phœnicians (a seafaring mercantile group living in current-day Lebanon) developed an alphabet around 1500 B.C.E., written language had depicted entire words at a time. The picture of a bull meant a bull, independent of its pronunciation. Being able to write—to document speech—meant knowing the thousands of marks that represented all the things in the known world. By developing a system dependent upon sound ('ah') and not object (bull) or concept (love), the Phœnicians were able to capture language with 20 marks instead of hundreds or thousands. Writing—cuneiforms, hieroglyphs—had been practiced for several millennia before the Phœnicians developed their set of marks, but, for our purpose—the study of letterforms—in the beginning was the alphabet.

The word 'alphabet' is a compression of the first two letters of the Greek alphabet: alpha and beta. By 800 B.C.E., the Greeks had adapted the 20 letters from the Phœnician alphabet, changing the shape and sound of some letters. (The Phœnician alphabet is also the forerunner of modern-day Hebrew and Arabic, but our focus is on its European evolution.)

On the Italian peninsula, first the Etruscans and then the Romans appropriated the Greek alphabet for their own use. The Romans changed the forms of several Greek letters and, on their own, added the letters G, Y, and Z. As Rome's influence spread throughout Europe, Asia Minor, and northern Africa, so too did the Roman alphabet—and Roman letterforms.

Early letterform development: Phœnician to Roman

4th century B.C.E.
Phœnician votive stele
Carthage, Tunisia
The stele bears a four-line inscription to Tanit and Baal Hammon.



Initially, writing meant scratching into wet clay with a sharpened stick or carving into stone with a chisel. The forms of uppercase letterforms (for nearly 2,000 years the only letterforms) can be seen to have evolved out of these tools and materials. At their core, uppercase forms are a simple combination of straight lines and pieces of circles, as the materials and tools of early writing required. Each form stands on its own. This 'epigraphic' (inscriptional) or 'lapidary' (engraved in stone) quality differentiates upper- from lowercase forms.

The evolution of the letterform 'A':

Phœnician
1000 B.C.E.

Greek
900 B.C.E.

Roman
100 B.C.E.

The alphabet moved from Phœnicia through Greece to Rome, then throughout the Roman empire.

Date unknown
Greek fragment
Stone engraving

The Greeks changed the direction of writing. Phœnicians, like other Semitic peoples, wrote from right to left. The Greeks developed a style of writing called 'boustrophedon' ('how the ox ploughs'), which meant that lines of text read alternately from right to left and left to right.

As they changed the direction of reading, the Greeks also changed the orientation of the letterforms, like this:

OITCƎRIDƎHTƎƎNAHCYƎHTSA
NOFREADINGTHEYALSOCHANG
ƎTTƎLƎHTFONOITATNƎIRƎHTƎ

(Note: the Greeks, like the Phœnicians, did not use letterspaces or punctuation.) Subsequently, the Greeks moved to a strictly left-to-right direction for writing.

Late 1st century B.C.E.
Augustan inscription in the Roman Forum
Rome

Etruscan (and then Roman) carvers working in marble painted letterforms before inscribing them. Certain qualities of their strokes—a change in weight from vertical to horizontal, a broadening of stroke at start and finish—carried over into the carved forms.

Not all early writing was scratched in clay or carved in stone. Business contracts, correspondence, even love songs required a medium that was less formal and less cumbersome than stone allowed for. From 2400 B.C.E., scribes employed a wedge-shaped brush and papyrus for writing throughout the eastern Mediterranean. Papyrus was made from a bamboo-like plant that grew in the Nile valley. The plant's inner fibers were pulped, then flattened and dried under heavy weights.

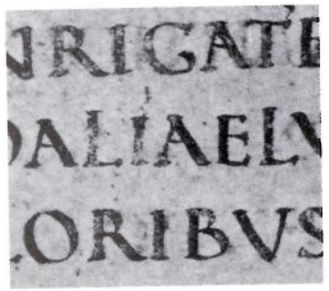
Despite its relative ease of use, papyrus had several drawbacks. It could not be written on on both sides, and it was too brittle to be folded. Its main drawback, however, was its single source—Egypt. Availability was limited not only to the size of the papyrus crop from year to year, but also to the Pharaoh's willingness to trade.

Ephemeral communication—notes, calculations, simple transactions—were often scratched out on wax panels framed in wood. When the communication had served its purpose, the wax could be smoothed out for subsequent use. This practice continued into the Middle Ages.

By 400 C.E., the codex (individual parchment sheets stitched together) had replaced the papyrus scroll as the preferred format for books.

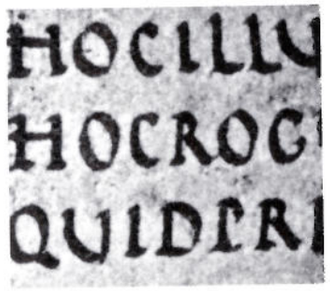
Hand script from 3rd to 10th century C.E.

4th or 5th century
Square capitals



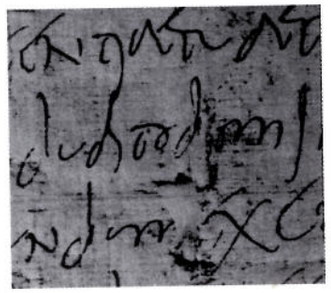
Square capitals were the written version of the lapidary capitals that can be found on Roman monuments. Like their epigraphic models, these letterforms have serifs added to the finish of the main strokes. The variety of stroke width was achieved by the use of a reed pen held at an angle of approximately 60° off the perpendicular.

Late 3rd to mid-4th century
Rustic capitals



A compressed version of square capitals, rustic capitals allowed for twice as many words on a sheet of parchment and took far less time to write. The pen or brush was held at an angle of approximately 30° off the perpendicular. Although rustic capitals were faster and easier to write than their square counterparts, they were slightly harder to read because of the compressed nature of the forms.

4th century
Roman cursive



Both square and rustic capitals were typically reserved for documents of some intended permanence. Everyday transactions, however, were typically written with a cursive hand, in which forms were simplified for speed. We can see here the beginning of what we now refer to as lowercase letterforms.

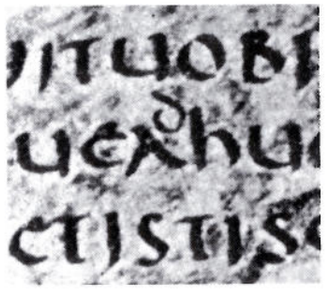
By 150 B.C.E., parchment had replaced papyrus as the writing surface of choice. Most famously manufactured in Pergamum (from which the word is derived), parchment was made from the treated skins of sheeps and goats. Vellum—a particularly fine version of parchment—was made from the skins of newborn calves. Unlike papyrus, parchment could be written on on both sides and folded without cracking. Its harder surface also stood up to a hard-nibbed reed pen, which in turn allowed for smaller writing.

Paper was invented in China in 105 C.E. by Ts'ai Lun, a court eunuch, who made a pulp of various available fibers, which he then spread over a piece of cloth and allowed to dry. His contemporaries (and those who followed) used a brush to 'paint' characters on the resulting, rather rough, sheet. Over time, the drying cloth was replaced by a dense screen of thin strips of bamboo. The technique did not reach Europe for 900 years.

Papermaking spread to Japan in the seventh century, to Samarkand (now Uzbekhistan) in the eighth, and then, via the Moors, to Spain, where papermaking was practiced around 1000 C.E. A paper mill (or factory), using water-powered machines to pulp linen fiber and fine screens to produce smooth, flexible sheets, was operating in Fabriano, Italy, by 1300. The process spread quickly through Europe. By 1600, more than 16,000 paper mills were in operation.

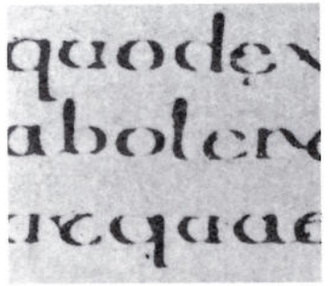
Abbey Church of Sainte-Foy
Conques, France
c. 1050–1120

4th–5th century
Uncials



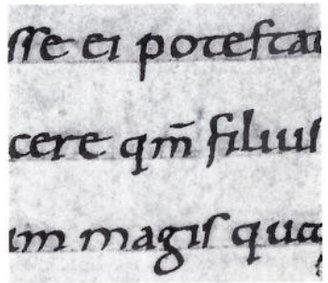
Uncials incorporated some aspects of the Roman cursive hand, especially in the shape of the A, D, E, H, M, U, and Q. 'Uncia' is Latin for a twelfth of anything; as a result, some scholars think that uncials refer to letters that are one inch (one twelfth of a foot) high. It might, however, be more accurate to think of uncials simply as small letters. The point for the scribe, after all, was to save expensive parchment, and the broad forms of uncials are more readable at small sizes than rustic capitals.

c. 500
Half-uncials



A further formalization of the cursive hand, half-uncials mark the formal beginning of lowercase letterforms, replete with ascenders and descenders, 2,000 years after the origin of the Phœnician alphabet. Due to the political and social upheaval on the European continent at the time, the finest examples of half-uncials come from manuscripts produced in Ireland and England.

925
Caroline miniscule



Charlemagne, the first unifier of Europe since the Romans, issued an edict in 789 to standardize all ecclesiastical texts. He entrusted this task to Alcuin of York, Abbot of St. Martin of Tours from 796 to 804, under whose supervision a large group of monks rewrote virtually all the ecclesiastical and, subsequently, secular texts then in existence. Their 'print'—including both majuscules (upper case) and miniscules (lower case)—set the standard for calligraphy for a century, including capitalization and punctuation.

Roman numerals, used in the first millennium throughout Europe, matched seven Roman letters.

I	V	X	L	C	D	M
1	5	10	50	100	500	1000

With the development of lowercase letterforms, the numerals came to be written in lowercase as well.

i	v	x	l	c	d	m
1	5	10	50	100	500	1000.

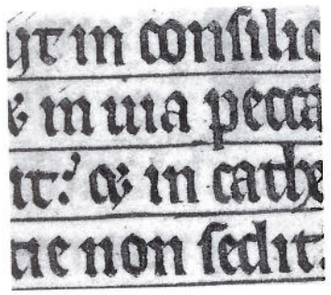
What we call Arabic numerals originated in India between 1,500 and 2,000 years ago. Our first evidence of their use in Arabic is from an Indian astronomical table, translated in Baghdad around 800 C.E. Arab scribes referred to them as Hindu figures, and they looked like this (remember, Arabic reads from right to left):

As with papermaking, use of Arabic numerals spread from Moorish Spain to Europe around 1000 C.E. The numerals were quickly adopted by merchants and scientists not only because of their legibility, but also, significantly, because they brought with them the Hindu concept of zero, which allowed for decimals and place value. Compare:

M viii and 1000 8

West façade
Amiens Cathedral, France
1220–1269

c. 1300
Blackletter (Textura)



With the dissolution of Charlemagne's empire came regional variations upon Alcuin's script. In northern Europe, a condensed, strongly vertical letterform known as blackletter or textura (for the woven effect it produced on a page of text) gained popularity. In the south, a rounder, more open hand, called 'rotunda,' prevailed. In northern France, England, and the Low Countries, a hybrid of the two, called *batarde*, was predominant. In the north, the blackletter style remained the standard for almost 500 years.

In the south, particularly in Italy, scholars were rediscovering, analyzing, and popularizing Roman and Greek texts. Their sources were written in Alcuin's Caroline miniscule, which they mistakenly believed to be that of the ancient authors. Scribes adapted the rotunda style to the Caroline as they copied the manuscipts, calling it 'scrittura humanistica'—humanist script.

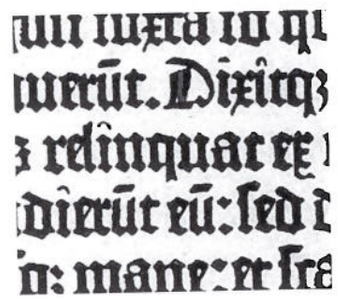
We know that Johann Gutenberg did not singlehandedly invent type-casting or printing, but what little we know of him—mostly from court documents describing a lifetime of unpaid debts—is a good deal more than what we know of his few contemporaries. We do know that his achievement has endured, and so he is central to the development of type.

Born in Mainz in 1397, Gutenberg moved in 1428 to Strasbourg, where he worked as a goldsmith. Printing at that time—and it was a new idea in Europe—consisted of burnishing a piece of paper against a carved, inked block of wood. By 1436 he had begun experimenting with a new technology—an adjustable mold system for 'casting' movable, reusable type from molten lead. In 1438 he designed his first press, based on the grape press used in winemaking. Along the way he developed an ink that had enough tack to stick to his metal type. By 1448 he had returned to Mainz and borrowed 150 gulden from a relative to set up shop.

By 1455, a subsequent mortgage from merchant Johann Fust had, with interest, reached 2,000 gulden. When Fust foreclosed, Gutenberg had to forfeit all his equipment—including his work in progress, the 42-line bible. Fust and his son-in-law Peter Schöffer finished production on the bible and sold it for a handsome profit.

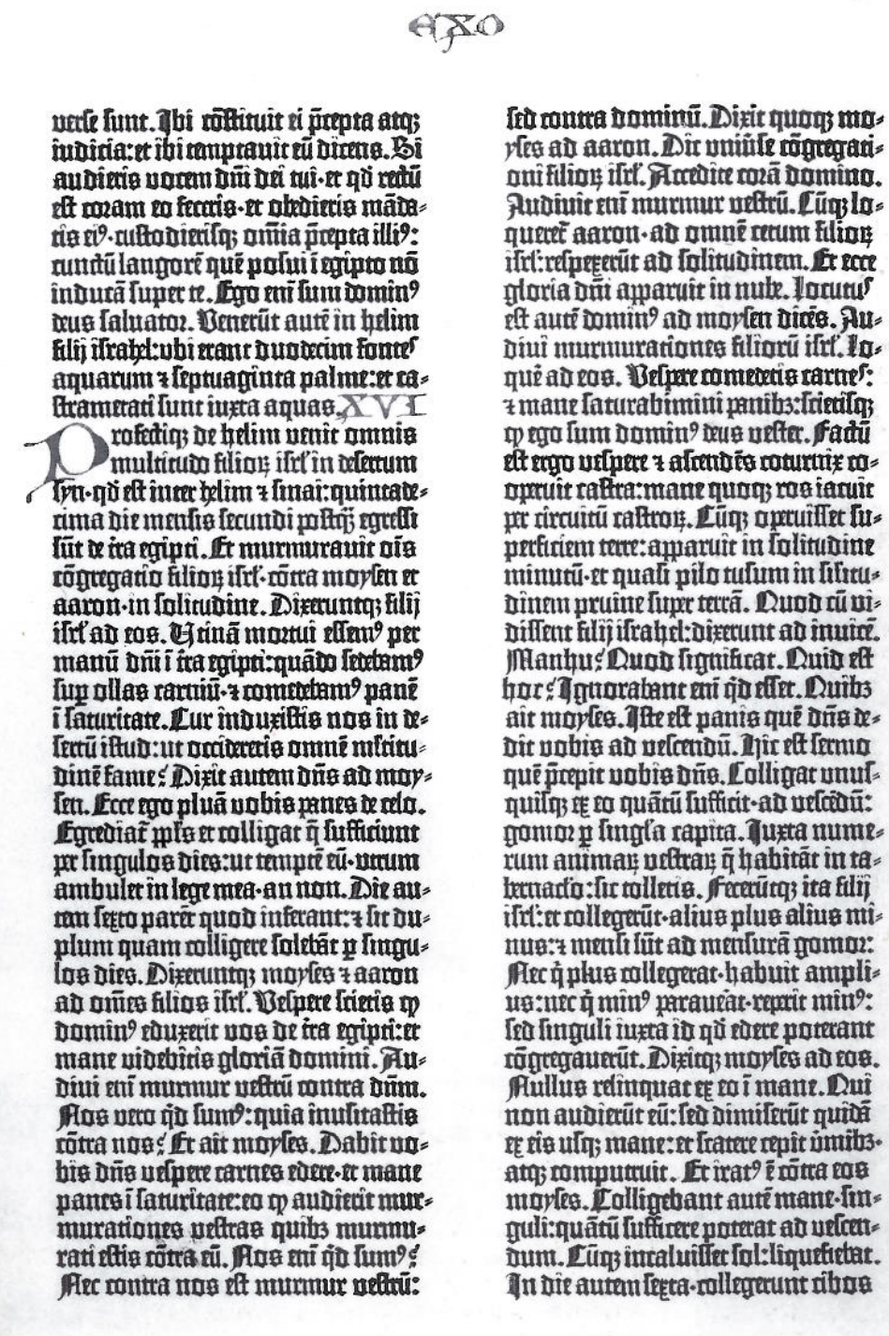
Fust and Schöffer continued printing and publishing with great success. Fust died in 1466. Gutenberg died penniless two years later. At Schöffer's death in 1502, his son Johann took over the business.

1455
42-line bible
Johann Gutenberg
Mainz
(below [detail] and opposite)



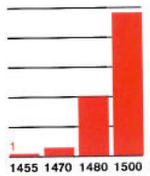
Gutenberg's skills included engineering, metalsmithing, and chemistry. He marshalled them all to build pages that accurately mimicked the work of the scribe's hand. For his letterforms, Gutenberg referred to what was known in his time and place—the blackletter of northern Europe. His type mold required a different brass matrix, or negative impression, for each letterform. Because he wanted his type to resemble handwriting as closely as possible, he eventually worked with 270 different matrices, including variants of individual letterforms and numerous ligatures.

D.L.I.A.D.T.
Library



Humanist script to roman type

European cities with printing offices, 1455–1500



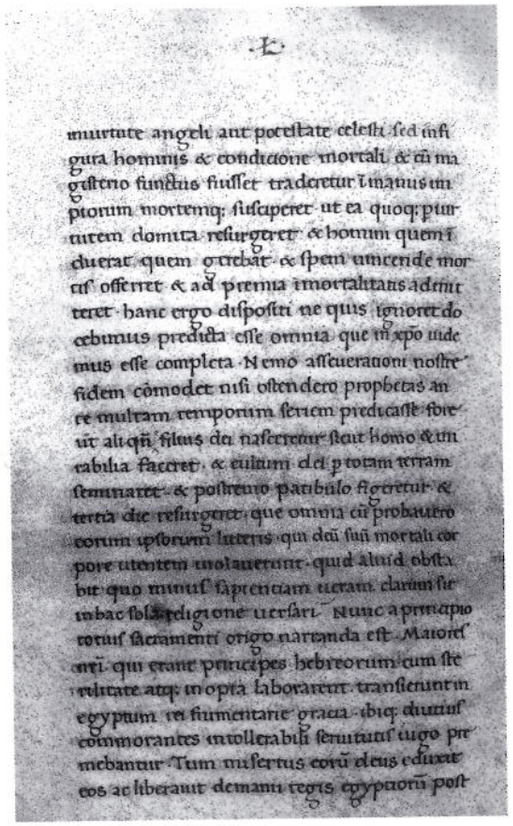
By 1500 there were 1,000 printing offices in 240 cities in Europe. 12,000,000 printed copies of 35,000 books were in distribution, more than all the books that had been hand-copied in the previous one and a half millennia.

In 1462, the city of Mainz was ransacked by troops of the Archbishop of Nassau. Printers—many of whom had come from other countries to learn the new technology—spread back out across Europe in search of safer havens for the practice of their craft.

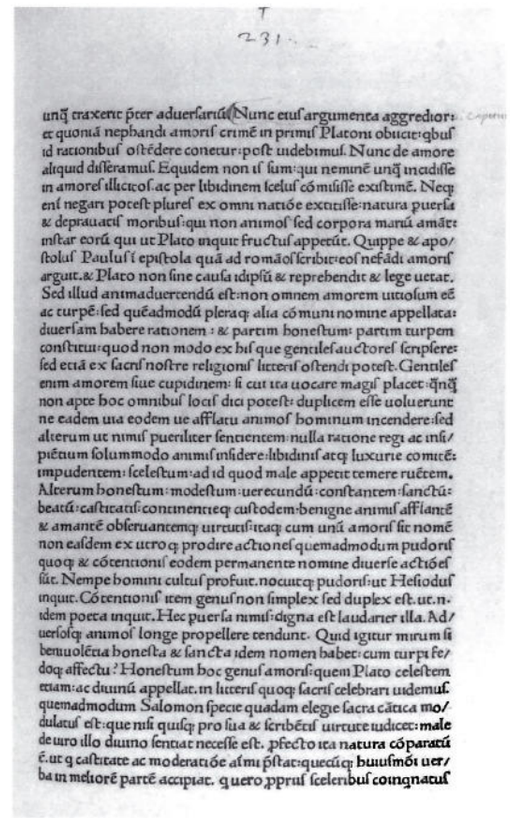
In 1465, two German printers—Conrad Sweynheym, who had clerked for Schöffer in Mainz, and Arnold Pannartz—established a press at the Benedictine monastery in Subiaco, some 31 miles (50 km) east of Rome. After printing just four books, they moved their press to the Palazzo de' Massimi in Rome, where they worked until 1473. Just as Gutenberg cast his type to mimic the prevailing writing style in the north, Sweynheym and Pannartz cast their type to match the Italian calligraphic hand, humanist script.

In 1469, German Johannes da Spira set up the first press in Venice. His type, too, reflected humanist script, but it displayed a regularity of tone that far exceeded the work of Sweynheym and Pannartz. Da Spira died in 1470, and his press was taken over by Nicholas Jenson, a Frenchman who had gone to Mainz in 1458 to learn type-casting and printing and who is believed to have cast da Spira's original type. Whether he did or not, in his own work until his death in 1480, Jenson effectively codified the esthetics of type for those who followed.

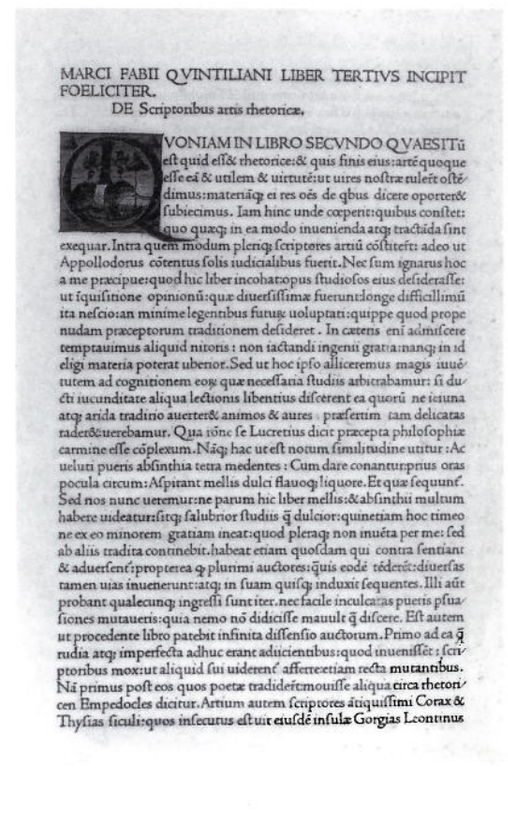
c. 1460
Lucius Lactantius
De Divinis Institutionibus
Venice



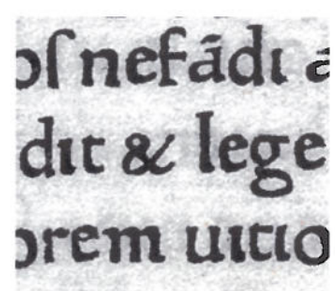
1472
Cardinal Johannes Bessarion
Adversus Calumniatorem Platonis
Conrad Sweynheym and Arnold Pannartz
Subiaco press, Rome

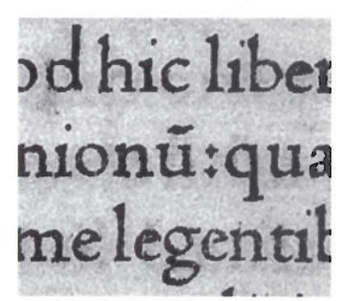


1471
Quintilian
Institutiones Oratoriae
Nicholas Jenson
Venice



These three pages (above and opposite, with details below), produced within around ten years of each other, demonstrate the transition from humanist script to roman type in Italy. Nicholas Jenson's accomplishment—in terms of both craft and form—is all the more vivid when compared to the contemporary work of Sweynheym and Pannartz.





Some early printing offices, by date

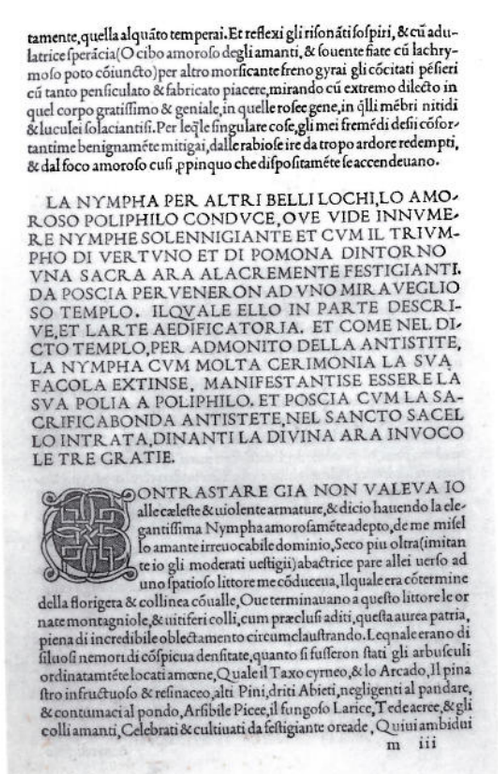
1461	Bamberg	1470	Paris	1474	Valencia
1462	Strasbourg		Toulouse	1475	Bruges
1465	Subiaco	1473	Lyons	1476	London
1466	Cologne		Utrecht	1477	Delft
1468	Augsburg		Ulm		
1469	Venice				

The spread of printing in the sixteenth century

1503 Turkey
1508 Romania
1515 Greece
1534 Mexico
1550 Ireland
1553 Russia
1556 India
1563 Palestine
1584 Peru
1590 Japan

Venetian type from 1500

1499
Colona
Hypnerotomachia Poliphili
type by Francesco Griffo



tamente, quella alquãto temperai. Et reflexi gli risonãti sospiri, & cũ adulatrice sperãcia (O cibo amoroso degli amanti, & souente fiate cũ lachrymoso poto cõiuncto) per altro morsicante freno gyrai gli cõcitati pẽsieri cũ tanto pensiculato & fabricato piacere, mirando cũ extremo dilecto in quel corpo gratissimo & geniale, in quelle rose e gene, in q̃lli mẽbri nitidi & luculei solaciantisi. Per leq̃le singulare cose, gli mei fremẽdi desii cõsortantime benignamẽte mitigai, dalle rabiose ire da tropo ardore redempti, & dal foco amoroso cusi, ꝓpinquo che dispositamẽte se accendeuano.

LA NYMPHA PER ALTRI BELLI LOCHI, LO AMOROSO POLIPHILO CONDVCE, OVE VIDE INNVMERE NYMPHE SOLENNIGIANTE ET CVM IL TRIVMPHO DI VERTVNO ET DI POMONA DINTORNO VNA SACRA ARA ALACREMENTE FESTIGIANTI. DA POSCIA PER VENER ON AD VNO MIRAVEGLIOSO TEMPLO. ILQVALE ELLO IN PARTE DESCRIVE, ET LARTE AEDIFICATORIA. ET COME NEL DICTO TEMPLO, PER ADMONITO DELLA ANTISTITE, LA NYMPHA CVM MOLTA CERIMONIA LA SVA FACOLA EXTINSE, MANIFESTANTISE ESSERE LA SVA POLIA A POLIPHILO. ET POSCIA CVM LA SACRIFICABONDA ANTISTETE, NEL SANCTO SACELLO INTRATA, DINANTI LA DIVINA ARA INVOCOLE TRE GRATIE.

CONTRASTARE GIA NON VALEVA IO alle cælestе & uiolente armature, & dicio hauendo la elegantissima Nympha amorosamẽte adepto, de me misello amante irreuocabile dominio, Seco piu oltra (imitante io gli moderati uestigii) abactrice pare allei uerso ad uno spatioso littore me cõduceua, llquale era cõtermine della florigera & collinea cõualle, Oue terminauano a questo littore le ornate montagniole, & uitiferi colli, cum præclusi aditi, questa aurea patria, piena di incredibile oblectamento circumclaustrando. Leqnale erano di siluosi nemori di cõspicua densitate, quanto si fussero stati gli arbusculi ordinatamtẽte locati amœne, Quale il Taxo cyrneo, & lo Arcado, Il pinastro infructuoso & resinaceo, alti Pini, driti Abieti, negligenti al pandare, & contumaci al pondo, Arsibile Picee, il fungoso Larice, Tede aeree, & gli colli amanti, Celebrati & cultiuati da festigiante oreade, Quiui ambidui

m iii

LVCR.

O bruerent terras: nisi inædificata superne
M ulta forent multis exempto nubila sole.
N ec tanto possent terras opprimere imbri:
F lumina abundare ut facerent: atq́ pos q́ natare:
S i non extructis foret alte nubibus æther.
H is igitur uentis, atq́ ignibus omnia plena
S unt: ideo passim fremitus, & fulgura fiunt.
Q uippe etenim supra docui permulta uaporis
S emina habere atuas nubes: & multa necesse est
C onãpere ex solis radijs, ardorq́ eorum.
H oc, ubi uentus eas idem qui cogit in unum
F orte locum quemuis, expressit multa uaporis
S emina: seq́ simul cum eo commiscuit igni:
I nsinuatus ibi uortex uersatur in alto:
E t calidis acuit fulmen fornacibus intus.
N am duplici ratione accenditur: ipse sua cum
M obilitate calescit: & è contagibus ignis.
I nde ubi peraluit uis uenti: uel grauis ignis
I mpetus incessit: maturum tum quasi fulmen
P erscindit subito nubem: fertur q́ coruscis
O mnia luminibus lustrans loca percitus ardor.
Q uem grauis insequitur sonitus: displosa repente
O pprimere ut cœli uideantur templa superne.
I nde tremor terras grauiter pertentat: & altum
M urmura percurrunt cœlum: nam tota ferè tum
T empestas concussa tremit: fremitusq́ mouentur.
Q uo de concussu sequitur grauis imber, & uber:
O mnis uti uideatur in imbrem uertier æther:
A tq́ ita præcipitans ad diluuiem reuocare:
T antus dissidio nubis, uentiq́ procella,

Venetian publisher Aldus Manutius (1450–1515), was the first of the great European printer-scholars, his books valued for their accuracy and scholarship. Their beauty owed much to Francesco Griffo da Bologna, a type-caster working for Manutius. By making the uppercase letters shorter than the ascenders in the lower case, Griffo was able to create a more even texture on the page than Jenson had achieved.

Manutius's achievements include the first pocket-sized books, whose low cost and easy portability helped foster the spread of knowledge among Renaissance scholars. In 1501, editions of Virgil and Juvenal featured Griffo's first *italic* typeface, based on the chancery script favored by papal scribes. The immediate value of the italic was its narrower letterforms, which allowed for more words on a page, thereby reducing paper costs. Griffo's italics were produced only in the lower case.

1515
Lucretius
De Rerum Natura
type by Francesco Griffo

Gentile Bellini
***Procession of the Reliquary of the Cross in Piazza San Marco* (detail)**
1496
Galleria dell'Accademia, Venice

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ

abcdefghijklmn
opqrstuvwxyz
1234567890

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz
1234567890

Bembo (shown here) is based on type cut by Francesco Griffo in 1495 for an edition of *De Aetna* by Pietro Bembo. This revival of Griffo's typeface was first produced by the Monotype Corporation in 1929, under the direction of Stanley Morison. The italic is based not on Griffo's type, but on the calligraphy of early sixteenth-century scribes Ludovico degli Arrighi and Giovantonio Tagliente.

During the first quarter of the sixteenth century, Geofroy Tory introduced the colon, accent marks, and the cedilla (ç) into printing.

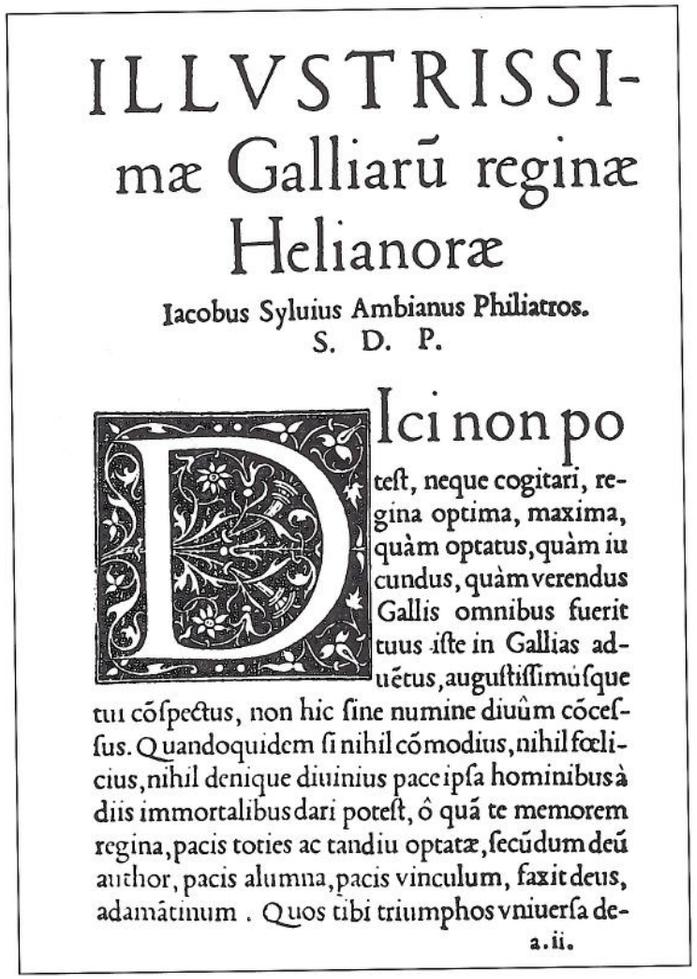
1531
***Illustrissimae Galliaru reginae Helianorae* (opening page)**
Printed by Robert Estienne
Paris
Type-cast by Claude Garamond

The earliest printers in France brought with them the blackletter they had learned to cast in Mainz. By 1525, however, a group of French printers—among them Henri and Robert Estienne, Simon de Colines, Geofroy Tory, and Jean de Tournes—had made the Venetian model their own, mirroring contemporary French interest in Italian Renaissance culture.

Of particular importance to the history of type is Parisian Claude Garamond (1480–1561), the first independent type founder. Beyond establishing type-casting as a profession distinct from printing, Garamond created letterforms more expressive of the steel in which he worked than of the strokes made by a calligrapher's pen. A comparison of a Venetian 'a' (Monotype Dante, below left) with Garamond's (Adobe Garamond, below right) clearly demonstrates the difference:

a a

Around 1540, Garamond and his collaborator Robert Granjon developed the first italic forms that were intended for use with roman forms, including an italic upper case. Granjon's work in italic continued until 1577, when he designed a typeface called Civilité that reverted back to the elaborate French *batarde* handwriting of the day. Although it did not supplant italic, it did spur a line of script typefaces that continues to the present.



ILLVSTRISSI-
mæ Galliarũ reginæ
Helianoræ
Iacobus Syluius Ambianus Philiatros.
S. D. P.

DIci non potest, neque cogitari, regina optima, maxima, quàm optatus, quàm iucundus, quàm verendus Gallis omnibus fuerit tuus iste in Gallias aduẽtus, augustissimúsque tui cõspectus, non hic sine numine diuũm cõcessus. Quandoquidem si nihil cõmodius, nihil fœlicius, nihil denique diuinius pace ipsa hominibus à diis immortalibus dari potest, ô quã te memorem regina, pacis toties ac tandiu optatæ, secũdum deũ author, pacis alumna, pacis vinculum, fazit deus, adamãtinum . Quos tibi triumphos vniuersa de-

a.ii.

Château Azay-le-Rideau
France
1518–1527

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ

abcdefghijklmn
opqrstuvwxyz
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz
1234567890

For years, most typefaces called Garamond were derived from cuttings produced in 1615 by Jean Jannon based on Garamond's work. Robert Slimbach produced Adobe Garamond (shown here) in 1989, working directly from specimens of Garamond's roman and Granjon's italic.

Dutch printing, c. 1600

The spread of printing in the seventeenth century

1602 Philippines
1610 Lebanon
Bolivia
1639 America
1640 Iran
1642 Finland
1643 Norway
1644 China

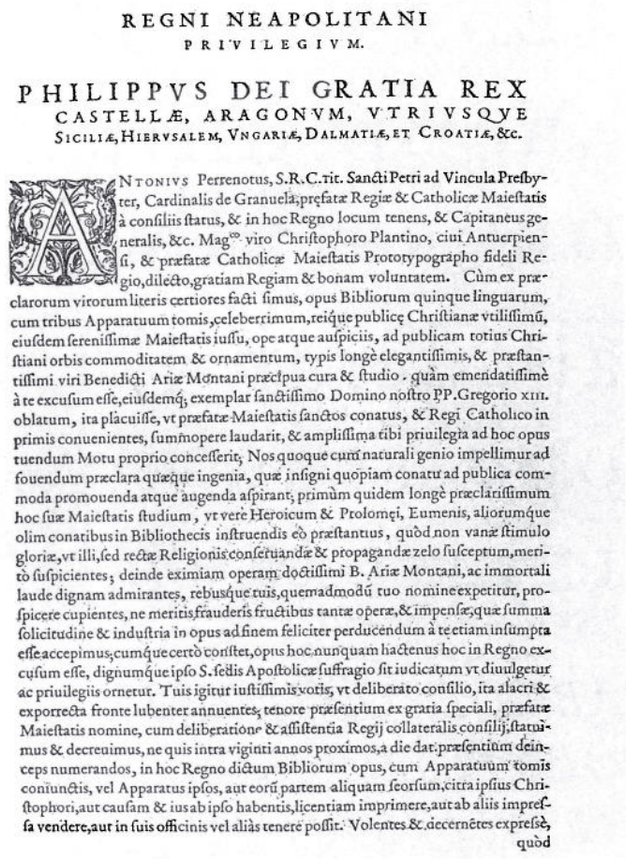
1572
***Polyglot Bible* (Preface)**
Printed by Christophe Plantin
Antwerp

By the end of the sixteenth century, Dutch publishing houses, particularly the Plantin-Moretus and Elzevir family enterprises, were among the most successful in Europe. At first, these publishers and printers bought much of their type from French foundries. By the seventeenth century, however, they were buying from type founders closer at hand.

Dutch type was widely recognized not so much for its intrinsic beauty as for its clarity and sturdiness. Compare, for example, (French) Adobe Garamond (left) and (Dutch) Linotype Janson (right):

a a

Virtually all English type of the period was purchased in Holland. The Oxford University Press, founded in 1667, purchased its first type from Christoffel van Dijck of Amsterdam. In 1672, Bishop John Fell brought over punches and matrices for the Press cut by Dirk and Bartholomew Voskens.



REGNI NEAPOLITANI
PRIVILEGIVM.

PHILIPPVS DEI GRATIA REX
CASTELLÆ, ARAGONVM, VTRIVSQVE
SICILIÆ, HIERVSALEM, VNGARIÆ, DALMATIÆ, ET CROATIÆ, &c.

ANTONIVS Perrenotus, S.R.C.tit. Sancti Petri ad Vincula Presbyter, Cardinalis de Granuelã, pręfatæ Regiæ & Catholicæ Maiestatis à consiliis status, & in hoc Regno locum tenens, & Capitaneus generalis, &c. Mag^co viro Christophoro Plantino, ciui Antuerpiensi, & præfatæ Catholicæ Maiestatis Prototypographo fideli Regio, dilecto, gratiam Regiam & bonam voluntatem. Cùm ex præclarorum virorum literis certiores facti simus, opus Bibliorum quinque linguarum, cum tribus Apparatuum tomis, celeberrimum, reiq́ue publicę Christianæ vtilissimũ, eiusdem serenissimæ Maiestatis iussu, ope atque auspiciis, ad publicam totius Christiani orbis commoditatem & ornamentum, typis longè elegantissimis, & præstantissimi viri Benedicti Ariæ Montani præcipua cura & studio, quàm emendatissimè à te excusum esse, eiusdemq́; exemplar sanctissimo Domino nostro PP. Gregorio XIII. oblatum, ita placuisse, vt præfatæ Maiestatis sanctos conatus, & Regi Catholico in primis conuenientes, summopere laudarit, & amplissima tibi priuilegia ad hoc opus tuendum Motu proprio concesserit; Nos quoque cum naturali genio impellimur ad fouendum præclara quæq́ue ingenia, quæ insigni quoq́ue conatu ad publica commoda promouenda atque augenda aspirant; primùm quidem longè præclarissimum hoc suæ Maiestatis studium, vt vere Heroicum & Ptolomęi, Eumenis, aliorumq́ue olim conatibus in Bibliothecis instruendis eò præstantius, quòd non vanæ stimulo gloriæ, vt illi, sed rectæ Religionis conseruandæ & propagandæ zelo susceptum, meritò suspicientes; deinde eximiam operam doctissimi B. Ariæ Montani, ac immortali laude dignam admirantes, rebusq́ue tuis, quemadmodũ tuo nomine expetitur, prospicere cupientes, ne meritis frauderis fructibus tantæ operæ, & impensæ, quæ summa solicitudine & industria in opus ad finem feliciter perducendum à te etiam insumpta esse accepimus; cumq́ue certò constet, opus hoc nunquam hactenus hoc in Regno excusum esse, dignumq́ue ipso S. sedis Apostolicæ suffragio sit iudicatum vt diuulgetur ac priuilegiis ornetur. Tuis igitur iustissimis votis, vt deliberato consilio, ita alacri & exporrecta fronte lubenter annuentes; tenore præsentium ex gratia speciali, præfatæ Maiestatis nomine, cum deliberatione & assistentia Regij collateralis consilij, statuimus & decreuimus, ne quis intra viginti annos proximos, a die dat. præsentium deinceps numerandos, in hoc Regno dictum Bibliorum opus, cum Apparatuum tomis coniunctis, vel Apparatus ipsos, aut eorũ partem aliquam seorsum, citra ipsius Christophori, aut causam & ius ab ipso habentis, licentiam imprimere, aut ab aliis impressa vendere, aut in suis officinis vel aliàs tenere possit. Volentes & decernẽtes expressè, quòd

Jacob van Campen
Royal Palace
(formerly Amsterdam Town Hall)
Dam Square
1647–1655

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ

abcdefghijklmn
opqrstuvwxyz
1234567890

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
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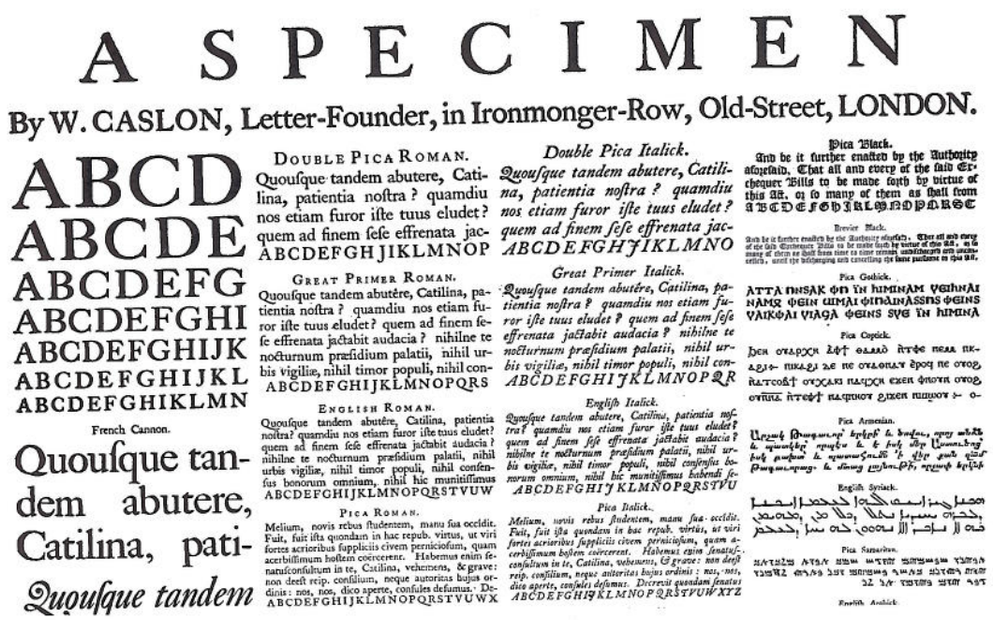
abcdefghijklmn
opqrstuvwxyz
1234567890

Although Janson was named for Dutch punch-cutter Anton Janson, we now know that it was cut by Hungarian Nicholas Kis in 1690. This version from Linotype is based on Stempel Foundry castings made in 1919 from Kis's original matrices.

English type from the eighteenth century

In the eighteenth century, a formal distinction in English spelling was accepted between 'i' and 'j', 'u' and 'v'. At the same time, 'w', as opposed to 'vv', became a distinct character.

1734
William Caslon
Type specimen sheet
London



A SPECIMEN

By W. CASLON, Letter-Founder, in Ironmonger-Row, Old-Street, LONDON.

ABCD
ABCDE
ABCDEFG
ABCDEFGHI
ABCDEFGHIJK
ABCDEFGHIJKL
ABCDEFGHIKLMN

French Cannon.

Quouſque tandem abutere, Catilina, pati-

Quouſque tandem

Double Pica Roman.

Quouſque tandem abutere, Catilina, patientia noſtra? quamdiu nos etiam furor iſte tuus eludet? quem ad finem ſeſe effrenata jac-
ABCDEFGHIJKLMNOP

Great Primer Roman.

Quouſque tandem abutêre, Catilina, patientia noſtra? quamdiu nos etiam furor iſte tuus eludet? quem ad finem ſeſe effrenata jactabit audacia? nihilne te nocturnum præſidium palatii, nihil urbis vigiliæ, nihil timor populi, nihil con-
ABCDEFGHIJKLMNOPQRS

English Roman.

Quouſque tandem abutêre, Catilina, patientia noſtra? quamdiu nos etiam furor iſte tuus eludet? quem ad finem ſeſe effrenata jactabit audacia? nihilne te nocturnum præſidium palatii, nihil urbis vigiliæ, nihil timor populi, nihil conſenſus bonorum omnium, nihil hic munitiſſimus
ABCDEFGHIJKLMNOPQRSTVUW

Pica Roman.

Melium, novis rebus ſtudentem, manu ſua occidit. Fuit, fuit iſta quondam in hac repub. virtus, ut viri fortes acrioribus ſuppliciis civem perniciosum, quam acerbiſſimum hoſtem coercerent. Habemus enim ſenatuſconſultum in te, Catilina, vehemens, & grave: non deeſt reip. conſilium, neque autoritas hujus ordinis: nos, nos, dico aperte, conſules deſumus.
ABCDEFGHIJKLMNOPQRSTVUWX

Double Pica Italick.

Quouſque tandem abutere, Catilina, patientia noſtra? quamdiu nos etiam furor iſte tuus eludet? quem ad finem ſeſe effrenata jac-
ABCDEFGHJIKLMNO

Great Primer Italick.

Quouſque tandem abutêre, Catilina, patientia noſtra? quamdiu nos etiam furor iſte tuus eludet? quem ad finem ſeſe effrenata jactabit audacia? nihilne te nocturnum præſidium palatii, nihil urbis vigiliæ, nihil timor populi, nihil con-
ABCDEFGHIJKLMNOPQR

English Italick.

Quouſque tandem abutere, Catilina, patientia noſtra? quamdiu nos etiam furor iſte tuus eludet? quem ad finem ſeſe effrenata jactabit audacia? nihilne te nocturnum præſidium palatii, nihil urbis vigiliæ, nihil timor populi, nihil conſenſus bonorum omnium, nihil hic munitiſſimus habendi ſe-
ABCDEFGHIJKLMNOPQRSTVU

Pica Italick.

Melium, novis rebus ſtudentem, manu ſua occidit. Fuit, fuit iſta quondam in hac repub. virtus, ut viri fortes acrioribus ſuppliciis civem perniciosum, quam acerbiſſimum hoſtem coercerent. Habemus enim ſenatuſconſultum in te, Catilina, vehemens, & grave: non deeſt reip. conſilium, neque autoritas hujus ordinis: nos, nos, dico aperte, conſules deſumus. Decrevit quondam ſenatus
ABCDEFGHIJKLMNOPQRSTVUWXYZ

Pica Black.

And be it further enacted by the Authority aforeſaid, That all and every of the ſaid Exchequer Bills to be made forth by virtue of this Act, or ſo many of them as ſhall from
ABCDEFGHIJKLMNOPQRSTU

Brevier Black.

And be it further enacted by the Authority aforeſaid, That all and every of the ſaid Exchequer Bills to be made forth by virtue of this Act, or ſo many of them as ſhall from time to time remain unſatisfied and uncancelled, and the indorſements and converting the ſame purſuant to this Act,

Pica Gothick.

ATTA ΠΗΣΑΚ ΦΗ ΪΝ ΗΙΜΙΝΑΜ ΨΕΙΝΝΑΙ ΝΑΜΧ ΦΕΙΝ ΩΜΑΙ ΦΙΝΔΙΝΑΣΣΗΣ ΦΕΙΝΣ ΥΑΙΚΦΑΙ ΥΙΑΘΑ ΦΕΙΝΣ ΣΥΣ ΪΝ ΗΙΜΙΝΑ

Pica Coptick.

Ϩⲉⲛ ⲟⲩⲁⲣⲭⲏ Ⲗϯ ⲟⲗⲗⲟ ϯⲧⲫ ⲡⲉⲗⲗ ⲡⲓⲁ-
ϩⲣⲓ- ⲡⲓⲕⲁϩⲓ ϩⲉ ⲡⲉ ⲟⲩⲁⲫⲁⲛ ϧⲟⲓ ⲛⲉ ⲟⲩⲟϩ,
ϩⲁⲧⲟⲃϯ ⲟⲩⲭⲁⲓ ⲛⲁⲓⲣⲏ ⲉϫⲉⲛ ⲫⲛⲟⲩⲧ ⲟⲩⲟϩ,
ⲟⲩⲙⲏⲓ ϯⲧⲫϯ ⲛⲁⲫⲙⲟⲩ ϩⲓϫⲉⲛ ⲡⲙⲟⲟⲩ ϭ- ⲟ-

Pica Armenian.

Ընդ մեծագոյն երկրի և հոգաւոր պարծանաց և գրաւականաց ի քեզ ամբարեալ Ցասուցանեմ զքեզ ամենայն ազգաց ի վերայ քում զամբարտաւանութիւն քո։ Եւ մեռցուս զմեծութիւն
քոյ։ զանիրաւութիւն և զանազանութիւն ի վերայ քում զամբարտաւանութիւն քո։ Եւ մեռցուս զամենայն երկրի

English Syriack.

ܡܨܝܢ ܕܢܬܪܬܝ ܐܝܟܡܐ ܕܐܝܟ ܡܢ ܟܠܗ ܐܪܥܐ ܕܐܪܥܐ ܗܘ ܠܐ ܡܫܬܠܝܢ ܠܟ ܗܘ ܠܐ ܡܫܬܠܝܢ ܠܟ ܗܘ ܠܐ ܡܫܬܠܝܢ ܠܟ ܗܘ ܠܐ ܡܫܬܠܝܢ ܠܟ

Pica Samaritan.

ⲗⲁⲧⲉⲓⲛⲟⲥ ⲁⲩⲉⲗⲁ ⲙⲙⲟⲩ ⲙⲁⲣⲉⲛ ⲙⲁⲣⲉⲛⲙⲟⲩ ⲛⲉⲙⲁⲛ
ⲛⲉⲙⲁⲛⲉⲛ ⲉⲣⲁⲗⲁ ⲛⲉⲛ ⲛⲁⲣⲉⲛ ⲛⲁⲣⲉⲛⲙⲟⲩ ⲛⲁⲙⲁⲛ ⲛⲁⲣⲉⲛ
ⲛⲁⲣⲉⲛⲙⲟⲩ ⲛⲁⲙⲁ

1761
William Congreve
The Works of William Congreve
Typeset and printed by John Baskerville
Birmingham

At the turn of the eighteenth century, Philippe Grandjean was almost a decade into production of a *romain du roi* for Louis XIV's royal press—a project that would carry on 30 years past his death in 1714. Characterized by thin, unbracketed serifs, extreme contrast between thick and thin strokes, and a perpendicular stress, the typeface marked a clear departure from the types of Griffo and Garamond and met with immediate acclaim. However, as the personal property of the King, it could not be used by commercial printers.

Enterprising type founders in France began copying Grandjean's work almost immediately, but the most successful application of his ideas came from John Baskerville (1706–1775), a self-taught type founder, papermaker, and printer in Birmingham. Baskerville's type featured pronounced contrast between thick and thin strokes and a clear vertical stress. Compare Bembo (left) and Baskerville (right):

To maintain the delicacy of his type on the page, Baskerville had to develop several ancillary technologies. To prevent his shiny ink from spreading beyond the actual imprint of the page, he crafted his own very smooth paper (now called a 'wove' finish; earlier, ribbed sheets are called 'laid'). He also pressed his sheets between heated copper plates after printing to hasten drying.

The LIFE *of* CONGREVE. xix

natural, that, if we were not apprifed of it, we fhould never have fufpected they were Tranflations. But there is one Piece of his which ought to be particularly diftinguifhed, as being fo truly an Original, that though it feems to be written with the utmoft Facility, yet we may defpair of ever feeing it copied: This is his *Doris,* fo highly and fo juftly commended by Sir *Richard Steele,* as the fharpeft and moft delicate Satire he had ever met with.

His two Pieces of the Dramatic Kind, do him equal Honor as a Poet and as a Lover of Mufic, *viz. The Judgment of Paris,* a Mafque, and *The Opera of Semele.* Of thefe, the former was acted with great Applaufe, and the latter finely fet to Mufic by Mr. *Eccles.* In Refpect to both, it is but Juftice to fay, that they have the fame Stamp of Excellency with the Reft of his Writings, were confidered as Mafter-pieces when publifhed, and may ferve as Models to Pofterity.

His *Effay upon Humor in* Englifh *Comedy,* is, without Doubt, as inftructive, as entertaining,

George Hepplewhite
Window stool
from *The Cabinet-Maker and Upholsterer's Guide*
London
1790

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ

abcdefghijklmn
opqrstuvwxyz
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

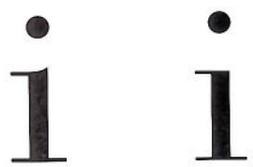
abcdefghijklmn
opqrstuvwxyz
1234567890

Monotype Baskerville was produced in 1929 under Stanley Morison's direction.

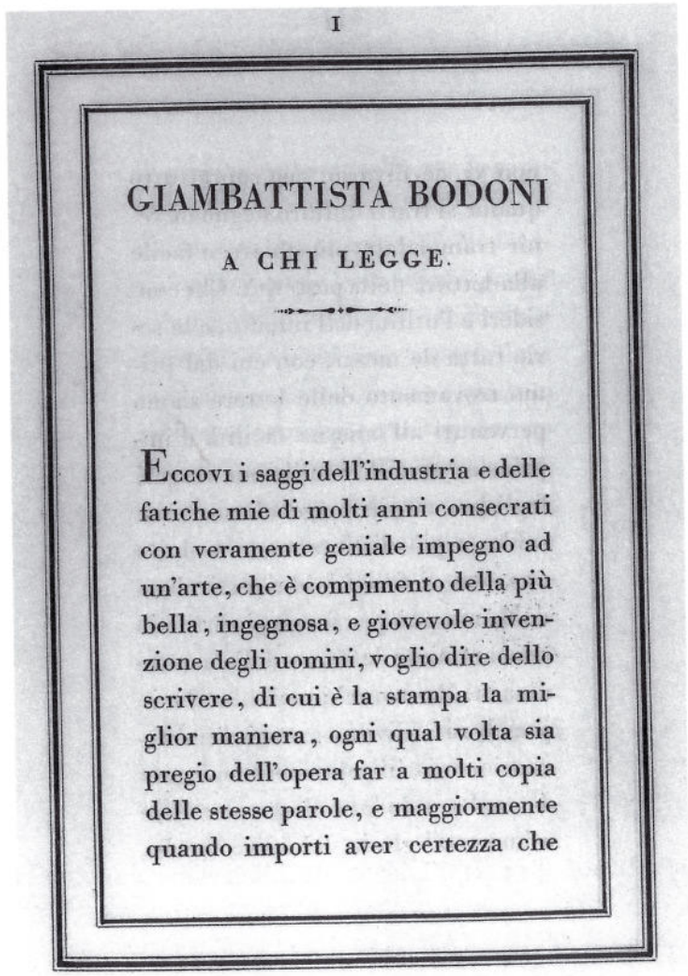
1818
Giambattista Bodoni
Manuale Tipografico
Parma (published posthumously)

Baskerville's innovations exerted a notable influence on European type founders, particularly the Didot and Fournier families in France and Giambattista Bodoni (1740–1813) in Italy.

Serving as the subsidized private printer to the Duke of Parma, Bodoni produced over 100 typefaces. His early typefaces retain some elements we associate with Baskerville, primarily in the gentle slope of the upper serifs of the 'i', 'j', and 'l'. Firmin Didot, by contrast, produced type with unbracketed, purely horizontal serifs. Compare Bauer Bodoni (left) and Linotype Didot (right):



Bodoni carried forward the technological advances begun by Baskerville, improving both ink and paper surface to show off his delicate type to best advantage.

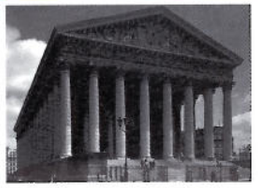


I

GIAMBATTISTA BODONI

A CHI LEGGE.

Eccovi i saggi dell'industria e delle fatiche mie di molti anni consecrati con veramente geniale impegno ad un'arte, che è compimento della più bella, ingegnosa, e giovevole invenzione degli uomini, voglio dire dello scrivere, di cui è la stampa la miglior maniera, ogni qual volta sia pregio dell'opera far a molti copia delle stesse parole, e maggiormente quando importi aver certezza che



Alexandre-Pierre Vignon
Church of Mary Magdalene
('La Madeleine')
Paris
1807–1842

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklmn
opqrstuvwxyz
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
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abcdefghijklmn
opqrstuvwxyz
1234567890

Bauer Bodoni, produced by Louis Höll of the Bauer type foundry in 1926, is based on Bodoni's cuts of 1789. It shows clearly the differences between what Bodoni actually produced and what people often think of as 'Bodoni.'

ABC

W CASLON JUNR

Boldface

The Industrial Revolution of the early nineteenth century, triggered by the invention of the steam engine, changed printing, typesetting, and type-casting from the product of the human hand to the product of power-driven machinery. The sheer speed of mechanized presses meant that thousands of copies could be printed in the time it formerly took to print dozens. The sudden, wide dissemination of printed matter contributed to the rise of literacy as dramatically as the invention of printing itself had three and a half centuries earlier. It also created a new market of consumers for manufacturers. Products (and services, for that matter) could be advertised to broad masses at relatively low cost. Printers began to distinguish between book printing and jobbing, or commercial printing. This new printing required a new esthetic.

Typefaces from the previous centuries, designed for text settings, seemed inadequate for the new medium of advertising. Bigger, bolder, louder type was required to make messages stand out in the otherwise gray printed environment. One of the first type founders to experiment with a 'fat face' was Robert Thorne, who in 1803 cast the face that bears his name (above, left). Hundreds of boldfaces followed.

For several decades, boldfaces existed in a class distinct from text type. However, by the time typefaces from the sixteenth, seventeenth, and eighteenth centuries were revived in the early twentieth, type founders (notably Morris Benton of American Type Founders) were so accustomed to working with boldface that they chose to retrofit bold forms into each typeface 'family,' along with existing italics, small caps, etc.

Sans serif

One variation of the boldface idea involved losing serifs altogether. First introduced by William Caslon IV in 1816 (above, right), sans serif type, featuring no change in stroke weight, was reserved almost exclusively for headlines, although there are occasional examples of sans serif captions.

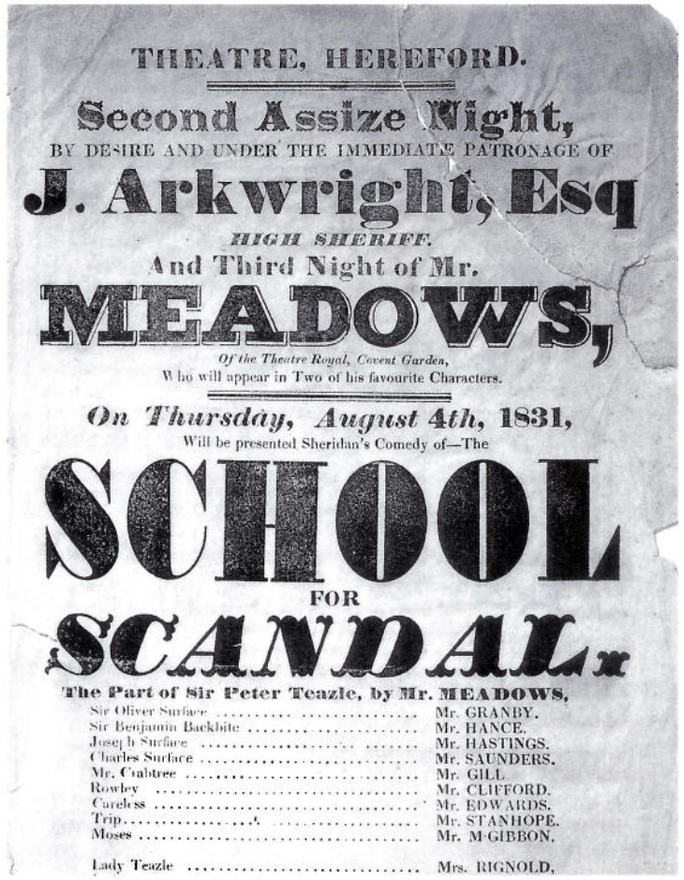
Caslon named his type 'Egyptian,' probably because the art and architecture of ancient Egypt had colored European imagination since Napoleon's campaign and the discovery of the Rosetta stone in 1799. But the label didn't stick. Opponents of the form quickly called it 'grotesque'; others termed it 'gothic' (a style that was also enjoying a revival in the early nineteenth century). English type founder Vincent Figgins was the first to call it 'sans syrruph,' in 1832.

Charles Barry and A.W.N. Pugin
Houses of Parliament
London
1840–1860

Display faces

Since medieval copyists had illuminated initial letters in manuscripts, typographers had often produced oversized, intricately detailed letterforms to provide color and contrast on the text page. In the nineteenth century, at the same time as the development of boldface and for much the same reason, type founders began casting entire typefaces—upper and lower case—decorated (illuminated) to suggest various architectural and natural motifs. Typically, these typefaces were intended for use as headlines or display material; hence, the term 'display face.' In most cases the vogue for any particular display face lasted only as long as the trend in fashion it mimicked.

The subsequent evolution of type technology (first photo typesetting, then digital rendering), combined with the desire of some designers to introduce novelty for its own sake, has given rise to the use of these display faces (and their twentieth-century offspring) in all kinds of settings, from 100 pt. display material in advertising to 7 pt. phone numbers on business cards. As it happens, we all know our alphabet well enough that we can usually read the letters and numbers in display faces despite the tortuous machinations they have endured.



THEATRE, HEREFORD.

Second Assize Night,

BY DESIRE AND UNDER THE IMMEDIATE PATRONAGE OF

J. Arkwright, Esq

HIGH SHERIFF.

And Third Night of Mr.

MEADOWS,

Of the Theatre Royal, Covent Garden,

Who will appear in Two of his favourite Characters.

On Thursday, August 4th, 1831,

Will be presented Sheridan's Comedy of—The

SCHOOL

FOR

SCANDAL.

The Part of Sir Peter Teazle, by Mr. MEADOWS,

Sir Oliver Surface	Mr. GRANBY.
Sir Benjamin Backbite	Mr. HANCE.
Joseph Surface	Mr. HASTINGS.
Charles Surface	Mr. SAUNDERS.
Mr. Crabtree	Mr. GILL.
Rowley	Mr. CLIFFORD.
Careless	Mr. EDWARDS.
Trip	Mr. STANHOPE.
Moses	Mr. M'GIBBON.
Lady Teazle	Mrs. RIGNOLD.

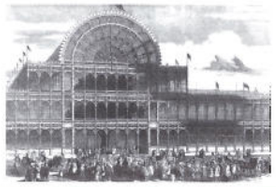
1831
Poster

1817
Vincent Figgins
Specimens of Printing Types
London

A fourth nineteenth-century development in typography—the square serif—first appeared in England in 1817. Just as William Caslon IV was eliminating serifs altogether, other type founders were fattening them up to have the same weight as the strokes of the letterform itself. First called 'Antique' by Vincent Figgins (above), the type eventually became known as 'Egyptian,' perhaps because its strong serifs mirrored the base and capital of an Egyptian column.

Although some nineteenth-century square serifs (such as Clarendon) drew upon traditional letterforms (and, like Clarendon, had bracketed serifs), many twentieth-century typefaces referred to geometric models.

The mechanization of printing, and the allied rise of advertising, contributed to a general degradation of both the printer's and the typographer's craft. By the end of the nineteenth century, movements in both the U.S. and the U.K. were afoot to revive the handicraft and the care of previous centuries' printing, led by William Morris's Kelmscott Press in 1891.



Front of Crystal Palace
Hyde Park, London
from *The Illustrated London News*
May 1851

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

Adrian Frutiger designed Serifa for the Bauer foundry in 1967. Compare Frutiger's forms with earlier, more geometric slab serifs like Memphis (below), designed by Rudolf Wolf in 1929 for the Stempel foundry.

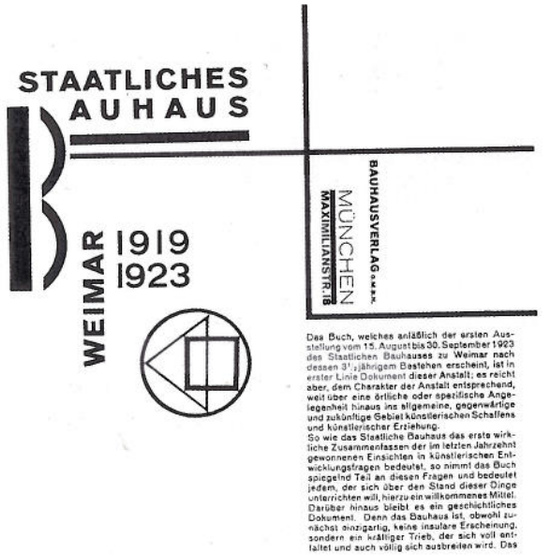
ABCDEFGHIJ
KLMNOPQRST
UVWXYZ
1234567890
abcdefghijkl
mnopqrstuvw
xyz

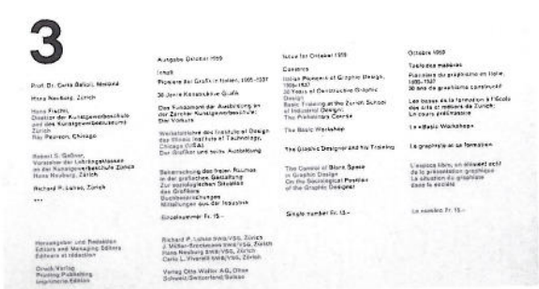
The movement to revive older type models flourished in the early twentieth century, led by T. J. Cobden-Sanderson, Stanley Morison, and Beatrice Warde in the U.K. and Daniel Berkeley Updike, Frederick W. Goudy, W. A. Dwiggins, and Bruce Rogers in the U.S. Their scholarly work showed typography, for the first time, to be a subject worthy of study, even as they demonstrated the value of earlier forms.

At the same time, the astonishing and often bewildering technological developments of the new century, combined with widespread social upheaval in Europe and America, caused many to seek new forms of graphic expression. Sans serif type—until then reserved for headlines and captions—was seen by many as most appropriate for asymmetric page composition that broke with traditional models. It is worth noting that the idea of graphic design as a profession distinct from printing, type-casting, or 'fine' art, began at the same time.

1923
(top)
Prospectus for the Bauhaus
László Moholy-Nagy

1959
(bottom)
New Graphic Design
Josef Müller-Brockmann, Richard Lohse, Hans Neuberg, and Carlo Vivarelli, eds.





Lyubov Popova
set design of Fernand Crommelynk, *Le Cocu magnifique*
State Institute of Theatrical Art
Moscow
1922

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz
1234567890

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

The first widely used sans serif typeface, Akzidenz Grotesk was developed by the Berthold type foundry in 1896. ('Akzidenz' is the German term for the 'schrift' or type used by commercial—as opposed to book—printers, and 'Grotesk' is the nineteenth-century German word for sans serif. In the United States, the typeface was known simply as 'Standard.') The light weight includes a set of lowercase numerals (shown in red) designed by Erik Spiekermann in 1990.

Edward Johnston
London Underground logo
London
1916

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

Designed by Eric Gill in 1928, Gill Sans is based on the typeface his teacher Edward Johnston created in 1916 for the signage of the London Underground. Gill also designed several serif typefaces (Perpetua, Joanna, Arial), which share many of the proportions and characteristic counters of Gill Sans. Although strictly contemporary in effect, Gill's type, like Johnston's before him, owes much to the proportions and forms of the Renaissance letter.

Pierre
Jenneret
(Le Corbusier)
Villa Savoie
Poissy, France
1928–1929

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

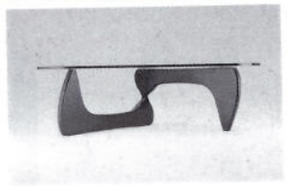
ãλαaeφgmnr
1234567890

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

Designed by Paul Renner in 1927, Futura is the first geometric sans serif typeface designed for text applications. Although Futura seems to use basic geometric proportions, it is in fact a complex combination of stressed strokes and complex curves, with stronger connections to preceding serif forms than its spare effect would at first suggest.

Renner designed a number of lowercase forms and numerals for Futura (shown in red), which the Bauer foundry abandoned but which were revived by The Foundry (London) as Architype Renner in 1994.



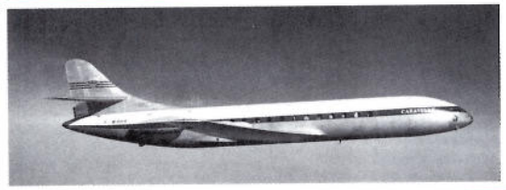
Isamu Noguchi
Coffee table
1944

	Univers 53	Univers 63	Univers 73	Univers 83
	Univers 54	*Univers 64*	*Univers 74*	*Univers 84*
Univers 45	Univers 55	Univers 65	Univers 75	Univers 85
Univers 46	*Univers 56*	*Univers 66*	*Univers 76*	*Univers 86*
Univers 47	Univers 57	Univers 67		
Univers 48	*Univers 58*	*Univers 68*		
Univers 39	Univers 49	Univers 59		

By mid-century, photo typesetting had replaced metal type for most commercial work, further freeing both typesetting and layouts from the technical restrictions of older traditions. Photo typesetting had its own drawbacks, however, which were finally resolved with the introduction of desktop publishing in the 1980s.

Although Adrian Frutiger is well respected for a number of widely used typefaces, his masterwork is Univers, released in 1957 by the Deberny & Peignot foundry in Paris for both metal and photo type. In an effort to eliminate the growing confusion in typeface terminology (thin/light, regular/medium, bold/black), Frutiger used numbers rather than names to describe the palette of weights and widths in Univers. (Opposite: Univers 55.)

In any 2-digit descriptor, the first number designates line weight (3- is the thinnest, 8- the heaviest) and the second designates character width (-3 is the most extended, -9 the most condensed). Even numbers indicate italic, odd numbers roman. Frutiger has subsequently used this system on other typefaces he has designed (Serifa, Glypha, Frutiger, Avenir, etc.), and other type manufacturers have adapted his system for some of their typefaces (Helvetica Neue, etc.).



The 'Caravelle'
French jet transport plane
1956

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
1234567890

abcdefghijklmn
opqrstuvwxyz

An expanded type 'family'

Apple® Computer
iMac
1998

In the last 15 years, some typographers, notably Otl Aicher, Martin Majoor, and Sumner Stone, have developed families of typefaces that not only include a range of color (light/regular/bold/black), but also incorporate serif and sans serif fonts. Shown here are samples from Aicher's Rotis family, drawn in 1989.

Rotis Serif — Regular

Rotis SemiSerif — Regular

Rotis SemiSans — Regular

Rotis Sans Serif — Regular

Rotis Serif Regular

Rotis Serif Italic

Rotis Serif Bold

Rotis SemiSerif Regular

Rotis SemiSerif Bold

Rotis SemiSans Light

Rotis SemiSans Light Italic

Rotis SemiSans Regular

Rotis SemiSans Italic

Rotis SemiSans Bold

Rotis SemiSans Extra Bold

Rotis Sans Serif Light

Rotis Sans Serif Light Italic

Rotis Sans Serif Regular

Rotis Sans Serif Italic

Rotis Sans Serif Bold

Rotis Sans Serif Extra Bold

Text type classification

Dates of origin approximated to the nearest quarter century.

As you have seen, type forms have developed in response to prevailing technology, commercial needs, and esthetic trends. Certain models have endured well past the cultures that spawned them. Recognizing the need to identify the stages of type form development, typographers have come up with a number of systems to classify typefaces, some of them dizzying in their specificity.

The classification here, based on one devised by Alexander Lawson, covers only the main forms of text type. Decorative styles have been omitted, and sans serif forms have been grouped together without differentiation between humanist and geometric forms.

This system offers a useful, if simplified, description of the kinds of type you will most often encounter when working with text. As your experience with type develops, you should definitely familiarize yourself with other, more specific, systems. Keep in mind that the best system is the one that most helps you recognize kinds of typefaces and their historical origins.

1450

Blackletter
The earliest printing type, its forms were based upon the hand-copying styles then used for books in northern Europe.

Examples:
Cloister Black
Goudy Text

1475

Oldstyle
Based upon the lowercase forms used by Italian humanist scholars for book copying (themselves based upon the ninth-century Caroline miniscule) and the uppercase letterforms found inscribed on Roman ruins, the forms evolved away from their calligraphic origins over 200 years, as they migrated across Europe, from Italy to England.

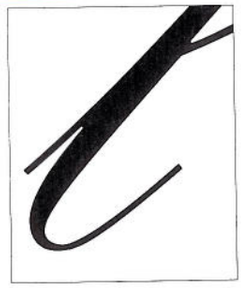
Examples:
Bembo
Caslon
Dante
Garamond
Janson
Jenson
Palatino

1500

Italic
Echoing contemporary Italian handwriting, the first italics were condensed and close-set, allowing more words per page. Although originally considered their own class of type, italics were soon cast to complement roman forms. Since the sixteenth century, virtually all text typefaces have been designed with accompanying italic forms.

1550

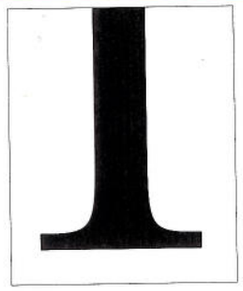
Script
Originally an attempt to replicate engraved calligraphic forms, this class of type is not entirely appropriate in lengthy text settings. In shorter applications, however, it has always enjoyed wide acceptance. Forms now range from the formal and traditional to the casual and contemporary.



Examples:
Kuenstler Script
Mistral
Snell Roundhand

1750

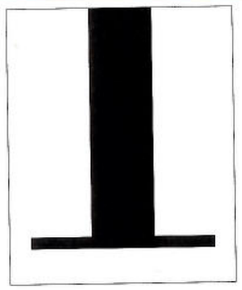
Transitional
A refinement of Oldstyle forms, this style was achieved in part because of advances in casting and printing. Thick-to-thin relationships were exaggerated, and brackets were lightened.



Examples:
Baskerville
Bulmer
Century
Times Roman

1775

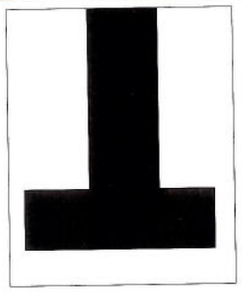
Modern
This style represents a further rationalization of Oldstyle letterforms. Serifs were unbracketed, and the contrast between thick and thin strokes was extreme. English versions (like Bell) are also known as Scotch Romans and more closely resemble transitional forms.



Examples:
Bell
Bodoni
Caledonia
Didot
Walbaum

1825

Square serif
Originally heavily bracketed serifs, with little variation between thick and thin strokes, these faces responded to the newly developed needs of advertising for heavy type in commercial printing. As they evolved, the brackets were dropped. This class is also known as slab serif.

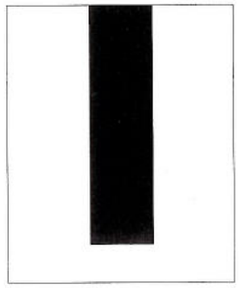


Examples:
Clarendon
Memphis
Rockwell
Serifa

See **Appendix B** for displays of some of the typefaces mentioned in this chart.

1900

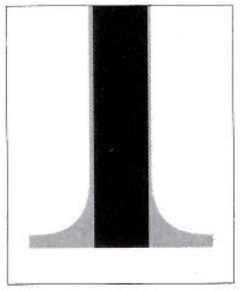
Sans serif
As their name implies, these typefaces eliminated serifs altogether. Although the form was first introduced by William Caslon IV in 1816, its use did not become widespread until the beginning of the twentieth century. Variations tended toward either humanist forms (Gill Sans) or the rigidly geometric (Futura). Occasionally, strokes were flared to suggest the calligraphic origins of the form (Optima). Sans serif is also referred to as grotesque (from the German 'grotesk') and gothic.



Examples:
Akzidenz Grotesk
Grotesque
Gill Sans
Franklin Gothic
Frutiger
Futura
Helvetica
Meta
News Gothic
Optima
Syntax
Trade Gothic
Univers

1990

Serif/sans serif
A recent development, this style enlarges the notion of a family of typefaces to include both serif and sans serif alphabets (and, often, stages between the two).



Examples:
Rotis
Scala
Stone