Designing with Type

By Jeremy Austen

A Designer's Typographic Book

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This book is dedicated to anyone who loves typography.

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The Story of Typography

The Beginning of Written Language

The prologue to the story of typography is the story of development of the alphabet and handwriting. The first known written language was cuneiform. This and the later Egyptian scripts, and the Phoenician, Greek and Etruscan alphabets, were the inspiration for the Roman alphabet, which we use today. Several different forms of handwriting were then developed, such as the Roman square capitals, uncials, and the Carolingian miniscule from which came the Gothic miniscule and humanistic writing, the models for the early moveable types of the 15th century.

Written language was invented by the Sumerians, who established the first advanced civilization in Southern Mesopotamia in 3500 B.C. They are credited with making the first "written" marks around 3150 B.C. which were signs impressed upon clay tokens used for recordkeeping. These simple marks soon became

more sophisticated and by 3000 B.C., the Sumerians had devised the earliest known writing system. This consisted of small, wedge-shaped marks, which are impressed in soft wet clay tablets using a piece of reed. The tablets were then baked in furnaces or under the sun. This system of writing was later called cunei¬form from the Latin "cuneus" meaning "wedge". Like other early wiring systems, cuneiform was syllabic (non-alphabetic) and not phonetic (alphabetic). By their arrangement, the marks made pictograms (simple pictures or symbols), which could represent a syllable, a work or an idea.

The Sumerian culture has a great influence on other early civilizations, in particular those of the Babylonians and the Egyptians. The Egyptians probably borrowed the idea of pictograms for the Sumerians and developed their own writing system using hieroglyphics. Initially, the hieroglyphic script has some simi¬larities to cuneiform, but the Egyptians recog¬nized the shortcomings of simple pictograms because they could not adequately convey more complex and sophisticated ideas. As a result, they created ideograms. These were made up of a number of signs or abstract drawings, which, by an association of ideas, could represent the message being expressed. They also developed an enhanced written language involving the use of 24 signs, each of which represented a particular sound. This clearly indicated that they had made the connection

between the written and spoken word. The seed for a fully-fledged phonetic alphabet had been sown.

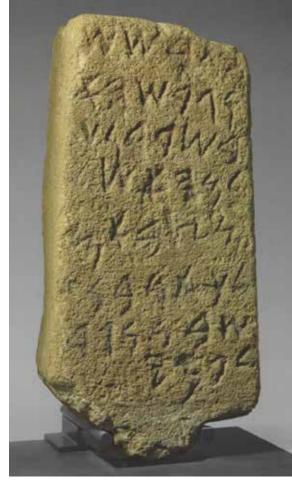
In 2500 B.C., the Egyptians made an ever greater contribution to the development of handwriting – the invention of the reed pen and papyrus (which came from the papyrus plant) as a writing surface. These new writing tools were to be a dynamic force, because they made the art of writing more accessible to a much wider audience. Throughout the history of handwriting and typography, the development of new image-making tools and surfaces has been responsible for corresponding changes in letterforms. The reed pen and papyrus enabled people to write faster and consequently, a new, simpler Egyptian script based on hieroglyphics developed, called hieratic.



The First Alphabets

There are many theories as to the origins of the alphabet, but, whichever one is true, its invention was a landmark of great magnitude in the development of civilization. An alphabet is a writing system with one unique visual sign (letter) for each consonant and vowel sound (although there were no vowels in the earliest alphabets), which can be combined to form visual units (words) to represent a spoken language. From about 1500 B.C., the alphabet has outperformed all other systems of writing and has survived intact through many years.

If the origins of the alphabet are unknown, what is clear is that in 1500 B.C., a Semitic people, the Phoenicians, developed a new phonetic written language: the first alphabetic system. It consisted of a sign for each of 22 consonant sounds and showed some visual similarity to the Egyptian hieratic script. Significantly, though, the Phoenician writing system did not use any pictograms, which made the new language much more economical.



3 - Evolution of ancient type systems.

The Phoenicians used their location on the eastern Mediterranean coast to exploit sea travel as a means of exporting goods to other countries in the region. Through the cultivation of these business relationships, their trading partners were gradually exposed to their alphabetic system of writing, and, by 800 B.C., its influence had permeated westward to Greece.

In Greece at this time there were main local dialects and alphabets in use. But eventually, two principal alphabets emerged: the Ionian, in the east of the country, and the Chalcidian, in the west. There were many similarities between the Phoenician and early Greek alphabets – the older and names of the letters were the same, as was the direction of the writing which was from right to left (or sometimes alternating). From about 500 B.C., the direction of writing was reversed so that it read from left to right. In 403 B.C., the Ionian alphabet was officially adopted in Athens as the Classical Greek alphabet. However, it was the

Chalcidian, which had been most influenced by the Phoenicians, that was to play a more significant role in the development of the Roman alphabet. It was to become the model for all the succeeding alphabets of Western Europe.

Around 675 B.C., trade developed between the Greeks and the Etruscans, a people who had settled on the west coast of Italy after migrating from their homeland in Asia Minor. It was through this trading relationship that the influence of the western Greek Chalcidian alphabet spread to Italy, and it is believed that the Etruscan alphabet derived from the Chalcidian.

The Etruscans remained dominant in Italy for about 250 years, reaching the height of their power about 500 B.C. Some one hundred years later, their conquests were lost to the rising power of Rome.

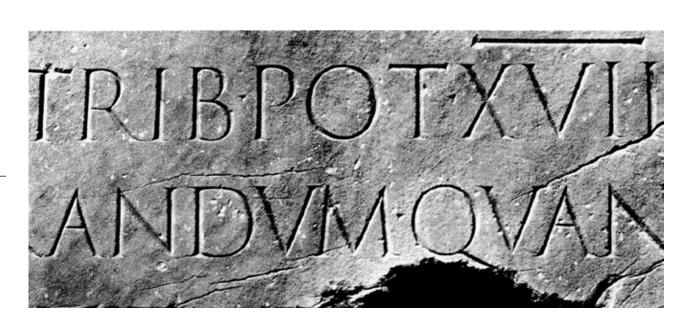
The legacy that the Etruscans left to the Romans was considerable. It is to them that the Romans owed their architecture, law, roads, and other trappings of a civilized society. The Etruscan alphabet was the basis for the Roman alphabet which we use today. After modification – the Romans changed some letters, added new ones, and deleted others – they were left with an alphabet of 23 letters, which is the same as the Roman alphabet used today (excluding J, U and W which were added in the Middle Ages).

The Development of the Roman Alphabet

From about 500 B.C., the Romans began to expand their Empire through invasion and colonization and imposed their written alphabet on the conquered nations in the process. The effect was that the letters of the Roman alphabet became an established set of signs which were understood in many parts of Europe and Asia Minor – an "international" written language.

In the Roman Empire, two main kinds of letter-forms were widely used square capital letters (called majuscules) for formal inscriptions and, later, a cursive style (which sloped like italics) for informal purposes such as letter writing. This cursive style is the origin of our lower-case letters (called minuscule). The finest example of formal Roman inscriptional square capitals, also called quadrata, is Trajan's Column in Rome, completed in A.D. 114. These authoritative and

beautifully proportioned letterforms were constructed from geometric shapes such as the square, circle, or triangle and were the mold for the capital letters of our alphabet today. At first, the stone-carved strokes of the letters were of even thickness, but later the width of strokes varied in imitation of the natural effect of a square-tipped brush which the stone masons used to draw out the letters on the stone prior to cutting. The difficulty of cutting curves with a chisel meant that many of the letters were simply constructed of straight lines. The varying width of the letters is believed to relate to their gradual evolvement over the centuries from pictograms and phonetic signs of a corresponding width. Serifs developed naturally as finishing strokes to visually strengthen the terminals of the letters.





4 - Grafitti in Pompeii portraying Roman styling.

By the first century A.D., a simpler and more condensed written style of inscriptional square capitals, called rustic, had developed—an example of which is the graffiti found on the walls at Pompeii. This was a direct response to the needs of an increasingly literate Roman population to write with a pen or brush more quickly and economically (to save on vellum which was their writing surface). Rustic writing required fewer lifts of the pen, and the vertical strokes of the letters were

thinner than the earlier square capitals since the pen was held at a sharper angle. Likewise, the pen-formed serifs were heavier than the stone-carved ones which they imitated. There were no spaces between the words and often little between the lines, producing a heavy effect on the page.

TORRENTISGUEMONPERTR

In the fourth century A.D., a further variation of the inscriptional square capitals called uncials was developed, which was mainly used as book scripts. Uncials were distinctively round and simpler, and had more contrasting widths of letter strokes, which were the natural result of an even faster writing speed made possible by the invention of a flat quill pen on a smooth paper—like surface. By the sixth century A.D., half uncials were in widespread use. This handwriting is characterized by ligatures (letters joined together with a linking stoke) and the extension of the vertical strokes of letters such as 'b', 'd', and 'p', so creating the first ascenders and descenders. This was an important

development because it gave these letters more distinctive shapes which helped the recognition of words. The ascenders and descenders automatically increased the space between the lines, which helped readability and created a lighter color on the page. These letterforms can be regarded as the beginnings of a lowercase alphabet. One of the finest examples of this style is the Book of Kells, a Celtic manuscript with decorations and initial letters, produced by Irish monks in the eighth century A.D.

As a consequence of the decline of the Roman Empire, many national scripts had emerged in Europe by A.D.700. But in 800, a new style of writing called the Carolingian minuscule was commissioned by Emperor Charlemagne (742-814) for his official documents, which were produced at his scriptorium at Tours under the supervision of Alcuin of York. It was introduced at a time when the Emperor and the Christian Church had insti¬gated an extensive program of education and culture – the Carolingian Renaissance. The Carolingian minuscule was an open, rounded, and

upright style with more contrast in the width of the letter strokes and a strong diagonal calligraphic stress on the angle at which the quill pen was held. It had been influenced by the Anglo-Irish half uncials and the Frankish script known as Merovingian, and it was highly legible, as each letter had a distinctive shape and there was now even more space between the words and the lines. The Carolingian minuscule remained the dominant style of handwriting in Europe until the emergence of a second wave of national scripts in Europe during the 12th century, of which the German Gothic minuscule, or black letter, was the most significant in the development of movable types.

The Early Movable Types



The first movable types, invented in Germany, by Johann Gutenberg (c1397–1468) in 1455, and the roman types in Italy that followed, imitated the styles of handwriting that were popular in those countries at the time. These were the black letter in Germany and humanistic writing (a revival of the Carolingian minuscule) in Italy.

The black letter emerged as a national script in Germany in the 12th century after the decline in popularity of the Carolingian minuscule. The early forms were austere, heavy, and condensed, with a strong vertical emphasis. By the 13th century, they had become even more condensed with the vertical strokes ending in points. Slowly, the ascenders and descenders became shorted, and the style became less and less legible. It was on the later styles, Texture – a formal black letter used for religious and legal purposes – that was the model for Gutenberg's first movable types.

Although it is now known that the Chinese were experimenting with movable ceramic types as early as the 11th century, Johan Gutenberg is the acknowledged father of movable type. He lived in Mainz in Germany and by trade he was a goldsmith, but he had acquired technical knowl¬edge of the art of printing (prints had been made from hand-cut wood blocks many years earlier). In 1440, he began a series of experiments, which, ten years later, resulted in the invention of printing from movable type. He used his knowl¬edge of existing technology and materials—the screw press, oil-based inks and paper (which was Chinese invention)— but it was the manufacture of type that consumes his energy.

As a goldsmith he had considerable skill and knowledge of the patterning, mixing, and casting of metal; and, with great ingenuity and tenacity, he eventually developed a method of manufacturing type. It involved

the engraving of every character in relief and reverse on a steel punch, which was then struck with a mallet into the strike (a bar of copper). The strike was set into the matrix (a master mold for casting each letter) by a process called justification. Then the matrix was put into an adjustable hand mold into which a hot alloy metal of lead and anti¬mony was poured, thereby casting each sort (the term for a single piece of type).

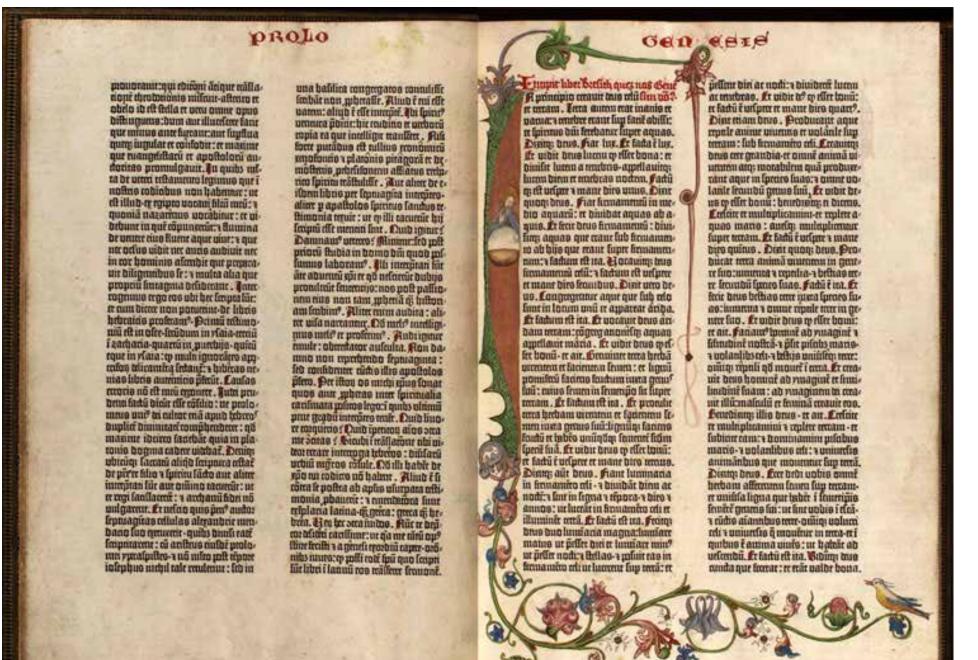
The process of hot metal casting gave rise to the term "hot metal typesetting" when referring to setting from metal types. This significant technological feat was the catalyst for a revolution in printing in Europe. The basic principles that Gutenberg employed for type manufacturing and letterpress printing were still used until well into the 20th century. Letterpress printing is a process whereby the impression on the paper is taken from the raised surface of the type.

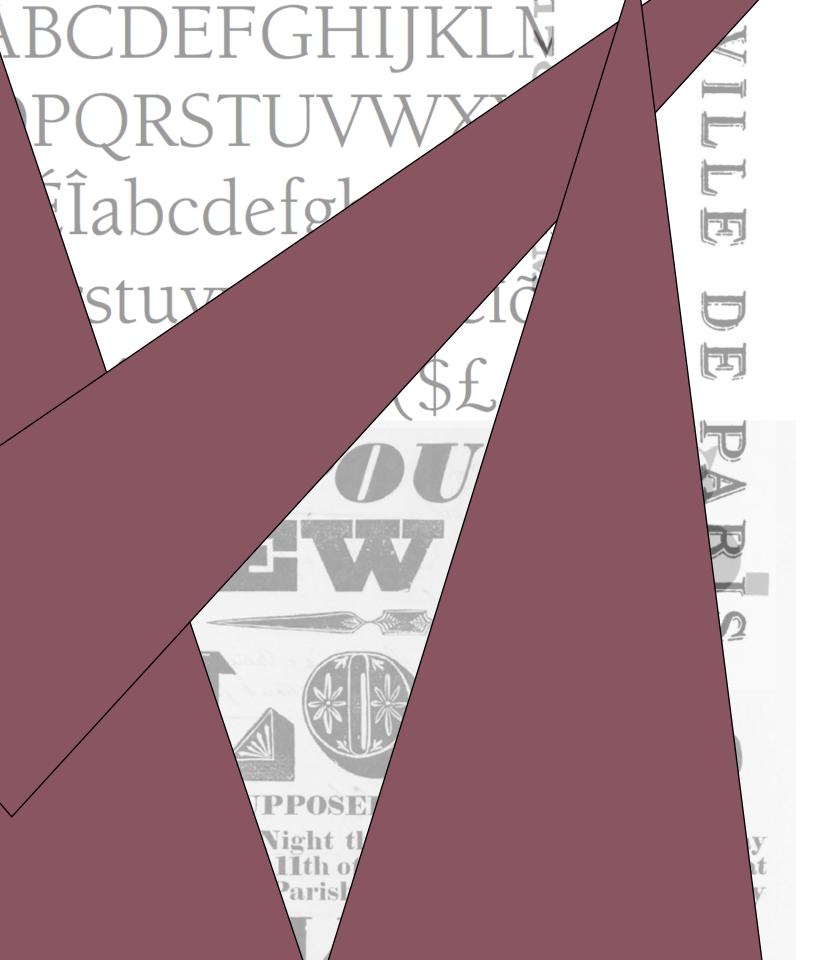


The visible fruits of his labors finally emerged in the printing and publishing of his 42-line Bible in 1455, the earliest existing printed book from movable types in the Western world. He had, however, printed the Mainz Indulgencies during the previous year, for which he used a more cursive style of black letter type called Schwabacher or Bastarda. Gutenberg's use of the Textura black letter type produced a magnificent and authoritative effect on the page, quite equaling the manuscripts that it was imitating. But it was con-

densed, monotonous, and heavy-looking and, therefore, difficult to read. For his Cathlicon, in 1460, he used a different black letter type, Rotunda, which was more open and legible, but lacked the style and authority of his Textura.

There was a human cost to pay for Gutenberg's invention – the job losses of the scribes and copyists who had been the "printers" of manuscripts until this time.





2 The Directory of Typefaces

The Humanist (Venetian) Typeface

The early roman types which appeared in Italy in the 1460s and 1470s were based on humanistic handwriting, a revival of the Carolingian minus¬cule, and as a group are known as the Humanist or Venetian typefaces. The renewed interest in the Carolingian minuscule had brought about a refinement of its design - the additions of serifs to the lower-case letters created better harmony with the serifed capitals and produced a stronger horizontal flow to aid readability. The end result was the final blueprint for the first roman types.

After 1460, the leadership in the development of movable type moved from Germany to Italy, the artistic center of the Renaissance. In 1465, at Subiaco near Rome, Conrad Sweynheym and Arnold Pannartz, two Germans who had moved to Italy and who had been influenced by Gutenberg's work, produced a curious hybrid type which possessed a mixture of black letter and roman features. In 1467, they moved to Rome and, by 1470, Sweynheym and Pannartz had produced

a new set of types which were much lighter and more open and entirely based on humanistic handwriting. It is from these types that the term "roman" was derived. Meanwhile, in 1469 in Venice, two German brothers, John and Wendelin da Spira, cut a roman type which was rounder and more even, with letter spacing better and generally superior to that of Sweynheym and Pannartz. Then, in 1470, Nicholas Jenson (1420-80), a French typecutter and printer who lived in Venic, produced a type that surpassed all the earlier roman types cut in Italy. Jenson went on to produce a second type six years later (the same year William Caxton printed the first book in English from movable type), known as the white letter roman, and used for the printing of Nonius Peripatetica. This type had a slight contrast between thick

Old Style Italy

and thin strokes, the serifs were heavy and steeply sloped, the lower-case e had a sloping horizontal bar, the letters had diagonal stress, and the ascenders had slanted serifs. The first line of a paragraph was indicated by its extension into the left-hand margin, large initial letters were used at the beginning of sections, and the type was justified (the lines were set to the same length). The fine proportions of Jenson's types have been an inspiration for type designers ever since. Although the predominant typographic style in Italy

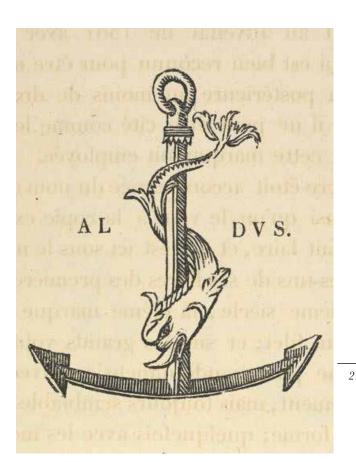
was roman, it was not exclusively so. Even Jenson still continued to produce books using the black letter, as did others. In 1483, a Venetian printer named Erhard Ratdolt who, like the da Spira brothers, had migrated from Germany, printed Eusebius, in which, unusually, he used the black letter and the roman types side by side. The two styles were in such a stark cultural and visual contrast that it was an unhappy marriage.

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In 1490, Aldus Manutius (1450-1515), a Greek and Latin scholar, moved to Venice to set up a publishing business, the Aldine Press. Five years later, he produced a book in which he used a new style of roman type with capitals that were shorter than the ascenders of the lower-case letters. In the same year, he published De Aetna by Cardinal Pietro Bembo, in which he unveiled a new lower case, cut by Francesco Griffo, which harmonized with the new style of capitals.

Griffo, like Gutenberg a former goldsmith, was a highly skilled punchcutter who created all the types for the Aldine Press. His De Aetna types were characterized by an oblique stress: a greater contrast between the thick and thin strokes, lighter, bracketed serifs; and a horizon¬tal crossbar on the lower-case e. The end result was a finely cut, more open, and highly legible type, which showed Griffo's understanding of the effect on type of the printing process (the letters tended to thicken up because of ink squash). It was also a deliberate movement away from the previous slavish mimicry of humanistic handwriting. It was the beginning of a new style, called, somewhat confusingly, Old Style.

Aldus Manutius produced books of the highest quality such as Hypnerotomachia Poliphili, published in 1499, which is regarded as one of the most accomplished book productions of the Italian Renaissance. He was innovative both with his typographical layouts (setting blocks of text to irregular shapes) and in his combination of text with woodcut illustrations. Through the distribution of his books to all parts of Europe, his roman types enjoyed a wide exposure, and this was the reason why they were so influential: they were the model for all the Old Style types produced in the 16th and 17th centuries in France, the Netherlands, and England.



In 1501, Aldus Manutius published a series of pocket-size editions of the classics; and, in order to compress the text into the small format, Griffo cut a condensed, sloping type, but the capital letters remained upright with the lines unjustified (where the right hand margin is not aligned) which imitated humanistic cursive handwriting. This was the first italic type (a term derived from "Italy," its birthplace). Although his type had many ligatures and was difficult to read with comfort, it became popular throughout Europe in the first half of the 16th century, a period which is known as the age of italic types.

However, it was another italic which has been the inspiration for many of the italic fonts in use today. In 1523, Ludovico Arrighi, a callig¬rapher and writer, designed an italic type, supe¬rior to that of Griffo, for Coryciana, a collection of poems by Blodius Paladius. Arrighi's type had fewer ligatures, long ascenders and descenders, and larger capital letters.

Old Style France

From about 1530 until 1585, the new ideas in typographic design and typefounding came from France. This was the era known as the Golden Age of French typography, a period when magnificent hand-decorated printed books were produced. The leading French printers, such as Robert Estienne, Simon de Colines, and Geofroy Tory, had all been influenced by the books and the development of the roman types in Italy. So had the French punchcutters, including a young punchcutter by the name of Claude Garamond (1460-1561) who had been apprenticed to Antoine Augereau.

In 1530, Garamond cut a series of new roman and italic types for Robert Estienne, a printer in Paris. The design for his roman typeface had been based on the De Aetna types of Aldus Manutius and that of his italic on Arrighi's type. However, Garamond's types were lighter in color and had a new vitality, elegance, and more even letter fit. They were a huge success – so much so that his work came to the attention of the King, who commissioned him to design a Greek font, the Grec du Roi. Garamond continued to refine his type designs during the 1540s, and they set the standard for the next century.

Until the mid-16th century, a printer had to employ both a punchcutter and a typecaster (although they could be the same person), by in the metal and manufacture all his type on the premises. The punchcutters were highly skilled craftsmen who were in short supply and, consequently, many printers had difficulty in producing enough type. In the late 16th century, though, typefounding (the manufacturing of type) became a separate trade from printing. "Type shops" were established which had stocks of punches, matrices, and typecasting equipment, and from whom printers could buy their type.

The punchcutters were independent spirits who remained in great demand and who usually worked for a number of different clients as did Garamond himself and Robert Granjon (1513-89). Granjon cut his first type in 1545, and although he produced roman types, it was italic designs on which his reputation was built - such as Civilite (1557) and his cutting of Garamond italics (which had been the model for many 20th- century revivals of Garamond). In about 1565, he cut type for Christopher Plantin (1514-89), a scholar-printer, based in Antwerp, for whom he continued to work until 1578 when he moved to the Vatican Press in Rome.



Old Style Netherlands

Toward the end of the 16th century, the Golden Age of French typography was at an end, and the Netherlands became the focal point for new developments in typographic design. The decline of book production in France had been caused by the censorship of the press by the French government and Church. This brought about an exodus of French printers to the Netherlands, including Christopher Plantin who ran one of the largest and influential printing houses in Europe. Plantin and other Dutch printing houses, such as Elzevir, flourished during the 17th century.

At first, many printers in the Netherlands imported the punches and matrices of Garamond and Granjon from France. But by the mid-17th century, a number of highly skilled "freelance" Dutch punchcutters had emerged, such as Dirk Voskens (d1669) and Cristoffel van Dijck (1601-72) — who as the best punchcutter of the period and cut some very fine types. A Dutch Old Style gradually developed which was characterized by sharply cut letter, great contrast between the thick and thin strokes, a larger x- height (height of lower-case letter), and a narrower set (width) to the lower case.

ü&1234567890(

Old Style England

Typefounding in England was strictly controlled by the government until 1637 (through restrictions on printing by the Star Chamber, who wanted to limit competition in the trade) and, therefore, printers had to import their types from abroad, mostly from the Netherlands. The influence of Dutch Old Style types in England is typified by the story of Dr. John Fell (1625-86), the Bishop of Oxford and Vice Chancellor of Oxford University. He brought back a collection of types, punches, and matrices form the Netherlands around 1670 for use at the Oxford University Press, which he managed. In 1676 he set up a typefoundry at the Press and employed a Dutch punchcutter named Peter Walpergen, to cut the types now known as the Fell Types (1693).

The Old Style in England only really established itself in the early years of the 18th century, when a group of printers commissioned a young English engraver, William Caslon (1692-1766), to cut a new type. The type, which had a strong Dutch influence, but more vertical emphasis and contrast, was issued in 1734. It was an immediate success with English printers, both on its merits as a type design, and because it meant that they would no longer have to import their types from abroad.

Caslon's types remained popular in England until the early 19th century despite some later competition from the new designs of John Baskerville. Through the expansion of the British Empire, Caslon's types were soon in widespread use in the British colonies, including America. First introduced by Aldus Manutius in Italy in 1495, Caslon's type was the final expression of Old Style.

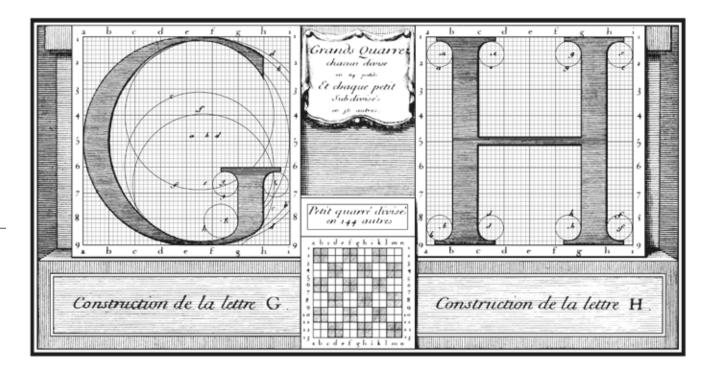
The Fell Types

Traditional Typefaces

In the last decade of the 17th century, after over 200 years in which the Old Style design had prevailed in Europe, a wind of change began to blow in France. I 1692, Philippe Grandjean (1666-1714), a French typecutter, was commis¬sioned to produce a new royal roman type, the Romain du Roi, for the Imprimerie Royale in France. For the first time, the design of each letter had been based precisely on a square and its outline mathematically plotted on a grid to achieve a precise cutting.

The type, completed in 1702, was sharply cut and had a combination of new features – flat unbracketed serifs, a narrower set good contrast in the width of the thick and thin strokes of the letters, and the stress more vertically inclined. The impact of its design, the first in a new style called Transitional , would soon be felt in typefoundries throughout Europe. The term Transitional was adopted because it was between Old Style and Modern in design.

Some years later, two French punchcutters, Pierre Fournier (1712-68) and J. F. Fleischman (1730-68), both cut roman types which were very similar to the Romain du Roi, despite the fact that the design of the royal roman was supposed to be exclusive to the Imprimerie Royale. In 1737, Fournier made a further and more significant contribu



ABCDEFGHIK

tion to typography with the invention of the European point system as a means of measuring type. Although revised at a later date, his system is still in use in Continental Europe today.

Shortly after this development, John Baskerville (1707-75) made England's first origi¬nal contribution to the design of roman types. In 1750, Baskerville, a lettercutter and japanner, set up a press in Birmingham for the production of fine books. In 1757, he published his first book, The Georgics of Virgil, and the following year, his second—a two-volume edition of Milton. The design of these books represented a new typographic manifesto. The types, which were cut by John Handy, were rounded, well-proportioned, light in color, had good contrast between the thick and thin letter strokes, and the stress was almost vertical. Baskerville's radical approach to typographic design—generous letterspacing, leading, and margins—brought a new simplicity and openness to the printed page. For the first time, type was center-page and not playing a supporting role to illustration and lavish ornament in book design.

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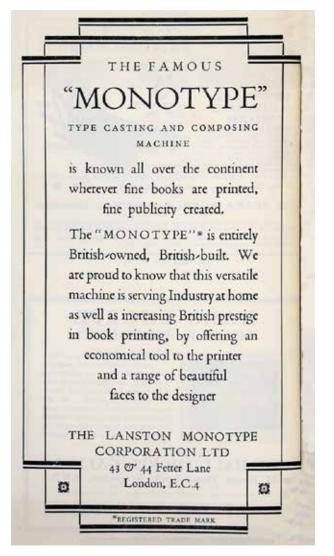
In his obsession to achieve perfection in book production, Baskerville was responsible for the upgrading of printing inks, a new process of wove papermaking, and the invention of the smoothing press (which made the paper smoother and white). Despite these innovations and the merits of his type designs, Baskerville's business was not a commercial success. Printers, who were already well-stocked with Caslon's types, did not feel inclined to buy his types, and the book trade regarded his publications as too expensive. But, perhaps the main reason for his failure was simply that his ideas were new and ahead of their time in England. Ironically, his type designs greatly influenced typefoundries in Europe. Indeed, Baskerville's types were not fully appreciated until the early 20th century, when Bruce Rogers (1870-1957), the American book and type designer, rediscovered them.

Late Transitional Style in England

In 1700, William Bulmer (1757-1830), a printer who did much to raise the standards of printing in England, was commissioned to produce an edition of Shakespeare. For this work he ordered a new roman type to be cut by William Martin (d1815), whose brother had been an apprentice to Baskerville. It was a Transitional-Modern hybrid design called Bulmer and was greatly influenced by both Baskerville's types and the new Modern-style types of Firmin Didot (1730-1804) and Giambattista Bodoni (1740-1813) which were emerging in Europe. Marin's type was characterized by its sharpness and almost pointed serifs, and was more condensed than Baskerville's types had been.

At about the same time, John Bell (1746-1831), an English publisher, employed an engraver called Richard Austin, to cut a new roman type. It was based on Old Style models, but had more contrast between the thick and thin letter strokes, a vertical emphasis, and finer serifs – features which give it the color and texture of a Modern-style typeface.

Unfortunately for Bell, his typeface appeared on the scene at the same time as the arrival of the typefaces of Didot and Bodoni and was completely overshadowed by them. However, in the early 20th century, Bell's type found new admirers in Bruce Rogers and American master-printer Daniel Updike in the United States, and who was instrumental in the revival of Bell's type by the Monotype Corporation in 1931. In 1809, Austin also cut a type for William Miller, an Edinburgh type¬founder, that would be the model for a well-known Modern-style typeface, Scotch Roman, issued by Monotype in 1920.



The Modern Typefaces

Although Baskerville's radical new designs had fallen on stony ground in England, they had an inspirational effect on European type founders. For the first time, England was dictating the peace in type design to mainland Europe. Firmin Didot, a Frenchman, was a printer to the King, Louis XVI, and the King's brother. His first type, cut in 1784, was based on Fournier's type of 1750 (which was very similar to the Romain du Roi cut by Grandjean) but, undoubtedly, he was also influenced by Baskerville's types. Didot's type was characterized by an abrupt contrast between the strokes of thick and thin letters, vertical stress, and hairline, straight unbracketed serifs. It can be regarded as the first in a new style called Modern. Technology and new materials played their part in the creation of Modern types. The invention of the engraving tool enabled delicate letterforms to be cut, and the manufacture of smoother paper made it possible to reproduce them successfully.

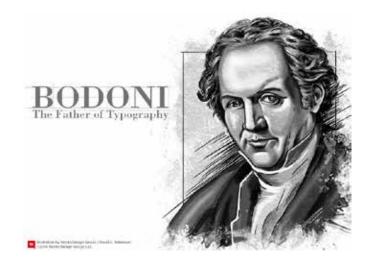


In 1768, in Italy, Giambattista Bodoni, who had learned the art of printing from his father, became Director of the Duke of Parma's printing Office, the Stamperia Reale. Bodoni, who had also been impressed with Baskerville's types, was working on the same typographic canvas as Didot. Like those of Didot, his first types were closely based on Fournier's types, but he later cut an original design characterized by a very abrupt contrast between the thick and thin strokes, a strong vertical emphasis, and thin, bracketed serifs. It was a grand and striking design that can be seen as the ultimate expression of the Modern style.

The design criteria for Bodoni's types was that first and foremost they should be beautiful and impressive images in their own right - products in the grand style of the neoclassical age. Fine as they were, his types nevertheless had poor legibility for continuous reading because they looked weak on the page and their strong vertical emphasis interrupted the natural horizontal movements of the eye. The even, mechanically-formed modern types lacked the legibility of the more distinct, calligraphically-based letterforms of Old Style types. To compensate for this poor legibility, Bodoni was later often set with loose letters, and narrow spacing, but this trend only led to even uglier typographical effects.

However, Bodoni's types soon became very popular throughout Europe and the United States, both as text and display faces, and were revived by many type founders in the 20th century. Bodoni's own Manuale Tipografico is regarded as one of the best type speci-

men books ever printed. Other influential types of the time include those by Justus Walbaum (1768-1839) and Joaquin Ibarra. In 1800, Walbaum cut a notable copy of Bodoni's types, which has been the subject of many revivals by type founders in the 20th century. The Spaniard Ibarra, a fine printer of Bodnoni's time, was famous for books such as Sallust (1772) and Don Quixote (1780), in which he successfully combined finely engraved illustrations with elegant typography.

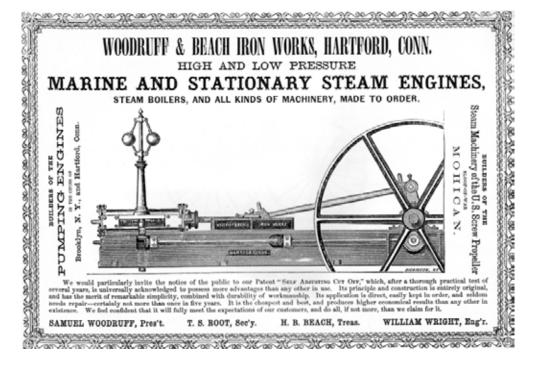


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The Industrial Revolution

Until the start of the 19th century, the work of type-founders and printers in Britain had been orientated toward the production of books. The Industrial Revolution, however, turned their craft-based activities into a dogfight for commercial survival. No longer were typefounders judged by the excellence of their roman types or printers by the equality of their paper and printing; the demands of their new entrepreneurial clientele was for novelty, impact, and speed. Typography became a powerful weapon in the battle for commercial success.

In addition, the 19th century saw a host of major technological advances - the invention of steam and oil power, electricity, the telephone, the phonograph and photography - which brought about the mechanization of many industrial process and manufacturing. In the printing and typesetting industries, the new technologies and the demands of the marketplace led to the automation of printing processes, papermaking, and, later, typesetting. This mechanization improved speed at the expense of quality. As the 19th century progressed, the typographic and printing skills which had been developed over 400 years were soon forgotten.



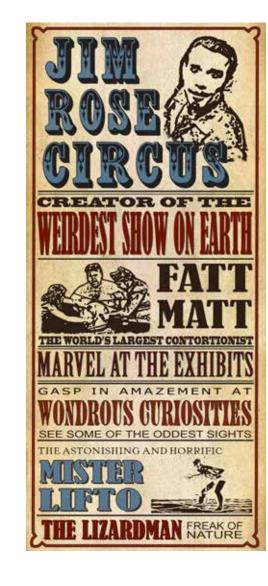


Manufacturers, needing to promote their products to a wider and more affluent market, triggered a wave of new kinds of promotional printed matter such as posters, periodicals, brochures, leaflets, and advertisements, all referred to as jobbing work. At the same time, the need to spread news and information led to the expansion of the newspaper industry through the establishment of the popular press. As a result, type-founders entered into a competitive race to satisfy the unquenchable thirst of their commercial customers for

new types that could shout their advertising slogans from the rooftops. A new genre of typefaces emerged, called display.

At first, printers tried to meet the demands of their new customers by using existing stocks of text types. But they were too limited in terms of size and impact, so printers turned to typefounders to produce bigger, bolder, and more flamboyant typefaces. Inspiration was sought from vernacular letterforms rather than the traditional calligraphic models and type founders responded with a flood of new styles such as fat face, square serif (Egyptian or slab serif), decorative, and sans-serif. In some cases, these were available in a variety of different forms: three dimensional, shaded, outline, inline, condensed, expanded, and many more. From this moment on, type became a follower of fashion.

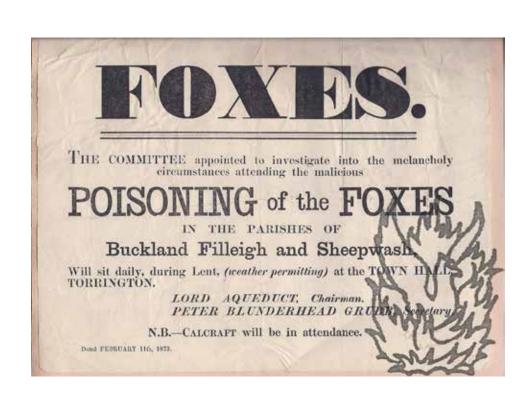
In this climate, interest in the design of text faces was put firmly on the back burner. There were, of course, a few exceptions, such as the work of the English printers Charles Pickering and Charles Whittingham who revived 16th- and 17th-century book types for use in their high quality editions. Furthermore, when typefounders had come to terms with the new demands of their customers, they realized that the manufacture of display types was more lucrative than that of text types had been. The ensuing clamor for business led to fierce rivalry and plagiarism of typeface designs between typefounders, even to the extent of putting some of them out of business. The standards in type design were sacrificed in the stampede to bring a never-ending flow of new display types on to the market.



Fat Faces

In the early years of the 19th century, the most popular and widely accepted type forms were Moderns such as Bodoni, and they were the models for the first display types. By fattening the thick letter strokes, reducing the weight of the serifs, and cutting them in larger sizes, type founders in England such as Thomas Cottrell, pressed them into service as display types. For obvious reasons, they became known as fat faces. The first fat face was designed in about 1800, by the Rober Thorne (1754-1820), an apprentice of Thomas Cottrell. Outline, three-dimensional and italic variations appeared shortly afterward. For most forms of jobbing work, it became common practice to use numerous

different faces, sizes, weights, and widths of type all mixed together in a symmetrical (centered) layout. Typographic overkill was the trademark of 19th-century printed matter. The popularity of fat faces waned after about 1850s, but interest in them returned in the early part of the 20th century. These types were clumsy and difficult to read, but noticeability was the criterion by which they were judged.



Square Serif Types

Shortly after the advent of fat faces, a second and more significant new type design emerged – square serif, or Egyptian, or – as they are known today – slab serif. This style first appeared in 1817 in a specimen book of the typefounder, Vincent Figgins. To confuse matters, they were referred to as Antiques. Robert Throne also designed several square serif types, which he called Egyptians, probably because of the popu¬lar interest in the archaeological studies in Egypt at this time. In the same year, they appeared in the specimen book of his successor at the Fann Street Foundry, William Thorowgood (d1877).

Unusually, these types had unbracketed serifs which were the same thickness as the stem of the letter, giving them a monotone and mechanical look that exemplified the spirit of the new industrial age. Although initially only available in capitals, they had more impact than fat faces and soon became popular in England, Europe, and the United States. In 1825, the first square serif type with a lower case was issued by the Caslon Foundry.

In 1845, a new square serif, called Clarendon, designed by Robert Besley, was issued by William Thorowgood as a bold text type for use with roman type. It had bracketed serifs, some contrast in the letter strokes, and a narrower set. Clarendon has proved its durability as both a text and display typeface for printing on poor quality papers (such as newsprint). Square serif faces remained popular until the last quarter of the 19th century, and enjoyed revivals in the 1930s and 1950s.

Sans-Serif

An important landmark in the history of type design occurred in 1816 when the Caslon factory issued a monoline (all of the strokes are of the same thickness) design without serifs – the first sans-serif type, or gothic, as they are known in the United States. This type, which was a crude cutting, received a muted response from the trade, but this was probably because it appeared at a time when fat faces and square serif types were taking the type market by storm.

However, by the 1930s, many English typefoundries were showing sans-serif types in their speciment books, and William Thorowgood was the first to produce a sans-serif type with a lower case - a type which he

referred to as Grotesque, a term still used to describe the style of the sans-serif types designed in the 19th century.

By 1850, the flexible design concept of sans-serif types was explained to produce many different weights and variations. These were in widespread use as display types in both continental Europe and the United States, but it was not until the 1870s that they became popular in England. The simplicity and flexibility of the sans-serif types, which doubled up as both text and display faces, but this idea did not take off until the 20th century.

Display/Decorative

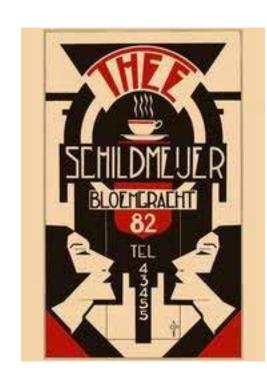
The handwritten manuscripts that pre-date the invention of movable type are the original source of many decorative typefaces. The Union Pearl, an italic face cut in 1690, is the earliest-known decorative type. However, it was not until the mid-18th century that they started to become popular when Fournier, the French typecutter, produced some ornamental types. His lead was soon followed by other foundries, including those in England, which produced incline and outline versions of many classic roman types.

In the first half of the 19th century, the English type-foundries were the pacesetters in decorative types, and an abundance of imaginative designs flowed from the drawing boards of their design departments - incline, outline, three-dimensional, Tuscans, reversed, condensed, expanded, distorted, shades, floriated, ornamental, rounded and more! Typefounders also used pen script forms as a source of inspiration for their display types and even black letter types were emboldened and issued as make

Union Dearl

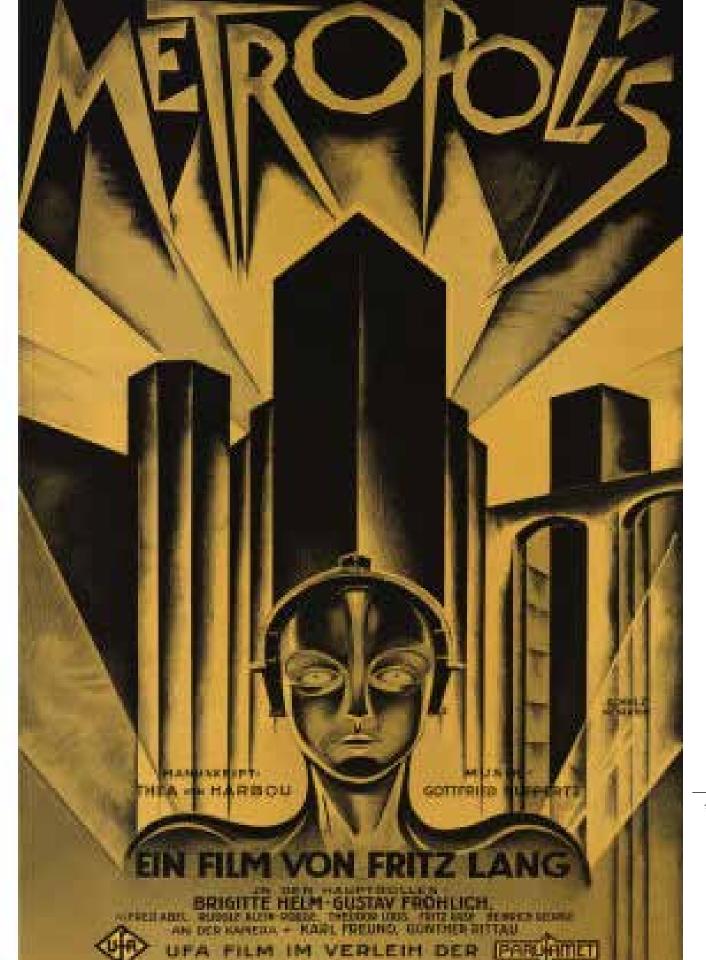
shift fat faces. In the second half of the 19th century, the leadership in design passed to the United States, but, due to the increasing pressure to maintain a constant flow of new fanciful faces, the quality of decorative types gradually deteriorated.

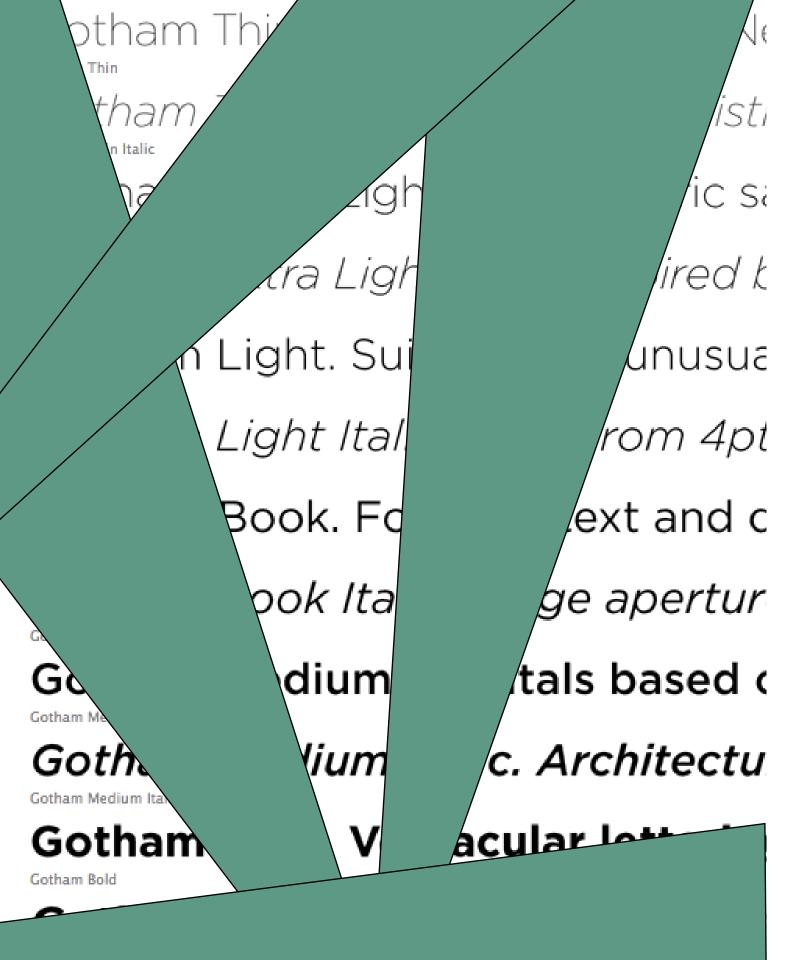
The 19th century was a great era for the production of decorative types. In the 20th century, this was





furthered by the revival of fat faces in the 1920s, the Art Deco-style of the 1930s, the revival of scripts in the 1950s, the emergence of dry-transfer lettering in the 1960s (which provided a huge outlet for new fancy and outrageous types), and the advent of headline (display) typesetting machines. Together, these developments helped to maintain interest and constant supply of new decorative types.





3 Gotham Is Go

The Honest, Fair, and Sleek Typeface

'I am not bound to win,' Barack Obama said on the eve of the vote of his historic healthcare reform bill in March 2010, 'but I am bound to be true.' It was a spoken address, but it came out of his mouth as if it had been written in Gotham.

There are some types that read as if everything written in them is honest, or at least fair. We have been conditioned to look at Times New Roman that way, and the same goes for Gotham, which as made in 2000 by Tobias Frere-Jones for Hoefler & Frere-Jones, one of the leading type design companies in New York City (or Gotham City, as Batman fans like to call it). The font bumbled along nicely for them for several years, gaining increasing popularity as a type that managed to look both establishment and fresh, and then, at the beginning of 2008, it got the sort of boost that no type designer would even dare dream of.

'We actually found out that the Obama campaign was using it by seeing it on TV,' Frere-Jones says, as if he still can't believe his luck. 'There was a rally in Iowa, and he was on a podium and all these people were waving signs and the type on the signs was awfully familiar.' Obama wasn't alone: at that point in the primary there were still seven or eight candidates, and John Edwards was also using Gotham. But as Edwards and eventually Hillary Clinton dropped away, Frere-Jones was excited to see that the Obama campaign was not only still using his font, but that it had

been installed at the heart of the candidate's graphic vision. 'In the past,' he explains, 'campaigns would have one logo, and then choose a number of typefaces to go with the advertisements and the banners and the website. But the Obama campaign put the same discipline into planning its look that would go into a big corporate identity. The campaign looked the same on election day as it did eighteen months before at the caucuses.'

As Obama's presidential bid gained momentum, Frere-Jones received nice emails from friends wondering whether he had seen his work employed in this important way. Gary Hustwit, the director of the Helvetica movie, sent him a picture of Obama, microphone in hand, standing in front of a banner that read, all in capitals, 'CHANGE WE CAN BELIEVE IN.' In the next year, all the dynamic Obama watchwords (change, hope, yes we can) would appear in these simple sans serif letters, notable for their solidity and durability. They also had unremarkability and inoffensability – a type consciously chosen to suggest forward thinking without frightening the horses. Gotham replaced the Obama team's original choice Gill Sans, which was discarded as too staid and inflexible (Gotham was

available in more than forty varieties, Gill Sans in fifteen). 'Green choice,' observed Alice Rawsthorn in the New York Times. 'No typeface could seem better suited to a dynamic, conscientious, American public servant.' Rawsthorn also detected 'a potent, if unspoken, combination of contemporary sophistication (a nod to his suits) with nostalgia for America's past and a sense of duty'. 'That was certainly one of the qualities we set out to capture - that feeling of authority,' Frere-Jones says. (Frere-Jones also carries a sense of authority, a type archetype with glasses, neat apparel and a proper hair parting.) When we were developing it we realized it could be very contemporary, but also classic and almost severe.' In this respect at least it is comparable with Helvetica. We wanted to seize the chance to give it that range of voices, so it wasn't going to be a performer that could only really sing one song.'





But what if that performer had been batting for the other side? What if Gotham had been used in a campaign its maker disapproved of - would he have any way of objecting? 'Not once they had paid for it. That did happen. The Republican Senate candidate in Minnesota, Norm Coleman, had a website to raise money for his recount campaign, and that was in Gotham Medium and Gotham Bold all-caps, exactly the same as the Obama website. I felt personally annoyed, but the guy lost anyway, so . . . '

Gotham was originally designed for GQ magazine, and was inspired by the letters over the entrance to the New York Port Authority Bus Terminal, one of the many three-dimensional vernacular signs threatened by the ravages of weather and time, and by the creeping uniformity of type made possible, easier and cheaper by digital technologies. Frere-Jones calls the pedigree and practicality of these letters 'non-negotiable', but because they were disappearing, he made it his weekend hobby to photograph as many as possible before it was too late.

In four years he thought he got every interesting letter and sign block from southernmost Battery Park to 14th Street, some 3,600 pictures. The joy was in finding lots of regional and international variations, including a particular style of geometric sans serif that only exists in Chinatown. The only preservation Frere-Jones witnessed was when a new sign was bolted over an old one.







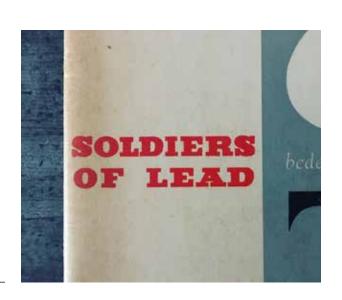


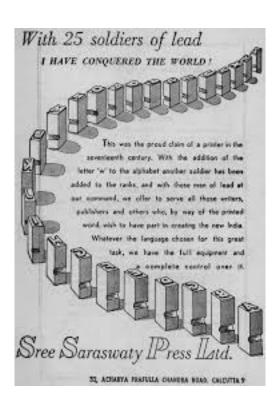
More than a year into Obama's presidency, Frere-Jones and his colleague Jonathan Hoefler can afford to be modest about Gotham's attributes, but during the campaign they were in a pickier mood. 'Gotham isn't pretending to be anything it's not', their website claimed it February 2008. 'The only thing Gotham works hard at is being Gotham' But the same couldn't be said for Obama's competitors, both of whose choices carried bruised baggage. Hillary Clinton's principal campaign poster had her name in New Baskerville bold, the font that often confers a legal endorsement. John McCain used the 1950s sans serif Optima, perhaps an attempt to remind voters of his war record (Optima is the type on the Vietnam Veterans Memorial in Washington DC).

'Hillary's snooze of a serif might have come off a heart-healthy cereal box, or a middle embarrassing over-the-counter ointment,' Jonathan Hoefler wrote in his blog. 'If you're feeling generous you might associate it with a Board of Ed circular, or an obscure academic journal. But Senator McCain's typeface was positively mystifying: after three decades signifying a very down-market notion of luxe, this particular sans serif has settled into being the font of choice for the hygiene aisle.'

How were these things done in earlier years? In 1948, the year the United Kingdom introduced its own revolutionary healthcare bill in the form of the National Health Service, the last thing one would have expected from the governing Labour Party would have been an interest in fonts. There were important housing and education reforms to consider, and new foods to ration, but at some point during this radical program someone influential decided that none of them would make a good impression unless it was presented to the nation in a carefully considered and extremely boring typeface.

This man was Michael Middleton, a graphic designer and Labour loyalist, who believed that the right choice of font could be a vote winner. Three years after the war, he published a lavishly illustrated manifesto called Soldiers of Lead, a call for unity among typefaces and a blast against anything fancy or debauched. Type had to reflect the austerity of the day; all the





better if it had a sturdy and traditional serif. Even the title of Middleton's pamphlet spoke of history. The full phrase reads: 'With twenty-five soldiers of lead I have conquered the world!' A centuries-old paean to the power of movable type, it dates from the days before the letter J became the last addition to the alphabet. Before Middleton's intervention, most Labour literature resembled a cramped and crowded meeting room in which everyone was remonstrating at once. In 1946, a poster suggesting one should 'Vote Labour for Progress' used six different fonts in as many sizes, as if it had been constructed from sweeping up the discarded type on a printer's floor. Despite the great promises of fonts like Johnston, Futura and Gill Sans, poster typography in Britain in the 1940s was still dominated by the blocky Fat Faces of the Victorians, and the Victorians, as we have seen, had shown no regard for typography at all.

Demo Casion

Times New Ros Baskerville Gou Perpetua Bodon

Middleton's manifesto proposed to keep everything light, simple and clear. 'Mistrust any type of "novel" design,' he advised his party faithful. "Never use letters which are so condensed that 'they have the appearance of striped wallpaper." The typefaces favored were all safe bets: Bembo, Caslon, Times New Roman, Baskerville, Goudy, Perpetua and Bodoni. You could combine them in almost any combination and not go wrong so long as there was enough space between the lines.

Did Soldiers of Lead have any effect on Labour's fortunes? It is hard to judge. When petrol rationing was ended with some fanfare in 1950, the posters were set in plain Times Roman, whereas in previous years similar events were heralded in Chisel (a deep-cut gravestone style) or Thorne Shaded (a grand trompe-l'oeil raised-letter font more suited to announcing the end of the Boer War). But Labour's narrow electoral majority of 1950 was wiped out the following year, the public voting in Churchill for a last hurrah.

The mid-century Conservative Party seemed to care little about type reform; if the serifs could have grown any flatter and steadier on Caslon or Baskerville they would have chosen them. But they had arrived at a universal font truth: we tend to treat the traditional and familiar as trustworthy. We are dubious of fonts that alert us their difference, or fonts that seem to be trying too hard. We don't like being consciously sold things, or paying for fancy design we don't need.





Not much has changed over the years. The political documents of today are increasingly nervous things. In the UK elections of 2010, Labour went for the forward-looking Neo Sans pro on the cover of its manifesto, but settled for a more predictable serif font inside, while the Tories again went back to basics with a range of old-style heavier choices that could have been composed in hot metal before David Cameron was born. (Intriguingly, when it came to a full-page graphic suggesting 'We're all in this together', they chose a distressed font that would not have been out of place during the Blitz.) Now, of course, we read it all with a cynical air, aware that we have seen their type before. The Liberal Democrats, meanwhile played it straight down the middle with a manifesto, website and iPhone app in Helvetica.

In the United States, Gotham has come to signify more than just change. You will find it on the inscription on the cornerstone laid for the new Freedom Tower at Ground Zero, and, despite its creator's claims that Gotham is just Gotham, it has inherited loaded associations with victory and honest success. Those who keep a keen eye on the fontography of movie posters have noticed that Trajan and Gill Sans have found a serious rival when it comes to movies that have shot at the Academy Awards. There are many other noteworthy and more exciting fonts in the Hoefler & Frere-Jones catalogue (not least Vitesse, Tungsten and their classic version of Didot), but only one that features on the posters of A Single Man, The Lovely Bones and Invictus that decorate their office: we have chosen to

spell out our new age of austerity in Gotham.

And finally there is the ultimate tribute, that point when you know your typeface has really joined the pantheon of the greats. That is the point where people decide not to pay for it. A package of eight Gotham weights costs \$199 for use in one computer, with reductions for more machines, so people have tried to counterfeit the look as best they can. It will always be cheaper to use the free fonts on your computer, as Tobias Frere-Jones discovered when he searched for Obama memorabilia on eBay. There were posters promoting the usual message of 'Hope—Stand With Obama' and 'Be The Change', and they had familiar layout and colors. But they looked slightly wrong in Gill Sans and Lucida, and they only fooled some of the people some of the time.

wwIn fact, Gotham had one more tribute to come, and it was not one that made Frere-Jones comfortable. At the end of 2010, several Tea Party hopefuls had come to favor Gotham as their type of choice. Sarah Palin had done the same a few months earlier. Whether this displays a paucity of imagination, a subtle form of wagon-jumping or an utterly cynical belief that a font really can win you an election (or perhaps all three), future voters will decide.