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Design is solving problems. Graphic design is solving problems by making marks. Type is a uniquely rich set of marks because it makes language visible. Working successfully with type is essential for effective graphic design.

That said, I can tell you that this is a practical book.

Over the last 20-odd years of teaching typography, I have been unable to find a text that spoke clearly to beginning students about the complex meeting of message, image, and history that is typography. Some of the best history texts are weak in examples; some of the best theoretical texts speak more to the professional than the novice. And no text provides background information to the student in a sequence that supports the basic exercises in any introductory type course. My intention here is to present the basic principles and applications of typography in a way that mirrors what goes on in the classroom and to back up that information with a series of exercises that reinforce the acquired knowledge.

My intent here is to get you, the beginning student of graphic design, to the point where you can understand and demonstrate basic principles of typography. If instinct is the sum of knowledge and experience, this book is an attempt to broaden both in order to strengthen your own typographic instincts.

I should also point out that this is an autodidact's book. What I know about typography I learned from reading, from practice, and from observation. I was lucky enough to read Emil Ruder first. And I was also lucky enough to work in Boston at a time when dozens of gifted practitioners were trying to solve the same problems I was confronting daily, as we all moved from metal type through photostat type to digital type off our Macs. What I learned from them was constant application of theory to practice, unflagging respect for the letterform, and a ceaseless search for that moment when the personal met, or at least approached, the platonic.

Paul Rand once wrote: 'Typography is an art. Good typography is Art,' and therein lies the problem for both teacher and student. Craft can be taught. Art lies within the individual. Many beginning students are frustrated by the fact that there are no hard and fast rules in typography, no foolproof map to success. The pedagogic difficulty is that type has a system of principles, based on experience, and those principles keep evolving as language and media evolve. Countless times, students have asked, 'Is this right?' when in fact there is no such thing in typography as 'right.' The question they should be asking themselves is, 'Does this work? Is it useful?' Designers use type as a response—to a message, to an audience, to a medium. The only way to recognize successful typography is through informed, direct observation. It takes time, trial and error to know what works and to lose anxiety over what may or may not be 'right.'

Once you have completed the exercises in this book, you should have enough experience to test your own ideas in typographic applications. After all, it is what each designer brings to a project—the sum of what he or she knows and feels, his or her unique experience—that guarantees that variety, excitement, and, occasionally, brilliance will continue to enliven typographic design. This book is not about style—a characteristic expression of attitude—so much as a clear-headed way of thinking and making. Style belongs to the individual; delight in thinking and making can be shared by everyone.

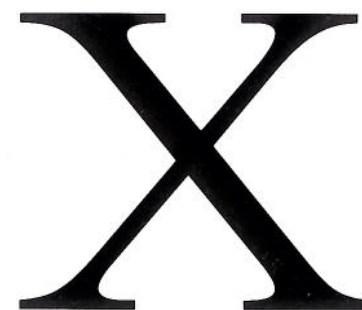
The guiding attitudes behind what follows are those that have vitalized most twentieth-century art:

Content dictates form.
Less is more.
God is in the details.*

These three tenets neatly identify the typographer's job: appropriate, clear expression of the author's message, intelligent economy of means, and a deep understanding of craft.

* The first idea is a variation of architect Louis Sullivan's famous dictate, 'Form ever follows function.' The second, although popularized by architect Ludwig Mies van der Rohe, was first articulated by Robert Browning in 'Andrea del Sarto,' 1855 (and, in fact, the idea has existed in literature since Hesiod's 'Works and Days,' 700 B.C.E., in which he writes, 'They do not even know how much more is the half than the whole.') The third, although attributed to architect Louis Kahn, has no source that I have been able to uncover.

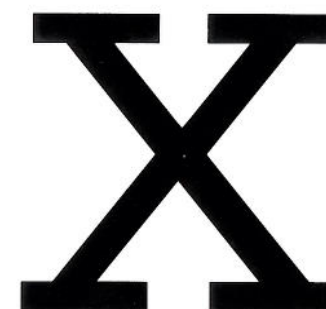
Bembo



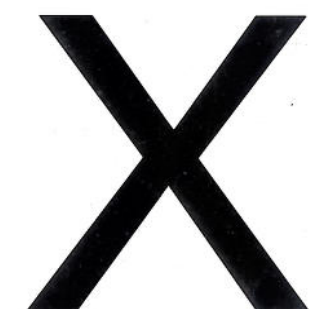
Bauer Bodoni



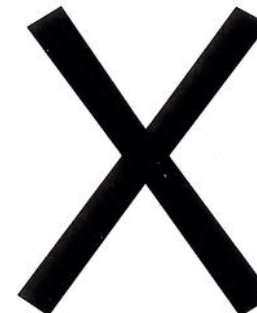
Serifa 55



Univers 55



Syntax



Image, history, and meaning meet in every aspect of typography, even the simplest of letterforms.

Bembo

a

Bauer Bodoni

a

Serifa 55

a

Helvetica

a

Futura

a

As Eric Gill said, letters are things, they are not pictures of things. While the generic letter 'A' may indicate a variety of sounds, the lowercase 'a' as rendered in Bembo is a specific character, different in form and sensibility from the lowercase 'a' rendered in Bauer Bodoni, Serifa 55, Helvetica, or Futura. All five convey the idea of 'A'; each presents a unique esthetic.

The basic thinking behind this book comes out of two simple observations. First,

type is physical.

Until quite recently, any study of type would necessarily begin by handsetting metal type. There is still no better way to understand the absolute physicality of the letterform—its 'thingness.' With each day, however, working with metal type becomes less and less possible. To approximate the experience of handling type, there are exercises in this book that require careful hand-rendering of letterforms. (I've suggested these exercises primarily for readers who don't have, as I did not, the benefit of a classroom experience. They are not intended to supplant working with a capable instructor, although I certainly hope that they can enhance that process.) These exercises help you not only to hone your hand-eye coordination, but also to develop a typographic sensibility. You cannot achieve this sensibility merely by looking and thinking. The only way to appreciate the reality of type is first to make your own.

For some of the beginning exercises, the best technique is working with a good copying machine. Aside from providing fast, clear copies and reasonably reliable enlargements and reductions, it also allows you to work with letterforms within a frame—a dim but audible echo of the letterform cast on a slug of lead.

The second observation, particularly in terms of text type, is that

type evolved from handwriting.

While there are any number of things you can do with text type (particularly on a computer), your work will have the most integrity when what you do reflects the same impulse that leads us all to put pen to paper—effective, direct, useful communication.

Particularly in later exercises, I have assumed that people using this book have a working familiarity with Adobe Illustrator and Quark Xpress or Adobe InDesign. You should also have at least one font from each of the classifications described on pages 47–49; in fact, you could do a lot worse than to choose the ten typefaces highlighted on page 12. They provide a rock-solid foundation for any typographic design problems you may encounter in the future.

I've used numerous examples to demonstrate the points I raise, because one of the joys of working with type is that you can see immediately what is successful and what isn't (for that same reason I've tried to keep text to a minimum). I have designed virtually every example in this book to reflect what was, and still is, possible on a simple type press. I've kept these examples as simple as possible for two reasons: Firstly, 'simple' is deceptively difficult (and, in typography, often desirable). Secondly, as I said earlier, this book is about intent and content, not affect or style.

Finally, as the title suggests, this book is just a beginning. These pages, at best, describe a series of small steps toward developing a well grounded typographic sensibility. I encourage you to use the bibliography to learn what other people have to say and show about typography. Beyond that, look around. Every time you see language, you are looking at type. Test what you do against what other people do, and learn how to articulate the differences. Keep a sketchbook, and note all your observations. Include your own examples. And take advantage of every opportunity, however humble, to put type on paper. I hope this book prompts an ongoing exploration of a dynamic and demanding craft. With luck, it will stimulate a process that leads to type becoming an integral part of your professional life.

■ Throughout the book, exercises are set in boldface and indicated with an extended dingbat and a toned field.

Basics

1. The first step in the process of creating a new product is to identify a market need. This involves researching the market and understanding the needs and wants of potential customers.

2. Once a market need has been identified, the next step is to develop a product that meets that need. This involves brainstorming ideas, creating prototypes, and testing the product with potential customers.

3. After the product has been developed, the next step is to create a marketing plan. This involves determining how to reach potential customers and how to promote the product.

4. The final step in the process is to launch the product and monitor its performance. This involves tracking sales, customer feedback, and market trends to ensure the product is successful.

5. Once the product has been launched, the next step is to evaluate its performance. This involves analyzing sales data, customer feedback, and market trends to determine if the product is meeting its goals.

6. If the product is not performing well, the next step is to make adjustments. This involves identifying areas for improvement and implementing changes to the product or marketing plan.

7. Once the product is performing well, the next step is to continue to monitor its performance. This involves tracking sales, customer feedback, and market trends to ensure the product remains successful.

As with any craft that has evolved over 500 years, typography employs a number of technical terms. These mostly describe specific parts of letterforms. It is a good idea to familiarize yourself with this lexicon. Knowing a letterform's component parts makes it much easier to identify specific typefaces.

(In the entries that follow, **boldface** text indicates terms described elsewhere in the list.)

ABC

Stroke

Any line that defines the basic letterform.

AMV

Apex/Vertex

The point created by joining two diagonal **stems** (**apex** above, **vertex** below).

FTY

Arm

Short **strokes** off the **stem** of the letterform, either horizontal (E, F, T) or inclined upward (K, Y).

bdhk

Ascender

The portion of the **stem** of a lower-case letterform that projects above the **median**.

CGS

Barb

The half-**serif** finish on some curved **strokes**.

Baseline

The imaginary line defining the visual base of letterforms (see the diagram below).

Median

The imaginary line defining the **x-height** of letterforms (see the diagram below).

X-height

The height in any typeface of the lowercase 'x' (see the diagram below).

ascender height
cap height
median
baseline
descender height

Mphx

x-height

ETL

Beak

The half-**serif** finish on some horizontal **arms**.

AH

Cross Bar

The horizontal **stroke** in a letterform that joins two **stems** together.

bdpq

Bowl

The rounded form that describes a **counter**. The bowl may be either open or closed.

ft

Cross Stroke

The horizontal **stroke** in a letterform that intersects the **stem**.

Tl

Bracket

The transition between the **serif** and the **stem**.

KV

Crotch

The interior space where two **strokes** meet.

adPC

Counter

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

pqy

Descender

That portion of the **stem** of a lower-case letterform that projects below the **baseline**.

gr

Ear

The **stroke** extending out from the main **stem** or body of the letterform.

Mdp

Em/en

Originally referring to the width of an uppercase M, an **em** is now the distance equal to the size of the typeface (an **em** in 48 pt. type is 48 points, for example). An **en** is half the size of an **em**. Most often used to describe **em/en** spaces and **em/en** dashes.

fa

Finial

The rounded non-**serif** terminal to a **stroke**.

LKR

Leg

Short **stroke** off the **stem** of the letterform, either at the bottom of the stroke (L) or inclined downward (K, R).

f i f l f h n

Ligature

The character formed by the combination of two or more letterforms.

g

Link

The **stroke** that connects the **bowl** and the **loop** of a lowercase G.

g

Loop

In some typefaces, the **bowl** created in the **descender** of the lowercase G.

A T M

Serif

The right-angled or oblique foot at the end of the **stroke**.

Shoulder

The curved **stroke** that is not part of a **bowl**.

S

Spine

The curved **stem** of the S.

b q G

Spur

The extension that articulates the junction of a curved and rectilinear **stroke**.

T V b p

Stem

The significant vertical or oblique **stroke**.

O O e e

Stress

The orientation of the letterform, indicated by the thin **stroke** in round forms.

A T W

Swash

The flourish that extends the **stroke** of a letterform.

Q j

Tail

The curved or diagonal **stroke** at the finish of certain letterforms.

T t

Terminal

The self-contained finish of a **stroke** without a **serif**. This is something of a catch-all term. Terminals may be flat ('T', above), flared, acute, ('t', above), grave, concave, convex, or rounded as a ball or a teardrop (see **finial**).

The full font of a typeface contains much more than 26 letters, 10 numerals, and a few punctuation marks. To work successfully with type, you should make sure that you are working with a full font and you should know how to use it.

Uppercase

Capital letters, including certain accented vowels, the c cedilla and n tilde, and the a/e and o/e ligatures.

A Å Â Ä À Á Ã Æ B C Ç D E É
È Ê Ë F G H I Ì Í Î Ï J K L M N
O Ó Ô Õ Ö Ø Æ P Q R S
T U Ú Û Ü V W X Y Z

Lowercase

Lowercase letters include the same characters as uppercase plus f/i, f/l, f/f, f/f/i, and f/f/l ligatures, and the 'eset' (German double s).

a á à â ä å ã æ b c ç d e é è ê ë
f f i f f l f f g h i i i j k l m n ñ
o ó ô õ ö ø æ p q r s ß
t u ü û ù ú v w x y z

Small capitals

Uppercase letterforms, drawn to the x-height of the typeface. Small caps are primarily found in serif fonts as part of what is often called an expert set. Most type software includes a style command that generates a small cap based upon uppercase forms. Do not confuse real small caps with those artificially generated.

A Á À Â Ä Å Ã Æ B C Ç D E É È Ê Ë
F G H I Í Î Ï J K L M N Ñ
O Ó Ô Õ Ö Ø Æ P Q R S Š
T U Ú Û Ü V W X Y Ý Ž

Aa

Baskerville
small cap
artificially
generated

Aa

Baskerville
small cap
from the
font

Typeface shown:
Monotype Baskerville

Uppercase numerals

Also called lining figures, these numerals are the same height as uppercase letters and are all set to the same kerning width. They are most successfully used with tabular material or in any situation that calls for uppercase letters.

1 2 3 4 5 6 7 8 9 0

Lowercase numerals

Also called oldstyle figures or text figures, these numerals are set to x-height with ascenders and descenders. They are best used wherever you would use upper- and lowercase letterforms. Lowercase numerals are far less common in sans serif typefaces than in serif.

1 2 3 4 5 6 7 8 9 0

Italic

Most fonts today are produced with a matching italic. Small caps, however, are almost always only roman. As with small caps, artificially generated italics are not the same as real italics.

Note the difference below between a 'true' italic and what is called an 'oblique.' The forms in a true italic refer back to fifteenth-century Italian cursive handwriting. Obliques are typically based on the roman form of the typeface. Contemporary typefaces often blur the distinction between italic and oblique, but you should be aware of the differences.

A Å Ä À Á Ã Æ B C Ç D
E Ë Ê Ë É F G H I Î Ï J K L M
N Ñ O Ø Ö Ò Ó Œ P Q R S T
U Ü Ú Û Ü V W X Y Z

1 2 3 4 5 6 7 8 9 0

a å ä à á ã æ b c ç d e ë ê è é f f i f f
f f i f f g h i i î ï j k l m n ñ o ø ö ô ò ó æ
p q r s β t u ü û ù ú v w x y z

1 2 3 4 5 6 7 8 9 0

a a

Baskerville
roman with
italic

a a

Univers 55
(roman) with
Univers 56
(oblique)

Punctuation, miscellaneous characters

Although all fonts contain standard punctuation marks, miscellaneous characters can change from typeface to typeface. It's important to be acquainted with all the characters available in a typeface before you choose the appropriate type for a particular job.

! * - — — — _ () { } [] “ ” ‘ ’ . : , ; ...
/ ? ¿ † ‡ § ‹ › ‹ › ¶ & # \$ % & £ ¥
™ © ® @ ∞ ^a ^o m < > ≤ ≥ + ± √
= ≠ ÷ • ≈ ° Σ Π π ∂ f · Δ ° ¬ Ω ∫
μ / ∞ - ~ ' " ◇ 1 P
% 0 ‰ 1/8 1/4 1/3 3/8 1/2 5/8 2/3 3/4 7/8

Dingbats

Various symbols and ornaments that are intended for use with type are called dingbats. The majority of dingbats are marketed as their own fonts and not in conjunction with any particular typeface.

+ - × ÷ = ±
@ ° ' " ‰ ‰ ‰
◀ ▶ ↲ ↳ ↴ ↵ ↶ ↷ ↸ ↹
♥ ♦ ♠ ♣ ♡ ♢ ♣ ♤
● ○ ⊙ ⊖ ⊗ ⊘
■ ▣ ▤ ▥ ▦ ▧
★ ☆ ♀ ♂ ✎
... R || # ☞ ☜

Typefaces shown:

Monotype Baskerville (pages 6–7) and Universal News and Commercial Pi (page 7, bottom)

8

Once you can recognize the parts of the letterform, you can apply what you know to identify different typefaces. Beyond the characteristic gestures of a typeface, however, there are also style applications that you should recognize. Keep in mind that some, all, or combinations of these styles may be found within one type family.

Roman

The basic letterform style, so called because the uppercase forms are derived from inscriptions on Roman monuments. When used to describe a type style, the term 'roman' is always lowercase. In some typefaces, a slightly lighter stroke than roman is called 'book.'

Italic

Named for fifteenth-century Italian handwriting on which the forms were based. (See page 6 for a description of 'oblique'.)

Boldface

Characterized by a thicker stroke than the roman form. Depending upon the relative stroke widths within the typeface, it can also be called 'semibold,' 'medium,' 'black,' 'extra bold,' or 'super.' In some typefaces (notably Bodoni), the boldest rendition of the typeface is referred to as 'poster.'

Light

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

Condensed

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

Extended

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

Roman
Italic
 Boldface
 Light
 Condensed
 Extended

The confusion of styles within families of typefaces may seem daunting to the novice; it certainly remains a small nuisance even to the experienced designer. The only way to deal with the profusion of names—like learning irregular verbs in French—is memorization. See page 44 for Adrian Frutiger's attempt to resolve the naming problem.

9

Adobe Caslon SemiBold
 Akzidenz Grotesk Regular
Akzidenz Grotesk Medium
 Bodoni Old Face Medium
 Futura Book
Helvetica Compressed
Gill Sans Heavy
Gill Sans Extra Bold
Gill Sans Ultra Bold
 Grotesque Black
 Meta Normal
 Univers Thin Ultra Condensed (Univers 39)

Along with its own lexicon, typography also has its own units of measurement. Originally, type size was determined by the height of actual pieces of lead type. Obviously, we no longer commonly use lead type in setting type; however, the concept of letterforms cast on small pieces of lead remains the most useful way of thinking of type size. Although type size originally referred to the body of the type (the metal slug on which the letterform was cast), today we typically measure it from the top of the ascender to the bottom of the descender.

Similarly, the space between lines of type is called 'leading' because it was originally strips of lead placed between lines of metal type.

We calculate the size of type with units called 'points.' A point as we use it now is $\frac{1}{72}$ of an inch or 0.35 mm. The 'pica,' also used extensively in printing, is made up of 12 points. There are 6 picas to an inch.

When writing out a dimension in picas and points, the standard abbreviation is p.

6 picas
is written
6p or **6p0**

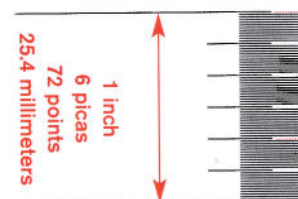
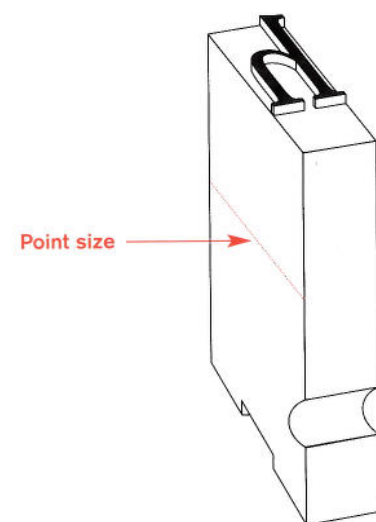
6 picas, 7 points
is written
6p7

7 points
is written
7 pts., 0p7, or p7

When specifying type size and leading, use a slash between the two numbers.

**10 point Univers with
2 point leading**
is written
10/12 Univers

Whenever you open a computer program that involves typesetting, make sure you set your default measurements to points and picas.



Aplx

48 point Janson

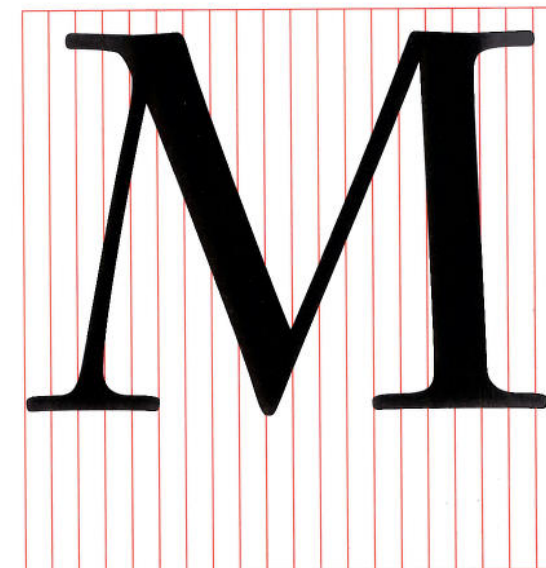


48 point Janson with
3 point leading—
48/51 Janson

Set width

All letterforms have set widths: the width of the form itself plus the space required on either side to prevent one letter from bumping into another. Set widths are described in 'units,' an entirely arbitrary measure that changes from one system to another. In the example opposite, the uppercase 'M' (typically the widest letterform) is 20 units wide and the lowercase 'a' is 9 units wide; the measurements might just as easily be 40 units and 18 units.

When type was cast by hand, it was possible for every letter, upper- and lowercase, to have a unique set width. As mechanized typesetting evolved, type designers were forced to restrict the number of set widths in any typeface to accommodate the limitations of the system (metal or photo) that produced the type. An 'a' and an 'e,' for instance, might be assigned the same set width in some systems because the technology was unable to express finer distinctions. Current digital technology has gone a long way toward restoring the variety of hand-cast type. Many softwares work at a scale of 200 units to the set width of an 'M'.



1,234,567.00
450,118.19

1,234,567.00
450,118.19

Uppercase numerals always have identical set widths so that they will align vertically (above). Lowercase numerals, designed with varying set widths, do not align vertically.

The ten typefaces displayed opposite represent 500 years of type design. The men and women who rendered them all sought to achieve two goals: easy readability and an appropriate expression of contemporary esthetics. These typefaces (and there are others) have surpassed the latter goal. They have remained in use for decades—in some cases, centuries—after they were first designed, still considered successful expressions of how we think, how we read and write, and how we print.

As a beginning typographer, you should study these ten faces carefully. For any of the exercises in this book—and for almost any early projects—these are all you will need to develop your skills. Once you understand how to use these faces appropriately and effectively, you'll be well prepared to understand and appreciate other typefaces as you encounter them.

Most of the typefaces shown here are fully displayed in the chapter on Development, pages 15–49.

Bembo

Radiography

Garamond

Radiography

Janson

Radiography

Caslon

Radiography

Baskerville

Radiography

Bodoni

Radiography

Serifa

Radiography

Futura

Radiography

Gill Sans

Radiography

Univers

Radiography

As you study other designers' work, you'll notice that many people who work seriously with type employ a limited palette of typefaces. Some, in fact, go through their entire careers using only one or two.

For our purposes, what is worth noting is not the similarities among these typefaces, but their differences—the accumulation of choices that renders each unique. Compare, for example, different forms of the lowercase 'a':

a a a a a a a a a a a

Beyond the gross differences in x-height, these forms display a wealth of variety in line weight, relative stroke width and other internal relationships, and in feeling. For any good typographer, each of these feelings connotes specific applications determined by use and expression. In other words, the typefaces suggest applications for which they are appropriate.

R R R R R R R R R R R R R

The uppercase R (above) displays the range of attitude typefaces are capable of conveying. If you examine these forms long enough, you are bound to decide that some of the tails seem more whimsical, some more stately; some will appear more mechanical, some more calligraphic, some harmonious, some awkward. As much as anything, what this examination tells you is how you feel about type and specific typefaces. It tells you what you bring to the discussion of appropriateness in type choices.