— Everything written symbols can say has already passed by. They are like tracks left by animals. That is why the masters of meditation refuse to accept that writings are final. The aim is to reach true being by means of those tracks, those letters, those signs – but reality itself is not a sign, and it leaves no tracks. It doesn't come to us by way of letters or words. We can go toward it, by following those words and letters back to what they came from. But so long as we are preoccupied with symbols, theories and opinions, we will fail to reach the principle.

— But when we give up symbols and opinions, aren't we left in the utter nothingness of being?

— Yes.

KIMURA KYŪHO, *Kenjutsu Fushigi Hen* [*On the Mysteries of Swordsmanship*], 1768

A true revelation, it seems to me, will only emerge from stubborn concentration on a solitary problem. I am not in league with inventors or adventurers, nor with travelers to exotic destinations. The surest – also the quickest – way to awake the sense of wonder in ourselves is to look intently, undeterred, at a single object. Suddenly, miraculously, it will reveal itself as something we have never seen before.

CESARE PAVESE, *Dialoghi con Leucò*, 1947

FOREWORD

There are many books about typography, and some of them are models of the art they teach. But when I set myself to compile a simple list of working principles, one of the benchmarks I first thought of was William Strunk and E.B. White's small masterpiece, *The Elements of Style*. Brevity, however, is the essence of Strunk & White's manual of literary technique. This book is longer than theirs, and for that there is a cause.

Typography makes at least two kinds of sense, if it makes any sense at all. It makes visual sense and historical sense. The visual side of typography is always on display, and materials for the study of its visual form are many and widespread. The history of letterforms and their usage is visible too, to those with access to manuscripts, inscriptions and old books, but from others it is largely hidden. This book has therefore grown into something more than a short manual of typographic etiquette. It is the fruit of a lot of long walks in the wilderness of letters: in part a pocket field guide to the living wonders that are found there, and in part a meditation on the ecological principles, survival techniques and ethics that apply. The principles of typography as I understand them are not a set of dead conventions but the tribal customs of the magic forest, where ancient voices speak from all directions and new ones move to unremembered forms.

One question, nevertheless, has been often in my mind. When all right-thinking human beings are struggling to remember that other men and women are free to be different, and free to become more different still, how can one honestly write a rulebook? What reason and authority exist for these commandments, suggestions and instructions? Surely typographers, like others, ought to be at liberty to follow or to blaze the trails they choose.

Typography thrives as a shared concern – and there are no paths at all where there are no shared desires and directions. A typographer determined to forge new routes must move, like other solitary travelers, through uninhabited country and against the grain of the land, crossing common thoroughfares in the silence before dawn. The subject of this book is not typographic solitude, but the old, well-traveled roads at the core of the tradition: paths that each of us is free to follow or not, and to enter and leave when we choose – if only we know the paths are there

and have a sense of where they lead. That freedom is denied us if the tradition is concealed or left for dead. Originality is everywhere, but much originality is blocked if the way back to earlier discoveries is cut or overgrown.

If you use this book as a guide, by all means leave the road when you wish. That is precisely the use of a road: to reach individually chosen points of departure. By all means break the rules, and break them beautifully, deliberately and well. That is one of the ends for which they exist.

Letterforms change constantly yet differ very little, because they are alive. The principles of typographic clarity have also scarcely altered since the second half of the fifteenth century, when the first books were printed in roman type. Indeed, most of the principles of legibility and design explored in this book were known and used by Egyptian scribes writing hieratic script with reed pens on papyrus in 1000 BC. Samples of their work sit now in museums in Cairo, London and New York, still lively, subtle and perfectly legible thirty centuries after they were made.

Writing systems vary, but a good page is not hard to learn to recognize, whether it comes from Táng Dynasty China, the Egyptian New Kingdom or Renaissance Italy. The principles that unite these distant schools of design are based on the structure and scale of the human body – the eye, the hand and the forearm in particular – and on the invisible but no less real, no less demanding and no less sensuous anatomy of the human mind. I don't like to call these principles universals, because they are largely unique to our species. Dogs and ants, for example, read and write by more chemical means. But the underlying principles of typography are, at any rate, stable enough to weather any number of human fashions and fads.

It is true that typographers' tools are presently changing with considerable force and speed, but this is not a manual in the use of any particular typesetting system or medium. I suppose that most readers of this book will set most of their type in digital form, using computers, but I have no preconceptions about which brands of computers, or which versions of which proprietary software, they may use. The essential elements of style have more to do with the goals typographers set for themselves than with the mutable eccentricities of their tools. Typography itself, in other words, is far more device-independent than PostScript, which is the computer language used to render these particular letters, and the design of these pages, into typographic code. If I have

succeeded in my task, this book should be as useful to artists and antiquarians setting foundry metal by hand and pulling proofs on a flat-bed press, as to those who check their work on a screen or laser printer, then ship it to high-resolution digital output devices by optical disk or long-distance telephone line.

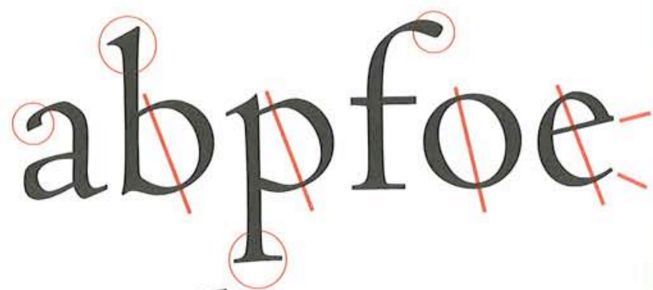
Typography is the craft of endowing human language with a durable visual form, and thus with an independent existence. Its heartwood is calligraphy – the dance, on a tiny stage, of the living, speaking hand – and its roots reach into living soil, though its branches may be hung each year with new machines. So long as the root lives, typography remains a source of true delight, true knowledge, true surprise.

As a craft, typography shares a long common boundary and many common concerns with writing and editing on the one side and with graphic design on the other; yet typography itself belongs to neither. This book in its turn is neither a manual of editorial style nor a textbook on design, though it overlaps with both of these concerns. The perspective throughout is first and foremost typographic – and I hope the book will be useful for that very reason to those whose work or interests may be centered in adjacent fields.

This book owes much to the conversation and example, over the years, of several friends and master craftsmen – Kay Amert, Stan Bevington, Crispin Elsted, Glenn Goluska, Peter Koch, Vic Marks, George Payerle and others – and to the practice of two artists and exemplars: the late Adrian Wilson, and Hermann Zapf. Artists and scholars around the world have shared their knowledge freely. James Mosley, his staff and his successors at the St Bride Printing Library, London, have been particularly helpful. I am grateful to them all.

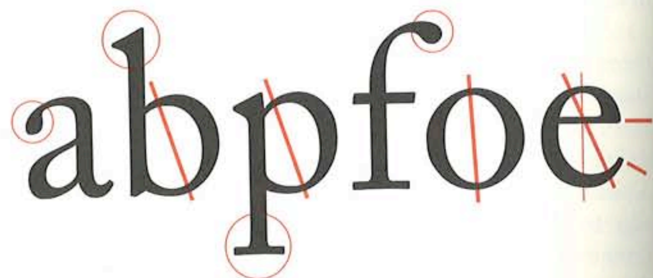
I have many others to thank as well for their contributions to the second and now the third edition of the book. Their names appear in the afterword, page 365.

R.B.



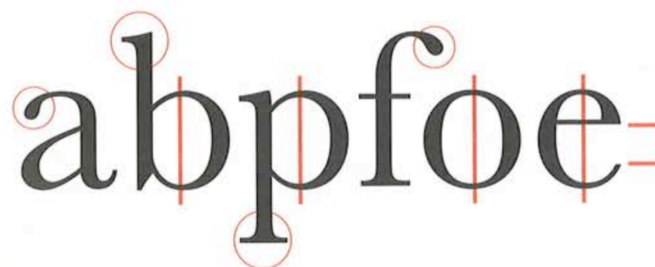
aperture: the opening in letters such as a, c, e, s

RENAISSANCE (15th & 16th centuries): modulated stroke; humanist [oblique] axis; crisp, pen-formed terminals; large *aperture*; italic equal to and independent of roman.



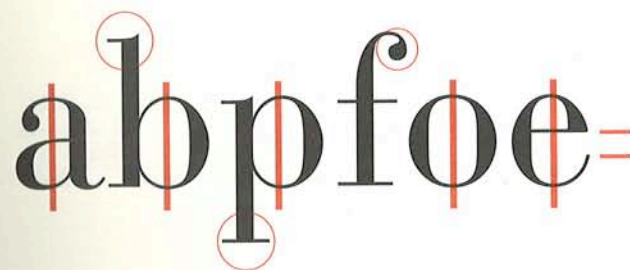
These charts show first and foremost the axis of the stroke, which is the axis of the pen that makes the letter. It is often very different from the axis of the lettershape itself. A pen that points northwest can make an upright letter or a letter that slopes to the northeast.

BAROQUE (17th century): modulated stroke; variable axis; modeled serifs and terminals; moderate aperture; italic subsidiary to roman and closely linked with it. A secondary vertical axis often develops in Baroque letters – but the *primary* axis of the penstroke is normally oblique.



NEOCLASSICAL (18th century): modulated stroke; rationalist [vertical] axis; refined, *adnate* serifs; *lachrymal* terminals; moderate aperture; italic fully subjugated to roman.

adnate: flowing into the stem; *lachrymal*: tear-drop shaped



ROMANTIC (18th & 19th centuries): hypermodulated stroke; intensified rationalist axis; abrupt, thin serifs; round terminals; small aperture; fully subjugated italic. In Neoclassical and Romantic letters alike, the *primary* axis is usually vertical and the *secondary* axis oblique.

abpfoe

abpfoe

REALIST (19th & early 20th centuries): unmodulated stroke; implied vertical axis; small aperture; serifs absent or abrupt and of equal weight with main strokes; italic absent or replaced by sloped roman.

abpfoe

abpfoe

GEOMETRIC MODERNIST (20th century): unmodulated stroke; bowls often circular (no axis); moderate aperture; serifs absent or of equal weight with main strokes; italic absent or replaced by sloped roman. The modeling, however, is often much more subtle than it first appears.

abpfoe

abpfoe

LYRICAL MODERNIST (20th century): rediscovery of Renaissance form: modulated stroke; humanist axis; pen-formed serifs and terminals; large aperture; italic partially liberated from roman.

abpfoe

abpfoe

POSTMODERNIST (late 20th & early 21st century): frequent parody of Neoclassical, Romantic or Baroque form: rationalist or variable axis; sharply modeled serifs and terminals; moderate aperture. (There are many kinds of Postmodernist letter. This is one example.)

rigo Habraam numerã
ı a moſaica lege(ſeptim
r)ſed naturalı fuit ratio
idit enim Habraam de
m quoq; gentium patr
s oés gentes hoc uidelı
m eſt:cuius ille iuſtıtiæ
us eſt:qui poſt multas
imum omnium diuin
naſcerétur tradidit:u
gnum:uel ut hoc quaſ
ſuos imitari conaret̃:au
um nobis modo eſt.Po

Roman type cut in 1469 by Nicolas Jenson, a French typographer working in Venice. The original is approximately 16 pt. The type is shown here as Jenson printed it, but at twice actual size. This is the ancestor of the type (Bruce Rogers's Centaur) shown at the top of page 12.

1

1.1 FIRST PRINCIPLES

1.1.1 *Typography exists to honor content.*

Like oratory, music, dance, calligraphy – like anything that lends its grace to language – typography is an art that can be deliberately misused. It is a craft by which the meanings of a text (or its absence of meaning) can be clarified, honored and shared, or knowingly disguised.

In a world rife with unsolicited messages, typography must often draw attention to itself before it will be read. Yet in order to be read, it must relinquish the attention it has drawn. Typography with anything to say therefore aspires to a kind of statuesque transparency. Its other traditional goal is durability: not immunity to change, but a clear superiority to fashion. Typography at its best is a visual form of language linking timelessness and time.

One of the principles of durable typography is always legibility; another is something more than legibility: some earned or unearned interest that gives its living energy to the page. It takes various forms and goes by various names, including serenity, liveliness, laughter, grace and joy.

These principles apply, in different ways, to the typography of business cards, instruction sheets and postage stamps, as well as to editions of religious scriptures, literary classics and other books that aspire to join their ranks. Within limits, the same principles apply even to stock market reports, airline schedules, milk cartons, classified ads. But laughter, grace and joy, like legibility itself, all feed on meaning, which the writer, the words and the subject, not the typographer, must generally provide.

In 1770, a bill was introduced in the English Parliament with the following provisions:

... all women of whatever age, rank, profession, or degree, whether virgins, maids, or widows, that shall ... impose upon, seduce, and betray into matrimony, any of His Majesty's subjects, by the scents, paints, cosmetic washes, artificial teeth, false hair, Spanish wool, iron stays, hoops, high heeled shoes [or] *bolstered hips shall incur*

the penalty of the law in force against witchcraft … and … the marriage, upon conviction, shall stand null and void.

The function of typography, as I understand it, is neither to further the power of witches nor to bolster the defences of those, like this unfortunate parliamentarian, who live in terror of being tempted and deceived. The satisfactions of the craft come from elucidating, and perhaps even ennobling, the text, not from deluding the unwary reader by applying scents, paints and iron stays to empty prose. But humble texts, such as classified ads or the telephone directory, may profit as much as anything else from a good typographical bath and a change of clothes. And many a book, like many a warrior or dancer or priest of either sex, may look well with some paint on its face, or indeed with a bone in its nose.

1.1.2 *Letters have a life and dignity of their own.*

Letterforms that honor and elucidate what humans see and say deserve to be honored in their turn. Well-chosen words deserve well-chosen letters; these in their turn deserve to be set with affection, intelligence, knowledge and skill. Typography is a link, and it ought, as a matter of honor, courtesy and pure delight, to be as strong as the others in the chain.

Writing begins with the making of footprints, the leaving of signs. Like speaking, it is a perfectly natural act which humans have carried to complex extremes. The typographer's task has always been to add a somewhat unnatural edge, a protective shell of artificial order, to the power of the writing hand. The tools have altered over the centuries, and the exact degree of unnaturalness desired has varied from place to place and time to time, but the character of the essential transformation between manuscript and type has scarcely changed.

The original purpose of type was simply copying. The job of the typographer was to imitate the scribal hand in a form that permitted exact and fast replication. Dozens, then hundreds, then thousands of copies were printed in less time than a scribe would need to finish one. This excuse for setting texts in type has disappeared. In the age of photolithography, digital scanning and offset printing, it is as easy to print directly from handwritten copy as from text that is typographically composed. Yet the typographer's

task is little changed. It is still to give the illusion of superhuman speed and stamina – and of superhuman patience and precision – to the writing hand.

Typography is just that: idealized writing. Writers themselves now rarely have the calligraphic skill of earlier scribes, but they evoke countless versions of ideal script by their varying voices and literary styles. To these blind and often invisible visions, the typographer must respond in visible terms.

In a badly designed book, the letters mill and stand like starving horses in a field. In a book designed by rote, they sit like stale bread and mutton on the page. In a well-made book, where designer, compositor and printer have all done their jobs, no matter how many thousands of lines and pages they must occupy, the letters are alive. They dance in their seats. Sometimes they rise and dance in the margins and aisles.

Simple as it may sound, the task of creative non-interference with letters is a rewarding and difficult calling. In ideal conditions, it is all that typographers are really asked to do – and it is enough.

1.1.3 *There is a style beyond style.*

Literary style, says Walter Benjamin, "is the power to move freely in the length and breadth of linguistic thinking without slipping into banality." Typographic style, in this large and intelligent sense of the word, does not mean any particular style – my style or your style, or Neoclassical or Baroque style – but the power to move freely through the whole domain of typography, and to function at every step in a way that is graceful and vital instead of banal. It means typography that can walk familiar ground without sliding into platitudes, typography that responds to new conditions with innovative solutions, and typography that does not vex the reader with its own originality in a self-conscious search for praise.

From part 2 of Benjamin's essay on Karl Kraus, in *Illuminationen* (Frankfurt, 1955). There is an English translation in Walter Benjamin, *Reflections*, ed. Peter Demetz (New York, 1978).

Typography is to literature as musical performance is to composition: an essential act of interpretation, full of endless opportunities for insight or obtuseness. Much typography is far removed from literature, for language has many uses, including packaging and propaganda. Like music, it can be used to manipulate behavior and emotions. But this is not where typographers, musicians or other human beings show us their finest side. Typography at its best is a slow performing art, worthy of the

same informed appreciation that we sometimes give to musical performances, and capable of giving similar nourishment and pleasure in return.

The same alphabets and page designs can be used for a biography of Mohandas Gandhi and for a manual on the use and deployment of biological weapons. Writing can be used both for love letters and for hate mail, and love letters themselves can be used for manipulation and extortion as well as to bring delight to body and soul. Evidently there is nothing inherently noble and trustworthy in the written or printed word. Yet generations of men and women have turned to writing and printing to house and share their deepest hopes, perceptions, dreams and fears. It is to them, not to the extortionist – nor to the opportunist or the profiteer – that the typographer must answer.

1.2 TACTICS

1.2.1 *Read the text before designing it.*

The typographer's one essential task is to interpret and communicate the text. Its tone, its tempo, its logical structure, its physical size, all determine the possibilities of its typographic form. The typographer is to the text as the theatrical director to the script, or the musician to the score.

1.2.2 *Discover the outer logic of the typography in the inner logic of the text.*

A novel often purports to be a seamless river of words from beginning to end, or a series of unnamed scenes. Research papers, textbooks, cookbooks and other works of nonfiction rarely look so smooth. They are often layered with chapter heads, section heads, subheads, block quotations, footnotes, endnotes, lists and illustrative examples. Such features may be obscure in the manuscript, even if they are clear in the author's mind. For the sake of the reader, each requires its own typographic identity and form. Every layer and level of the text must be consistent, distinct, yet (usually) harmonious in form.

The first task of the typographer is therefore to read and understand the text; the second task is to analyze and map it. Only then can typographic interpretation begin.

If the text has many layers or sections, it may need not only

heads and subheads but running heads as well, reappearing on every page or two-page spread, to remind readers which intellectual neighborhood they happen to be visiting.

Novels seldom need such signposts, but they often require typographic markers of other kinds. Peter Matthiessen's novel *Far Tortuga* (New York, 1975; designed by Kenneth Miyamoto) uses two sizes of type, three different margins, free-floating block paragraphs and other typographic devices to separate thought, speech and action. Ken Kesey's novel *Sometimes a Great Notion* (New York, 1964) seems to flow like conventional prose, yet it shifts repeatedly in mid-sentence between roman and italic to distinguish what characters say to each other from what they say in silence to themselves.

In poetry and drama, a larger typographic palette is sometimes required. Some of Douglass Parker's translations from classical Greek and Dennis Tedlock's translations from Zuni use roman, italic, bold, small caps and full caps in various sizes to emulate the dynamic markings of music. Robert Massin's typographic performances of Eugène Ionesco's plays use intersecting lines of type, stretched and melted letters, inkblots, pictograms, and a separate typeface for each person in the play. In the works of other artists such as Guillaume Apollinaire and Guy Davenport, boundaries between author and designer sometimes vanish. Writing merges with typography, and the text becomes its own illustration.

See for example Aristophanes, *Four Comedies* (Ann Arbor, Michigan, 1969); Dennis Tedlock, *Finding the Center* (New York, 1972); Eugène Ionesco, *La Cantatrice chauve* (Paris, 1964), and *Délire à deux* (Paris, 1966). There are samples of Massin's work in *Typographia* n.s. 11 (1965).

The typographer must analyze and reveal the inner order of the text, as a musician must reveal the inner order of the music he performs. But the reader, like the listener, should in retrospect be able to close her eyes and see what lies inside the words she has been reading. The typographic performance must reveal, not replace, the inner composition. Typographers, like other artists and craftsmen – musicians, composers and authors as well – must as a rule do their work and disappear.

1.2.3 *Make the visible relationship between the text and other elements (photographs, captions, tables, diagrams, notes) a reflection of their real relationship.*

If the text is tied to other elements, where do they belong? If there are notes, do they go at the side of the page, the foot of the page, the end of the chapter, the end of the book? If there are photographs or other illustrations, should they be embedded in

the text or should they form a special section of their own? And if the photographs have captions or credits or labels, should these sit close beside the photographs or should they be separately housed?

If there is more than one text – as in countless publications issued in Canada, Switzerland, Belgium and other multilingual countries – how will the separate but equal texts be arrayed? Will they run side by side to emphasize their equality (and perhaps to share in a single set of illustrations), or will they be printed back-to-back, to emphasize their distinctness?

No matter what their relation to the text, photos or maps must sometimes be grouped apart from it because they require a separate paper or different inks. If this is the case, what typographic cross-references will be required?

These and similar questions, which confront the working typographer on a daily basis, must be answered case by case. The typographic page is a map of the mind; it is frequently also a map of the social order from which it comes. And for better or for worse, minds and social orders change.

1.2.4 *Choose a typeface or a group of faces that will honor and elucidate the character of the text.*

This is the beginning, middle and end of the practice of typography: choose and use the type with sensitivity and intelligence. Aspects of this principle are explored throughout this book and considered in detail in chapters 6, 7 and 11.

a A a

a *a* a

a *a* a

a *a* A

a a a

a *a*

a *a*

Letterforms have tone, timbre, character, just as words and sentences do. The moment a text and a typeface are chosen, two streams of thought, two rhythmical systems, two sets of habits, or if you like, two personalities, intersect. They need not live together contentedly forever, but they must not as a rule collide.

The root metaphor of typesetting is that the alphabet (or in Chinese, the entire lexicon) is a system of interchangeable parts. The word *form* can be surgically revised, instead of rewritten, to become the word *farm* or *firm* or *fort* or *fork* or *from*, or with a little more trouble, to become the word *pineapple*. The old compositor's typecase is a partitioned wooden tray holding hundreds of such interchangeable bits of information. These subsemantic particles, these bits – called *sorts* by letterpress printers – are letters cast on standardized bodies of metal, waiting to be assembled into meaningful combinations, then dispersed and reassembled in a

different form. The compositor's typecase is one of the primary ancestors of the computer – and it is no surprise that while typesetting was one of the last crafts to be mechanized, it was one of the first to be computerized.

But the bits of information handled by typographers differ in one essential respect from the computer programmer's bits. Whether the type is set in hard metal by hand, or in softer metal by machine, or in digital form with a computer, every comma, every parenthesis, every *e*, and in context, even every empty space, has style as well as bald symbolic value. Letters are microscopic works of art as well as useful symbols. They mean what they are as well as what they say.

Typography is the art and craft of handling these doubly meaningful bits of information. A good typographer handles them in intelligent, coherent, sensitive ways. When the type is poorly chosen, what the words say linguistically and what the letters imply visually are disharmonious, dishonest, out of tune.

1.2.5 *Shape the page and frame the textblock so that it honors and reveals every element, every relationship between elements, and every logical nuance of the text.*

Selecting the shape of the page and placing the type upon it is much like framing and hanging a painting. A cubist painting in an eighteenth-century gilded frame, or a seventeenth-century still-life in a slim chrome box, will look no sillier than a nineteenth-century text from England set in types that come from seventeenth-century France, asymmetrically positioned on a German Modernist page.

If the text is long or the space is short, or if the elements are many, multiple columns may be required. If illustrations and text march side by side, does one take precedence over the other? And does the order or degree of prominence change? Does the text suggest perpetual symmetry, perpetual asymmetry, or something in between?

Again, does the text suggest the continuous unruffled flow of justified prose, or the continued flirtation with order and chaos evoked by flush-left ragged-right composition? (The running heads and sidenotes on the recto (righthand) pages of this book are set flush left, ragged right. On the verso (lefthand) pages, they are ragged left. Leftward-reading alphabets, like Arabic and Hebrew, are perfectly at home in ragged-left text, but with

rightward-reading alphabets like Latin, Greek or Thai, ragged-left setting emphasizes the end, not the beginning, of the line. This makes it a poor choice for extended composition.)

Shaping the page goes hand in hand with choosing the type, and both are permanent typographical preoccupations. The subject of page shapes and proportions is addressed in greater detail in chapter 8.

Tactics

1.2.6 *Give full typographic attention even to incidental details.*

Some of what a typographer must set, like some of what any musician must play, is simply passage work. Even an edition of Plato or Shakespeare will contain a certain amount of routine text: page numbers, scene numbers, textual notes, the copyright claim, the publisher's name and address, and the hyperbole on the jacket, not to mention the passage work or background writing that is implicit in the text itself. But just as a good musician can make a heart-wrenching ballad from a few banal words and a trivial tune, so the typographer can make poignant and lovely typography from bibliographical paraphernalia and textual chaff. The ability to do so rests on respect for the text as a whole, and on respect for the letters themselves.

Perhaps the principle should read: Give full typographic attention *especially* to incidental details.

1.3 SUMMARY

There are always exceptions, always excuses for stunts and surprises. But perhaps we can agree that, as a rule, typography should perform these services for the reader:

- *invite the reader into the text;*
- *reveal the tenor and meaning of the text;*
- *clarify the structure and the order of the text;*
- *link the text with other existing elements;*
- *induce a state of energetic repose, which is the ideal condition for reading.*

While serving the reader in this way, typography, like a musical performance or a theatrical production, should serve two other ends. It should honor the text for its own sake – always assuming that the text is worth a typographer's trouble – and it should honor and contribute to its own tradition: that of typography itself.

RHYTHM & PROPORTION

2

2.1 HORIZONTAL MOTION

An ancient metaphor: thought is a thread, and the raconteur is a spinner of yarns – but the true storyteller, the poet, is a weaver. The scribes made this old and audible abstraction into a new and visible fact. After long practice, their work took on such an even, flexible texture that they called the written page a *textus,* which means cloth.

The typesetting device, whether it happens to be a computer or a composing stick, functions like a loom. And the typographer, like the scribe, normally aims to weave the text as evenly as possible. Good letterforms are designed to give a lively, even texture, but careless spacing of letters, lines and words can tear this fabric apart.

Another ancient metaphor: the density of texture in a written or typeset page is called its *color.* This has nothing to do with red or green ink; it refers only to the darkness or blackness of the letterforms in mass. Once the demands of legibility and logical order are satisfied, *evenness of color* is the typographer's normal aim. And color depends on four things: the design of the type, the spacing between the letters, the spacing between the words, and the spacing between the lines. None is independent of the others.

2.1.1 *Define the word space to suit the size and natural letterfit of the font.*

Type is normally measured in picas and points (explained in detail on pages 328–329), but horizontal spacing is measured in *ems,* and the em is a sliding measure. One em is a distance equal to the type size. In 6 point type, an em is 6 points; in 12 pt type it is 12 points, and in 60 pt type it is 60 points. Thus a one-em space is *proportionately* the same in any size.

12 pt em

18 pt em

24 pt em

36 pt em