

## Approaches to design

The preceding chapters on function, form and manufacture have examined different elements of typography: language, the development of the alphabet, ways of describing typefaces and how type is made. This chapter will explain how the components can be assembled or composed; the mechanics and poetry of structure. There are four broad approaches to typographic design: one concerned with documentation, an analytical approach, a conceptual approach and an expressive approach. These categories are not mutually exclusive and any job is likely to include more than one of them. The approach taken can reflect an individual designer's character and prejudices, or it can be intrinsic to the nature of the job.

Documentation concerns data – the message – and generally provides the starting point. Documentation records and preserves, and takes many forms: a letter, a brief, a listing, a ticket, etc. In its crudest form it can seem almost 'undesigned', pure information with no concern for audience or aesthetic nicety.

An analytical approach is well suited to the presentation of complex information and usually forms the basis for charts, diagrams, signage, timetables, maps, symbols, codes, indexing and so on. These activities share common roots in rationalism, in the examination and dissection of data, and in the understanding of the whole through an analysis of the parts.

A conceptual approach searches for the big idea that encapsulates the message. For some designers this is their prime method of communication. Conceptual design is particularly associated with cartoons, advertising, promotion and branding, though it is used across the whole spectrum of graphic design. It makes use of pun, paradox, cliché and pastiche; develops visual similes, metaphors and allegories; and combines two previously unrelated ideas to throw light on a third. Using a reductive and often simplistic approach, conceptual graphics appeal to the intellect and rely on designer and audience sharing the subtlety of wordplay.

An expressive approach appeals to the viewer's emotions. Like music, it appeals primarily to our heart: it strives through colour, mark-making and symbolism to emotionally 'reposition' the viewer. Absolute clarity is not always the intention here: this design approach is impressionistic, poetic and lyrical, inviting the viewer to reflect on the content.

Set against this background design approach, the designer is then faced with specific decisions. This 'palette' of options might be restricted – in the case of a simple book – or wide-ranging, as with the time and motion possibilities of film or new media.



## Designing with type in two dimensions

The key elements of the typographic palette are based on the practice of print – despite everything that has happened since the invention of printing around 1450, the way we read has not fundamentally changed. Typography is a discipline that has historically presented language within a set of physical and intellectual borders. Its habitat is generally planar; sentences are arranged within a two-dimensional space that type sits on but does not penetrate. The structure of typography, like the design and manufacture of type, fundamentally deals with issues of vertical and horizontal space, constantly exploring the minutiae of proportional relationships within letterform and layout.

In print, the reader is presented with information that is fixed in time and in appearance, as dictated by publishers and designers. While the assumption is often that print is, by definition, linear and sequential, the reality is often very different. Once a book is produced, for instance, there is no control over how it is read or accessed: this becomes a private relationship between reader and author. In any case, not all books are intended to be sequential and linear: reference works, for instance, are designed to be accessed in a variety of ways, while many modern-day artists and writers have striven to subvert accepted notions of the linear book.

With time and experience, every designer develops an individual working method. While the order and timing of decisions within the design process may vary, the decisions that need to be made do not. To help explain the basic elements of the typographic palette the model of a simple text page will be used, with comments about other kinds of work included with each explanation and in the pictorial section on pages 146–75.

When designing such a page, a designer needs to make ten decisions: 1, typeface; 2, type size; 3, colour; 4, line length and horizontal space; 5, vertical space (leading); 6, alignment of text; 7, paragraph articulation; 8, column depth; 9, the position of text on the page; and 10, format. These are presented below from the detail outwards, although in practice designers develop different strategies for different kinds of job and the order of decision making varies widely.

### 1 Typeface

Typeface choices might be influenced by what is legible, what is available on a computer and by the nature of the text. Typefaces can also be chosen for historical reasons. While a novel set in Renaissance Italy or eighteenth-century Britain may benefit from the use of Bembo or Baskerville respectively, it is not a necessity. What matters is that the text is readable and attractive to its intended audience today. A broad knowledge of history – architectural and social as well as typographic – is a useful aid in the design process, but it should not become a straitjacket. Text types (often regarded as being less than 14pt) should generally be rather 'self-effacing': the idea is to read the words rather than notice the typeface. For display use, however – whether for flyers, posters, logos or websites – designers might choose something more attention-grabbing, and might give added meaning by employing a typeface with strong associative powers. Appearance, size (see page 129) and colour (see page 130) are not the only

### Legibility and readability

These two terms are often confused, and although related they are possible to separate. Legibility refers to the typeform, how easy an individual character or alphabet is to recognize when presented in a particular font. Readability encompasses both typeform and arrangement – how easily a text can be read. A wide range of factors affect this. Some are pertinent to the typographer's palette: characteristics of the font, size, use of space, colour, contrast, arrangement and structure of text, for example. Others relate to the medium of presentation, such as the screen, page or exhibition space and the ambient levels of light in the reading environment. An example is the contrast between the easily read intense luminosity of a cash dispenser screen at night, and its frustrating opacity on a sunny day: neither the font nor the structure accounts for the poor readability, merely the relative levels of illumination. It is possible to set a legible face in an unreadable way. While certain rules of thumb can serve as an aid to grasping concepts – Do you recognize the letter? If so, it's legible. Can you read a page? If so, it's readable – these tend to over-simplify the complexity of this area.

Many typographers have stated that there is no such thing as illegibility, arguing that a typeface that is not legible is not a typeface. This implies, however, that all readers, all of the time, share a common and consistent vision of letterform. Such a declaration of certainty denies the subtle change that takes place with each generation of readers, who through progressive exposure become accustomed to new letterforms. Our collective perception of what is legible is not a constant value: with every new reading the unfamiliar becomes the familiar. *If a fifteenth-century scholar living in what is now Germany, and used to reading the kind of broken script then in use, were confronted with a screen of sans serif today, would he be able to read it? The language and the alphabet remain the same, but the letterforms, if not their arrangement, would be completely alien.*

This argument does not justify the designer who arrogantly creates illegible letterforms in unreadable arrangements on the assumption that the reader will 'catch up and appreciate my genius'. Nor does it seek to deny the designer's responsibility for legibility and readability on the basis that this is a perception trapped in the minds of a generation of readers. It simply seeks to embrace an overall awareness, and strike a balance between an understanding of the historical development of the act of reading and an appreciation of what is needed to facilitate the task of today's consumers of text.



reasons for choosing a typeface; the designer should carefully consider the specific needs of each job. It is impossible to overemphasize the importance of the designer reading the actual copy, so as to gain a sense of what is involved in terms of complexity or hierarchy. From such a reading a list of questions will emerge, which in due course will lead to the making of certain design decisions. The questions to be asked might include:

- is it one text (eg a novel), or are there several different authors and opinions?
- is there much quoted matter?
- does the text contain many figures in the form of dates, etc.?
- are there footnotes?
- are there headings and subheads, and if so, how many levels?
- are there images? If so, how will they work (separate or integrated), and what about captions?

Other questions concerning the physical aspects of the job (see also Format on page 140) will also need answering. (For instance, what paper is being used? Is it bright or dull, matt or gloss, and does it have much show-through?)

This list is purely indicative: in reality, careful initial analysis prompts many of the specific questions. Because of this it is impossible to design effectively without a comprehensive brief and sample of material. It is the very constraints of a job that force thoughtful responses and create meaningful solutions.

Certain decisions can now be made. *Any lengthy text will almost certainly need an italic*; if there are many dates (1982–5) it may need a face with non-lining figures. **A bold may be necessary for headings or emphasis** BUT ANOTHER TYPEFACE OR STYLE MIGHT SERVE THE SAME PURPOSE JUST AS WELL. Captions and footnotes can be set in the same typeface as the main text or be given a different feel entirely. The most important factor is whether the function of each of those parts is clear. In this book, main text and footnotes are set in Swift (by Gerard Unger), a serif with generous x-height. To add visual difference, captions and side stories are set in Meta (by Erik Spiekermann), a slightly narrower sans serif typeface. Choosing complementary faces (for example when a work needs both main text and captions), particularly sans and serif, can be tricky. Choosing types by the same designer is sometimes recommended as this may ensure some commonality to each typeface's underlying structure, but this can negate the whole reason for choosing a different typeface in the first place.

Nothing beats testing choices early in the process, and computers today allow the earliest layouts to simulate the finished design. There is a relationship between type designs and the papers they were originally printed on. The types of the fifteenth to seventeenth centuries (eg Bembo, Caslon, Ehrhardt, Garamond, Janson), which were printed on fairly coarse papers, are quite different in their detailing to those of the late eighteenth and early nineteenth centuries (eg Baskerville, Bodoni, Didot, Walbaum), which were printed on much smoother stock. Those earlier types, at least as they were originally used, had a certain robustness which can look quite wrong on the smooth papers of today. Similarly, the delicacy of many modern faces will not reproduce well across a heavily textured ground. While office printers of 600dpi are useful in producing roughs of a design on a variety of paper stocks, their resolution may mean that, at text



Typefaces for use in continuous text are often chosen for their colour or texture on the page and how it relates to other elements in the design. This texture is created mainly, but not entirely, by the choice of typeface. In these examples the types have been resized to an approximately equal x-height with 3.75mm leading. 8.65pt Adobe Futura.



sizes, some of the subtleties of the typeface design are rendered mute or, perhaps worse, mimicked cruelly.

Away from the rigours of text typography, the reasons for choosing typefaces differ. As indicated above, a principal reason is often novelty, or at least what will be noticed. The subject matter of a particular job can sometimes suggest a particular typeface, and its connotations – real or imagined – can be used as primary communicative elements. Choice of typeface is only one ingredient in the equation, however: many designers restrict themselves to a limited range of typefaces but use size and colour to make an impact.

It is a good idea to collect examples of typefaces and keep them for reference. These can come from obvious sources such as manufacturers' or retailers' catalogues or advertisements, but they might also include press cuttings of type in use. These samples do not have to be exemplary: in fact, specimens of type or treatments which do not work can be equally instructive.

If the job is for a computer or television screen there are different factors to consider. The resolution of the monitor is a major problem because the 625 lines of a television and the 72 or 96dpi of a computer screen are both very crude when compared to the 1,500dpi (and higher) resolution used for print, and this can render many typefaces unreadable at certain sizes, particularly when they are reversed out. On the web, typeface choice can be limited by the method chosen for its display as outlined on page 132.

## 2 Type size

As discussed in Chapter IV, it is important to bear in mind that the apparent size of a typeface, as viewed, is not the same as its point size. It is the visual x-height of the typeface that should be the guiding factor, not its nominal size.

Different kinds of work have their own requirements, and the context in which the work will be seen should be carefully considered. Books and magazines for adults are normally set in type of around 8.5 to 10pt, but children and the elderly may need larger type. Type for signage needs to take account of the intended viewing distance (and speed) of the audience (see also page 175): an advertising poster for use on a rail network will need to be designed differently depending on whether the display sites are to be on the platform or to be seen across the tracks. Against these general observations should be set the fact that type can also be set at an unexpected size for effect. Large type in a book can suggest children's text, small type on a poster can draw the viewer in.

One problem with type size is related to the way type is measured. As discussed in Chapter IV, point size refers not to the appearing size of the type but to the 'body' on which it is made. There is no substitute for testing your typeface choice. The examples opposite show how different several typefaces can look when set at the same point sizes.

When designing for the web, typesize is measured differently, as described on page 132.





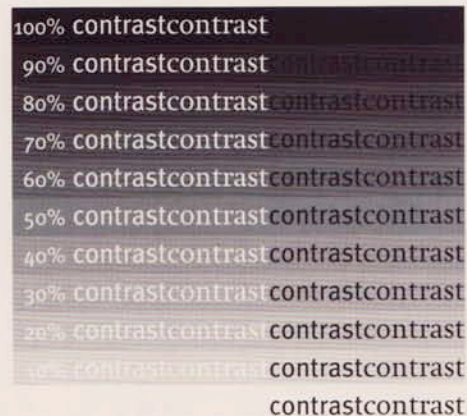
### RGB and CMYK colour

Colour for use on screen is made from light and is sometimes described as 'additive colour'. The light colours are made from the three primaries – red, green and blue, abbreviated to RGB – which can be mixed in any combination and percentage value. If all three primaries are combined at 100% the result is white, and if all three are combined at 0% the result is black.

Colours for print are pigment-based and are specified in two basic ways. Specific colours for single, two-colour or three-colour printing are known as spot colours and are usually chosen from a colour matching system such as Pantone. Spot colours can also include specials such as metallic or luminous colours and varnishes.

When printing full-colour however, the usual method is to create colours from the pigment primaries cyan (blue), magenta (red) and yellow. When all three are mixed together at 100% the resulting colour will be black, and if mixed at 0% it will be white or the colour of the paper (hence the name 'subtractive colour'). Because of the impurities in pigments, however, black is added to the primaries to build up the depth of tone. This is known as CMYK (black = K for key). It is usually printed on a four-colour press, which allows all four to be printed 'wet-on-wet' in a single pass of the sheet through the machine.

### Type and contrast



Legibility is affected by the degree of contrast between type and its background. For clarity, the difference between them should be no less than 30%. When using tinted backgrounds as above, notice how the almost monoline construction of sans serif type is clearer.

## 3 Colour

Colour in typography can mean one of three things. The first concerns the relative shade or tonal value of a particular typeface or style. Old printers referred to text as grey matter and type is often chosen for its colour on the page. This can be affected by the general proportions of the face, the relative disposition of thick and thin around the character shapes, the presence or absence of serifs and the shape of any serifs. A serifed typeface, because of the serifs themselves and the thick and thin stems of the characters, will give a block of text a more interesting visual texture than the same text when set in sans serif.

It can also refer to the actual colour of ink used in printing. Traditionally, text in books has always been printed black, with red usually the second colour either for featured initials or for instructions. This suited both printing and reading. Today, the cost of four-, five-, and six-colour printing means that colour can be widely exploited to reinforce a message, and in many kinds of work black is notable by its absence. With books, however, the practical needs of the reader come first and black still remains the usual colour for continuous text.

Colour can also describe the background on which the type sits and has a large part to play in terms of readability. The background colour can be printed – as on this page which has a 7% yellow tint – or can be the colour of the paper itself. The whole relationship of type to ground, and the tonal and colour differences between them, should be carefully considered, as demonstrated by the diagrams below left. While the 100% contrast between black type and a white ground is theoretically best for legibility, it can be uncomfortable to read. In novels or other books containing only text, paper is usually off-white. Those suffering from dyslexia also find a reduced contrast between type and background helpful, and pastel shades of paper are often recommended for their needs. Illustrated books can be a problem as images generally reproduce better on smooth, coated white papers. While we are arguably more used to reading type on these papers than previous generations, some types fare better than others. Typefaces with abrupt contrast between thicks and thins can give a somewhat dazzling effect which can prove tiring to the eye (see Further reading).

The problem of contrast is potentially more acute in on-screen environments because of screen glare. For this reason information is often presented against a coloured ground, or is designed primarily to be downloaded and printed out (often at the viewer's specification). Designers have less control over the final appearance of their work when producing for on-screen viewing compared to designing for print.

## 4 Horizontal space: line length, kerning & tracking and word space

When reading we do not read individual letters, or even individual words: the eye travels along each line, reading groups of words. In running text, the three factors which have most bearing on readability are type size, line length (or measure) and leading. For continuous reading, around 65 characters per line is considered optimum, but anything between 45 and 75 can be made to work with careful choice of leading (see 5 on page 135) and use of the hyphenation and justification (H&Js; see Chapter VI).



Lines of twelve words are considered optimum for easy reading. These lines contain only ten at best but because of the nature and brevity of the text, readability is not compromised.

Very short lines are tiresome to read, especially if justified (see 6 on page 136).

Longer lines can be made more readable by using more generous leading (but see page 135).

While the line length, which in today's software is often specified as the width of the text box, is the most obvious use of horizontal space within a page, the subtle relationships between letters and between words should also be considered here. At a basic level these are part of each typeface's design (see Chapter IV) but there are often good reasons for wanting to adjust either or both of these and software programs allow this. Altering the space between pairs of characters is known as kerning while an adjustment to whole words or paragraphs is tracking; often the terms are used interchangeably.

The inter-character spacing can be tightened, or opened out. This should only be used subtly to improve the readability and look of text rather than to make it fill a pre-determined space. Small type (eg below 9pt) can sometimes be improved by positive tracking; headings or large type are sometimes better with negative tracking.



## Type and the web

When preparing work for the web a designer is faced with an environment over which there is less control than print and which is governed by a quickly changing set of standards. Compared to designing for print, the first-time web designer will notice that the typographic decisions that can be made are different, and that what may be specified differs in appearance depending on which browser or platform the result is viewed on.

In order to guarantee a uniformity of appearance, web designers generally limit the fonts they use to something from the generic web font families. The most common set of these include the faces specially commissioned by Microsoft (eg Georgia, Trebuchet and Verdana) and supplied with their web browsers.

Serif, eg

Georgia  
Times

Sans, eg

Verdana  
Arial

Cursive, eg

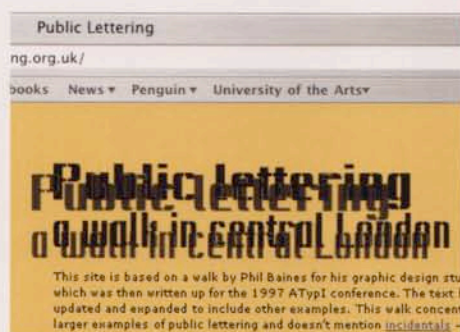
*Zapf Chancery*

Fantasy, eg

Comic Sans

Monospace, eg

Courier  
Andale Mono



Although many programs use the familiar, what-you-see-is-what-you-get (wysiwyg) paradigm of page make-up programs, some understanding of the way in which web content is coded is essential if one is to have some control over the appearance and behaviour of type.

There are three main ways of using typefaces for web publishing:

- 1 By making an image of the type
- 2 Using Flash to design and view files
- 3 Defining the appearance of type by HyperText Markup Language (HTML) and Cascading Style Sheets (CSS)

### 1 Type as image

If standard web fonts do not give the right feel to a page or site, the most widely used alternative is to turn areas of text into graphic objects (basically pictures) which are usually saved as GIFs or JPEGs depending on the nature of the image. The advantage is one of typeface choice; disadvantages include increased download time and the inability to copy text. It is a method that is often used to render company names or logos rather than entire pages of text.

**Above** When selecting and moving the title on the web page above, it moves as one item, indicating that it is an image rather than HTML text.

### 2 Flash

Flash is both a program for developing interactive animation and a player that runs Flash movies locally on users' machines. It has been developed by Macromedia (who were recently acquired by Adobe) since 1996. Some advantages of Flash are its almost universal incorporation in web browsers and the fact that Flash movies are unaffected by the browser and therefore always remain true to the designer's intentions.

Flash is vector-based and movie files can be kept relatively small. It is possible to control the use of fonts and their arrangement very accurately, and with far fewer constraints than when using CSS, and many designers prefer the wysiwyg tools used to create files. A criticism which could be made of its widespread use is that it can often lead to a convoluted graphic language – web pages which look 'interesting' but fail to deliver information easily.

## 1 Defining the appearance of type by HyperText Markup Language (HTML) and Cascading Style Sheets (CSS)

The appearance of type is dependent on a number of factors. In addition to the designer's original intention, it is affected partly by the defaults set up in the browser itself, and partly by the way the individual user has allowed those defaults to work (by adjusting the program's preferences).

HTML was a first-generation web technology which simply defined basic styles for text to enable text to appear online with some acceptable reference to the usual graphic conventions of the printed word. XHTML (eXtensible HTML) has stricter syntax (standards) and is more easily readable by computer programs.

A piece of text simply marked up with HTML code might look like this:

```
<p style="font-family:Georgia">Phil
<strong>Baines</strong> &#38;
Andrew <strong>Haslam</strong>,
<em>Type &#38; typography</em></p>
```

and appear thus:

Phil Baines & Andrew Haslam, *Type & typography*

Text defined in this way remains 'live' and the reader is able to copy text into another program.

One of the problems with HTML is that the document structure and its presentation are part of one and the same file and can be very difficult to manage, edit or make consistent.

CSS was first put forward in 1994 and published as a standard in 1996. It gives far greater control of colour, font and layout and, most importantly, separates presentation from structure. The first standard included support for the following:

- font properties such as typeface and emphasis
- colour of text, backgrounds and other elements
- text attributes such as spacing between words, letters and lines of text
- alignment of text, images, tables and other objects
- margin, border, padding and positioning for most elements.

By specifying type sizes, 'leading' and other spatial relationships – either relative to an em or in pixels or percentages – the designer has a better chance of ensuring that pages using these styles will be consistent on all browsers that are standards compliant.



The screengrabs on this page – taken from a website designed by Phil Gyford – suggest a little of the sophistication which CSS can bring to a web page.

**Right** An extract from the HTML of the page shown below shows both the text itself and the various tags relating to it. The indents suggest the relationships between tags.

**Right** The CSS (shown here in slightly edited form) is what controls the appearance of every tag in the site.

**Below** The resultant page when viewed in Safari on Mac OSX.

```
<div id="diary">
  <dt>
    <dt class="date">Saturday 17 May 1662</dt>
    <dd class="entry">
      <div class="body"><p>Upon a letter this morning from <a
href="http://www.pepysdiary.com/p/340.php">Mr. Moore</a>, I went to my cozen <a
href="http://www.pepysdiary.com/p/1858.php">Turner</a> chamber, and
there put him drawing a replication to </p>
</div>
</dd>
</div>
```

```
dt
{ margin: 0; padding: 0; font-weight: bold; }

#diary dt, #aboutweblog dt
{ width: 64%; color: #555533; }

#diary dt
{ font-weight: bold; text-align: center; padding-top: 1em; }
```

http://www.pepysdiary.com/

## The Diary of Samuel Pepys

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[Archives by date](#) | [Recent annotations](#) | [The story so far](#) | [RSS/XML](#) Search:  [Go](#) [Help](#)

**First time here? [Read the story so far](#)**

Recent news: [New comment spam filter](#), 13 Apr 2005

### Saturday 17 May 1662

Upon a letter this morning from [Mr. Moore](#), I went to my cozen [Turner's](#) chamber, and there put him drawing a replication to [Tom Trice's](#) answer speedily. So to [Whitehall](#) and there met Mr. Moore, and I walked long in [Westminster Hall](#), and thence with him to [the Wardrobe](#) to dinner, where dined [Mrs. Sanderson](#), the [mother of the maids](#), and after dinner [my Lady](#) and she and I on foot to [Pater Noster Row](#) to buy a petticoat against [the Queen's](#) coming for my Lady, of plain satin, and other things; and being come back again, we there met [Mr. Nathaniel Crew](#) at the Wardrobe with a young gentleman, a friend and fellow student of his, and of a good family, [Mr. Knightly](#), and known to the Crews, of whom my Lady privately told me she hath some thoughts of a match for my [Lady Jemimah](#). I like the person very well, and he hath 2000*l.* per annum. Thence to [the office](#), and there we sat, and thence after writing letters to all my friends with [my Lord](#) at [Portsmouth](#), I walked to my brother [Tom's](#) to see a velvet cloak, which I buy of Mr. Moore. It will cost me 8*l.* 10*s.*; he bought it for 6*l.* 10*s.*, but it is worth my money. So [home](#) and find all things made clean against to-morrow, which pleases me well. So to bed.

[15 annotations](#) | [Link](#)

### Friday 16 May 1662

Unearly Mr. Hater and I to the office, and there I made an end of my

Background info:  
[Art and Literature](#)  
[Entertainment](#)  
[Fashion](#)  
[Food and Drink](#)  
[Further reading](#)  
[General reference](#)  
[Glossary](#)  
[Government and Law](#)  
[Health](#)  
[Holidays and Events](#)  
[Money and Business](#)  
[People](#)  
[Places](#)  
[Religion](#)  
[Science and Technology](#)  
[Travel and Vehicles](#)  
[Work and Education](#)

Background info:



### Kerning and figures

In addition to a general kerning of text, kerning can be applied between specific pairs. The numerals in the majority of typefaces all occupy the same character width to enable the tabular setting of figures:

£101.10  
3.51  
14.61

When setting dates containing the figure 1, however, this presents something of a problem as it can appear separate from the rest. Kerning will remedy this.

before 1958 after 1958

### Tracking and halation

Halation is the effect of white (or light) spreading against a dark background. This effect can impair the legibility of text set white-out-of-black (reversed out) because individual letters can appear to merge into each other. This effect is more pronounced with back-lit type and careful adjustments need to be made to such type to ensure its legibility.

Tracked -2, word space 85% (as black type in all side stories)

The usual way to improve the legibility of reversed out text is by tracking. The effects of various amounts of tracking are demonstrated here. At small sizes the choice of typeface is also important, the thins and serifs of some serif types have a tendency to 'fill-in' with ink and may even disappear entirely.

Tracked 0, word space 100%

The usual way to improve the legibility of reversed out text is by tracking. The effects of various amounts of tracking are demonstrated

here. At small sizes the choice of typeface is also important, the thins and serifs of some serif types have a tendency to 'fill-in' with ink and may even disappear entirely.

Tracked +4, word space 100%

The usual way to improve the legibility of reversed out text is by tracking. The effects of various amounts of tracking are demonstrated here. At small sizes the choice of typeface is also important, the thins and serifs of some serif types have a tendency to 'fill-in' with ink and may even disappear entirely.

Perpetua tracked 3, word space 100%

The usual way to improve the legibility of reversed out text is by tracking. The effects of various amounts of tracking are demonstrated here. At small sizes the choice of typeface is also important, the thins and serifs of some serif types have a tendency to 'fill-in' with ink and may even disappear entirely.

The size of the word space is determined by the type designer and is usually about a quarter of the point size in width (ie 250 PostScript units), similar to the width of the letter i.

This 'designed' width is often too wide when text is set in upper and lower case and can be overridden by use of the H&J settings available in most programs. In this paragraph, and throughout the main text of this book, it has been reduced to 85% of its designed width.

When setting justified text, as described in 6 on page 136, the word space – of necessity – can vary in width from one line to the next.



## 5 Vertical space: leading

Leading is the invisible framework running vertically down a page, and together with type size and line length it has the greatest effect on the readability of a piece of printed text. Its exact definition changes according to technology:

In the days of metal type the term 'leading' was used to refer to the strips of lead which could be inserted between each line of type as an aid to readability and, to a degree, aesthetic effect. This example would have been described as 24pt type with 12pt leading. Type without leading was described as 'set solid'.

Leading is now used to describe the distance from one baseline to the next. This example is now described as 24pt type with 36pt leading. (When the leading is the same value as the type size it can be described as 'set solid').

Because type is now computer data and not a material object, it is possible to specify negative leading and to create a visual texture. There is a time and a place for effects like this, which draw attention to themselves and arguably engage the reader more – although they make reading very difficult. In this example the 24pt type is leaded 5mm (14.173 pt).



The opposite effect is shown here with 25mm

leading (70·866 pt): far too much for these few

lines: it destroys the unity of the text.

### Incremental leading

When pages contain different columns of text with type set at differing amounts of leading, designers often use related values for the leading to help unify the design.

In this book the main text is set with 5 mm leading and caption and side stories set with 3·75 mm. Every fifth line of this story therefore aligns with every fourth of the main text.

Although it is more usual to specify leading in points, we have chosen to use millimetres rather than points in order to use one unit of measure for both horizontal and vertical dimensions and to make image placement easier.

Leading is as responsible for the texture of type on a page as typeface and type size. For continuous text, setting text 'solid' is seldom recommended unless the typeface has a small x-height (eg Perpetua) or is small on its body (eg Matrix). For this reason, in some programs leading has a default value which is usually a percentage (eg 120%) of the largest type size in a line. While this can prevent bad setting in some circumstances, in more demanding kinds of work where accurate placement of type and other elements is essential, it makes it virtually impossible to know exactly where a particular line or piece of type is. By specifying the leading as definite values instead, everything is measurable and accurate.

To provide unity throughout long or complex documents containing different kinds of text, leading can be used to create an invisible underpinning for the whole design. A leading value will be decided for the main text and values for captions, notes and endmatter will be established, not arbitrarily but in a related fashion. Although usually expressed in points, leading can be specified in whatever units the designer chooses. The particular specifications for this book are outlined in the side story, Incremental leading.

### 6 Alignment of text

There are four principal ways in which type is aligned: ranged left, ranged right, centred and justified. Each derives from slightly different practice and has particular advantages. There is no good reason – other than fashion – why several of these shouldn't coexist in the same document.

This style of alignment is known as RANGED LEFT (ragged right or flush left in the US).

Although this is the way we write, until the twentieth century it was rare to find a printed book set like this. Eric Gill was an early advocate



of this style, arguing its efficacy by word and example in *An essay on typography* (1931). There are differing opinions about whether ranged left text should be hyphenated or not. If it is not, the right-hand margin can look extremely messy.

This is RANGED RIGHT setting (ragged left or flush right in the US). Because the start of each line is movable, and therefore potentially difficult for the eye to find, this style of alignment hinders the reading process. It is generally reserved for captions or short passages of text where its deficiencies are less noticeable.

This is CENTRED alignment  
– LIKE A TITLE PAGE –  
MADE POSSIBLE BY TYPE\*  
and is mainly used for display.

Although shunned by modernists  
in their haste to appear ‘different’  
it was used masterly by

BRUCE ROGERS, (the post-war) JAN TSCHICHOLD  
& HANS SCHMOLLER

\* ‘[...] to write around a central axis is laborious, and can only be done following a completed first draft. There is, however, no great difficulty in centring lines of type, and the compositors of the first title pages that can really be described as such – from around 1500 – made immediate use of this possibility’. Jost Hochuli & Robin Kinross, *Designing books: practice and theory*, London, Hyphen Press 1996, p.18



## Spacing variations in ranged-left text      Spacing variations in justified text

### Meta, tracked -2, word space 85%

The width of the word space is defined as part of type design but can be overridden in H&Js, usually by specifying a percentage. Its preferred width should rarely be more than 100%, and in many cases a smaller word space looks far better.

### Meta, tracked 0, word space 85%

The width of the word space is defined as part of type design but can be overridden in H&Js, usually by specifying a percentage. Its preferred width should rarely be more than 100%, and in many cases a smaller word space looks far better.

### Meta, tracked -2, word space 110%

The width of the word space is defined as part of type design but can be overridden in H&Js, usually by specifying a percentage. Its preferred width should rarely be more than 100%, and in many cases a smaller word space looks far better.

### Meta, tracked 0, word space 110%

The width of the word space is defined as part of type design but can be overridden in H&Js, usually by specifying a percentage. Its preferred width should rarely be more than 100%, and in many cases a smaller word space looks far better.

### Plantin, tracked 0, word space 85%

The width of the word space is defined as part of type design but can be overridden in H&Js, usually by specifying a percentage. Its preferred width should rarely be more than 100%, and in many cases a smaller word space looks far better.

### Plantin, tracked 0, word space 110%

The width of the word space is defined as part of type design but can be overridden in H&Js, usually by specifying a percentage. Its preferred width should rarely be more than 100%, and in many cases a smaller word space looks far better.

Typefaces based on those used by mechanical typewriters are modular, that is, they have characters of uniform width. To set them anything other than ranged left would be to deny their essential design characteristics. Courier.

Modular typefaces, that is, typefaces with characters of uniform width should always be set ranged left in keeping with their essential design characteristics. OCR-B tracked -5.

### Meta tracked -2, word space 60/75/125%

For justified setting, values can be specified for minimum, optimum and maximum word space widths; for the number of permitted consecutive hyphens at line endings and whether or not to break capitalized words. Different line lengths and typefaces will affect what is desirable here: a wider column will need far less variation than a narrow one. The programs also allow for variation in letterspace, but there are rarely good reasons to resort to using it: letters should seldom be spaced out to compensate for a poorly chosen relationship of type size and leading to line length.

### Meta tracked -2, word space 85/110/250%, inter-character space -10/0/10%, unlimited hyphens

For justified setting, values can be specified for minimum, optimum and maximum word space widths; for the number of permitted consecutive hyphens at line endings and whether or not to break capitalized words. Different line lengths and typefaces will affect what is desirable here: a wider column will need far less variation than a narrow one. The programs also allow for variation in letterspace, but there are rarely good reasons to resort to using it: letters should seldom be spaced out to compensate for a poorly chosen relationship of type size and leading to line length.

### Plantin tracked 0, word space 60/75/125%

For justified setting, values can be specified for minimum, optimum and maximum word space widths; for the number of permitted consecutive hyphens at line endings and whether or not to break capitalized words. Different line lengths and typefaces will affect what is desirable here: a wider column will need far less variation than a narrow one. The programs also allow for variation in letterspace, but there are rarely good reasons to resort to using it: letters should seldom be spaced out to compensate for a poorly chosen relationship of type size and leading to line length.

### Plantin tracked 0, word space 85/110/250%, inter-character space 0/0/4%, unlimited hyphens

For justified setting, values can be specified for minimum, optimum and maximum word space widths; for the number of permitted consecutive hyphens at line endings and whether or not to break capitalized words. Different line lengths and typefaces will affect what is desirable here: a wider column will need far less variation than a narrow one. The programs also allow for variation in letterspace, but there are rarely good reasons to resort to using it: letters should seldom be spaced out to compensate for a poorly chosen relationship of type size and leading to line length.

Plantin tracked 0, break capitalized words, word space 50/70/150%

For justified setting, values can be specified for minimum, optimum and maximum word space widths; for the number of permitted consecutive hyphens at line endings and whether or not to break capitalized words. Different line lengths and typefaces will affect what is desirable here: a wider column will need far less variation than a narrow one. The programs also allow for variation in letterspace, but there are rarely good reasons to resort to using it: letters should seldom be spaced out to compensate for a poorly chosen relationship of type size and leading to line length.

### Plantin tracked 0, word space 85/110/250%, inter-character space 0/0/4%, unlimited hyphens

For justified setting, values can be specified for minimum, optimum and maximum word space widths; for the number of permitted consecutive hyphens at line endings and whether or not to break capitalized words. Different line lengths and typefaces will affect what is desirable here: a wider column will need far less variation than a narrow one. The programs also allow for variation in letterspace, but there are rarely good reasons to resort to using it: letters should seldom be spaced out to compensate for a poorly chosen relationship of type size and leading to line length.

Although the differences in these settings are subtle, over a full page they contribute greatly to both easy reading and a more even visual texture: the versions with narrower word space are uniformly better. All these examples were set in Quark XPress 4.1.



This is JUSTIFIED text, the conventional way of setting copy for books since c.1450. The even right-hand edge is achieved by altering the width of the word space from one line to the next and by allowing words to be hyphenated. If the line length is too short (see page 131) the word spaces on adjacent lines can create unsightly vertical holes, known as rivers. The size of word space, how much it can vary in size, and the frequency of hyphenation are controlled by H&J settings. The designer should edit these rather than trust a program's defaults.

#### 7 Paragraph articulation

A paragraph represents one unit of thought and as such, one needs to be distinguished from another. The amount of articulation a designer gives the paragraph break should come directly from a sympathetic understanding of the text. The basic typing convention is to use a single line space. Some designers follow this practice, arguing simplicity in its favour. Although it requires the minimum of effort to implement, it can give the impression that the text is a series of fragments rather than a whole.

¶ The neatest way to indicate the beginning of a paragraph is an indent, which derives from the omission of the symbol (¶) that was originally used. Older typography books always suggested an indent of one em (*ie* equal to the type size) but a value equal to the leading is often clearer. Paragraphs starting 'full out' (that is, without an



indent and with no extra leading like this one) may be indistinguishable from the previous paragraph if the latter ends with a full, or almost full, line.

In addition to a line space, an indent or full out paragraphs, there are other possibilities. This paragraph has a hanging indent (occasionally called 'an exdent'). ¶ Paragraphs can simply run on with the break indicated by a paragraph symbol or some other mark.

Drop-lines could also be used. Circumstances and invention will suggest other ways.

### 8 Column depth

It has been noted that many examples of fine printed books throughout history have column depths of around 40 lines, but constraints of page size and format are often a limiting factor. As with all these decisions, the nature of each specific job should be the guide rather than blind acceptance of a norm. In books which are text only, the comfort of the reader should be paramount, while the presence or necessity for running heads, folios, footnotes, captions or illustrations are all factors that will need consideration.

In other kinds of book, space may not be at a premium nor may there be as much text. Space in these cases can be used more freely, with type occupying only part of the page area. A common mistake when first designing is to try and fill space rather than to use it meaningfully.

This idea of column depth is nonsensical when applied to web usage. Text, as well as being linear in narrative structure, can also be linear in arrangement, harking back to the papyrus rolls used before the emergence of books.

### 9 Position of the text block on the page

From an aesthetic standpoint, there are several ways of approaching this decision. A design can be arrived at from the outside in, working back from the format of the page and establishing the margins. Jan Tschichold made a detailed study of the way that medieval scribes and early printers derived



the position of the text block using the diagonals of the single page and the double page opening to create balanced pages. This is explained in more detail on page 147.

This apparently simple symmetry which characterized the work of the early printers is still very much used today, albeit with much reduced marginal proportions. Although it could be dismissed as traditional, for many types of printed matter it works well: if I sit down to read at the end of a long day or on the bus I want to read without the interruptions of gratuitous aesthetics.

Asymmetry gives a different – some would argue, contemporary – feeling to a book, and can be very useful in allowing space for a marginal column to contain notes and images. Compared with the balance inherent in the traditional symmetrical approach, an asymmetrical design can be far more dynamic and support a greater variety of elements within the one related design. In many books both symmetry and asymmetry work together: in this one, for example, individual pages are treated asymmetrically, while the spread forms a symmetrical whole.

#### **10a Format**

Format concerns the shape and size of a job, whether that be the trimmed size of a book or the number of pixels and their aspect ratio on a computer monitor (see also 10b on page 176).

In some cases the format (and even the medium) may be entirely unknown at the start and only becomes clear after a careful analysis of the needs of the material and a consideration of the target audience. In other cases, particularly in publishing where books need to fit in with an existing list, the format can be a given: something outside the designer's control. Between these two extremes lies a range of practical considerations concerning paper and press sizes for print and aspect ratio for screen. These latter concerns are discussed under 10b on page 176.

Much general commercial printing utilizes the metric ISO paper sizes (A4, A3, etc.) but the proportions of this series are only one of a range of page, or sheet proportions which have historically been used. Several different proportions are shown together for comparison on the following page.

When considering format, one should also look at the role illustrative material might play in the work. While some illustrations may be supplied as computer data, transparencies are still common and they have their own range of formats – 35 mm (35 × 25 mm); 6 × 7 cm; 6 × 9 cm; 5 × 4 in; and 10 × 8 in – whose proportions can be used to dictate the design. In many cases photographic material may not be cropped and in book work the proportions of the original material can be used to help determine the format and the design.