

# 9

## *Rudiments of Design*

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Up to now we have been looking at the tools, the nuts and bolts, of DTP, and considering what possibilities they open up for you. From time to time in previous chapters you may have noticed apparent side-tracks into aesthetics as well: the influence of design principles is so pervasive that it is almost impossible to examine the tools without regard to their effect on the reader. Indeed, in some ways design as an abstract is independent of the means of achieving it and could therefore have been considered first, but in planning this book I took the view that a consideration of design follows as part of the logical sequence of the 'how' of assembling documents just as legitimately as it is part of the 'why'. So now it is time to take the basic mechanical operations for granted and concentrate on the most effective ways of putting documents together.

Given that whole books have been written on the subject of design for DTP (some are listed in Appendix 2), it would be unrealistic to expect me, in a few pages, to do more than give you pointers in the 'right' (that is, the traditional) direction and show you how to avoid major, possibly expensive, blunders. But you should always remember that design is not an exact science, an aesthetic sense can only be trained, not taught, and once you are conscious of the methods that work for you and for your type of documents you can cut loose from received wisdom and make your own way. This is where the real excitement can lie in DTP: the truly creative area where, given a smattering of talent for it, you can be at the forefront of developments. However, let us first study the principles.

### **The Planning Phase**

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Design is all around us, in everything fashioned by human hand. Mostly it passes completely unnoticed (when did you last consider the design of a house brick?) because it is perfectly integrated with the item's function. In fact, if an object's

design calls attention to itself it should be considered a failure because design as such is a means to an end, not the end itself. As the start of an essay on fundamentals of design that is all very trite, but it is worth keeping in mind at all times that a document's design must never come between you and your reader: no matter how clever you think you may have been you should make sure that the message, which is after all why you are producing the document, is clearly presented. So the first maxim is: *keep it simple*. The more frills you add the greater the risks you run.

The second rule is: *stay away from the computer*, at least at the planning stage. Yes, it is fun to play at setting up different arrangements on the screen, and it gives you a great sense of power, but in the end what will appear on paper is the important thing, so unless you start out with a clear idea of where you are going you will end up with a mess. Instead, start by taking a pencil and some sheets of paper and sketch out your ideas. That raises your next problem: where do you start?

Let us look at it logically and think of the third rule: *put yourself in the place of the reader*. Ask yourself these questions:

- What sort of publication am I preparing? A newsletter, advertisement, magazine, school project, poster, menu, invitation...?
- What type of readership am I aiming for? Professionals, enthusiasts, teachers, students, passers-by, parishioners...?
- What attitude do I expect the target audience to have towards it? Do they have to be persuaded to read it (for instance an advertisement), or will it be read as a matter of course (for example, a business form)?
- Should the style be formal or informal?
- How will it be read? In detail or just skimmed, looking for important points (in which case these need to be picked out)?

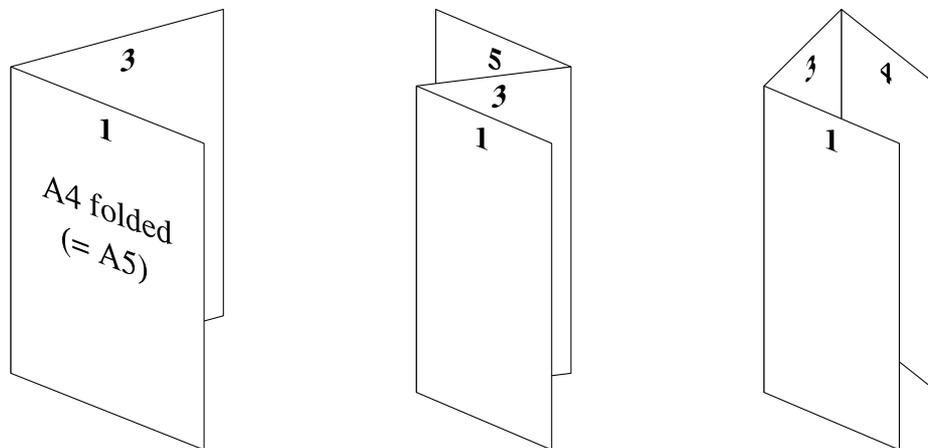
Other factors that will determine your publication's style also need to be considered, depending partly on the answers to the first set and partly on other constraints:

- What will the page size and format be?
- How will the finished documents be reproduced? And how will they be duplicated?
- How will the document pages be bound together?

Clearly these last items are going to be interwoven with what you are going to be able to achieve and also on what you should be trying to achieve: there is no point in going for a colour A3 poster, however appropriate this would be for your audience, if the only duplication equipment available is an A4 black and white photocopier. Let us start with these last three points and see their influence on how you can decide on a design to meet the other criteria.

## Page Size and Format

We saw in Chapter 1 the range of standard paper sizes (A0, A1, etc.); in practice, the most common sheet used is A4, and a great many publications are designed around this size, even if the end product is smaller. A single flat sheet of A4 makes for a potentially boring result if the document is mainly textual in nature: folding it to form a brochure or leaflet can make it much more interesting. Figure 9.1 gives some examples of simple foldings of an A4 sheet; the first is the most obvious and the most widely used, and the other two are variants on a double fold, useful for information leaflets or menus.



**Figure 9.1** Three ways of folding an A4 sheet

It may be that you don't have much choice over the page size and format (you might be working on a publication in a series) but if you do, try to design around a paper size that is easily available because this will keep printing costs down. Something like an advertisement in a magazine will have its shape and size determined by other factors, such as how much of a page you can afford. The page size you opt for will affect your choice in things like the size of margins, the number of columns, the column length and the line lengths and line spacing, which we shall look at later.

Landscape format, where the page's width is greater than its height, is rarer than the other way round (portrait) for normal publications. It is useful when you have very wide tables of numbers or other data to present, such as financial accounts or some types of technical material, but is otherwise probably best avoided. Quite apart from anything else it leads to long lines of text which are hard to read (try never to have more than 60–65 characters in a line), and the pages are more difficult to turn.

## Reproduction, Duplication and Binding

The last two chapters will examine in detail how you can reproduce a finished version of your publication on paper (this is often called preparing the *camera copy*) and then make many copies of it (for which I am using the generic term *duplication* to avoid confusion with the printing you can do direct from a computer), but if you know at the design stage which processes you will choose it is worth thinking about what restrictions they may place on your design.

**Reproduction.** If you have a dot-matrix printer you can get quite acceptable results, especially for text, but printing half-tone pictures or areas of tint may cause problems with uneven ribbon inking. In any case, if you want to print smallish text in a tint area with a dot-matrix printer the edges of the text will be made ragged by the tint dots, making it harder, and sometimes even impossible, to read, as shown somewhat exaggeratedly in Figure 9.2. This effect isn't unique to dot-matrix printers (look at Figure 6.9 on page 107 for an example from a laser printer) but they accentuate the effect because of the spreading of the wet ink in the fibres of the paper, making the dots larger. In a similar way, a pale tint area printed on a laser printer will look darker than the same tint printed on a high-resolution (professional quality) typesetter because of the differences in size of the smallest dot available: high-resolution devices can reproduce faint tints much more accurately.



**Figure 9.2** Making text hard to read by putting it on a tinted background

Don't forget, too, that the printable area on the page depends on the printer used and may be less than the paper size.

**Duplication.** Your main choice of duplication method is between photocopier and offset litho printing (and possibly stencil duplicator). Chapter 12 explains how your decision will depend mainly on grounds of quality, quantities, cost and flexibility. Overall, whichever you choose won't have much effect on your design (it may be the other way round), but it is worth keeping the following points in mind:

- depending on the make of photocopier used, it may make the printed image slightly 'heavier' than the original (by adding a dark edge to every black area) or paler (by removing a minute part of every black area);
- because of this, tint areas may look lighter or darker than on the original;

- ordinary photocopiers don't always make a good job of printing tinted or solid black areas, tending to print them in streaks; *and*
- offset lithography shouldn't have these drawbacks (though it depends on the printer's skill).

**Binding Method.** Even if you will only be stapling pages together or using a paper clip, remember to leave an extra margin at the bound edge if necessary so that the text can be read conveniently: there is nothing so frustrating as not being able to read what is on the page, and causing the reader to rip the binding apart is a way of provoking antisocial tendencies. Even if it doesn't cause such an extreme reaction in the reader, a failure to allow for binding may upset the balance of the pages. The only type of binding that won't affect how much of a page can be seen is saddle-stitching, which, as long as it has been done competently, opens flat without obscuring any of the page. If you expect to use a ring binding of any sort, make sure that you leave enough clear space for the holes to be punched.

## Page Design

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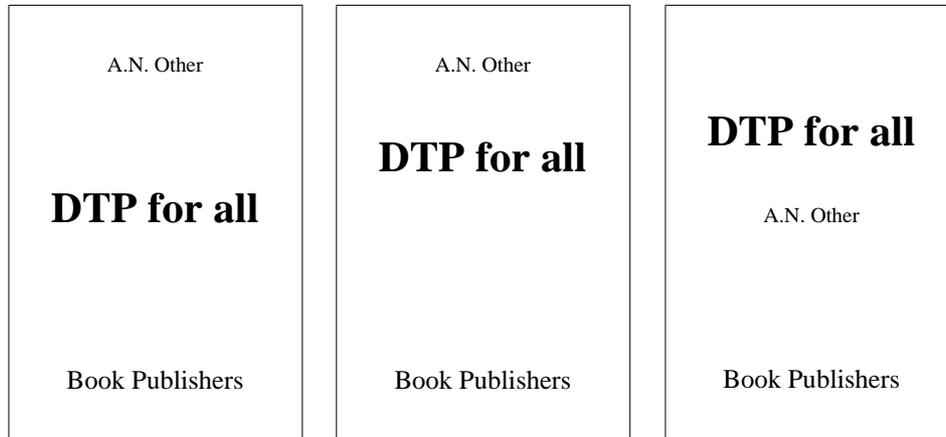
By this stage of the proceedings in any publication you should have a good idea of the basic characteristics that your document will have. Now let us take things a stage further: what can we learn from the principles expressed in the first list of questions on page 168? The first thing that the reader's eye will see is the page rather than the detail on it, so we shall draw back a bit and study the document at the page level.

### Single Pages

If you are producing only a single-page document you can afford to adopt a more relaxed approach to its design than to a multi-paged work such as a book: you don't have to worry about whether the design will suit all the different material that must go on the pages. However, even then some discipline is necessary if the reader is not to be put off before he or she even starts reading, and some sort of systematic approach to filling the page area is called for.

A single-page design suitable for one-page documents may also be suitable for longer works that will only be printed on one side of each sheet of paper: every page therefore stands alone. Before you put pencil to paper, what is going to fill the page? Is it mainly text, mainly pictures, or a mixture of both? What will make the design look interesting and attractive? In the words of the fourth rule: *look for balance*. A harmoniously presented page is the key.

**Where on the Page?** The overall effect of positioning is subtle yet important. The most natural thing for a beginner to do is to place the most important item in the



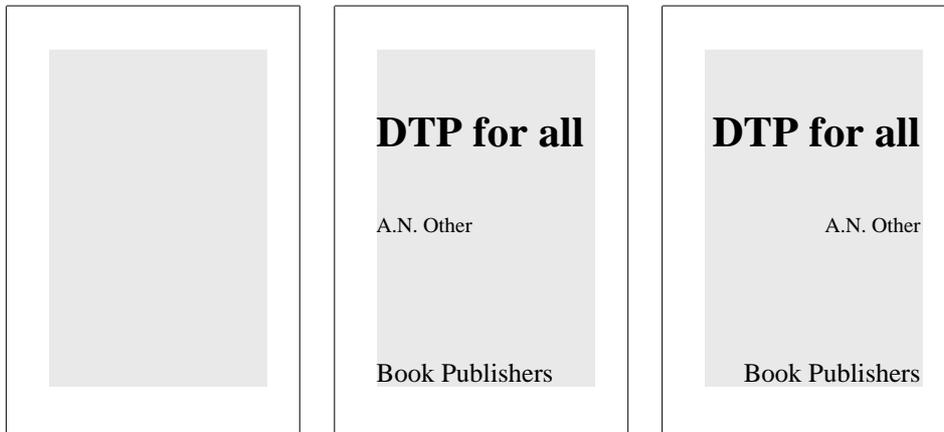
**Figure 9.3** *The central touch, or where not to place the focal point*

centre of the page in the belief that it will catch the eye first. Curiously, this turns out not to be true: a central position is too low down the page. Look at Figure 9.3 if you don't believe me. The place with the most impact (the *optical centre*) is about one-third of the way down the page. For much the same reason a page of text should be positioned so that the space at the bottom is slightly larger than at the top, otherwise it looks too low, as though it is falling off the page. We shall see all through this chapter that what *looks* right is not always mathematically obvious: unfortunately, the human aesthetic sense is cued by other things than pure symmetry and geometrical precision.

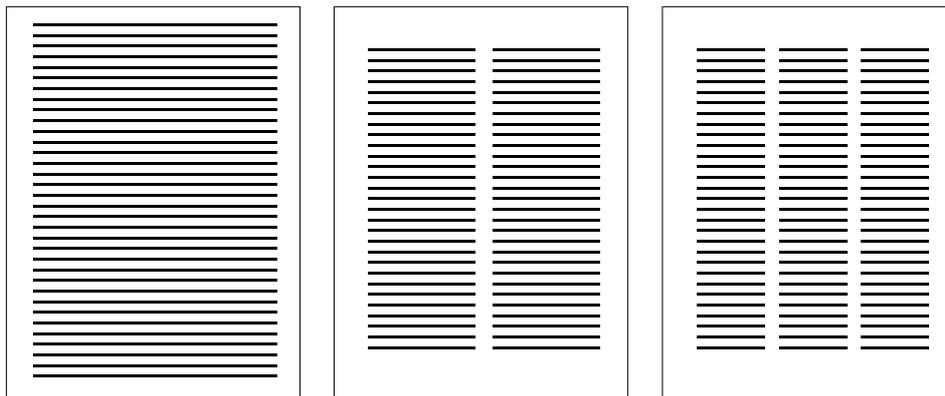
In Figure 9.3 the first layout is clearly bottom-heavy, though the title is centred vertically on the page. The choice between the second and third layouts is debatable and depends on which item you want to come first. Notice, however, that the eye seems to find a 'balance' point *between* the first and second lines that is somehow related to the size and weight of the type in the two lines: it is as though some sort of averaging process is at work when we look at a page.

A horizontally centred arrangement can be successful for simple documents, but a more imaginative use of space is to divide the page up into a basic area and place the elements ranged left or right (but not both on the same page), as Figure 9.4 shows. The slightly off-centre look of the working area, shown shaded, is because I have made a small allowance for binding.

**Filling the Page.** So far the examples have been rather simple, suitable for things like title pages and posters with a straightforward message. Arranging pure text in



**Figure 9.4** *Ranging left and right on the working area of a single page*



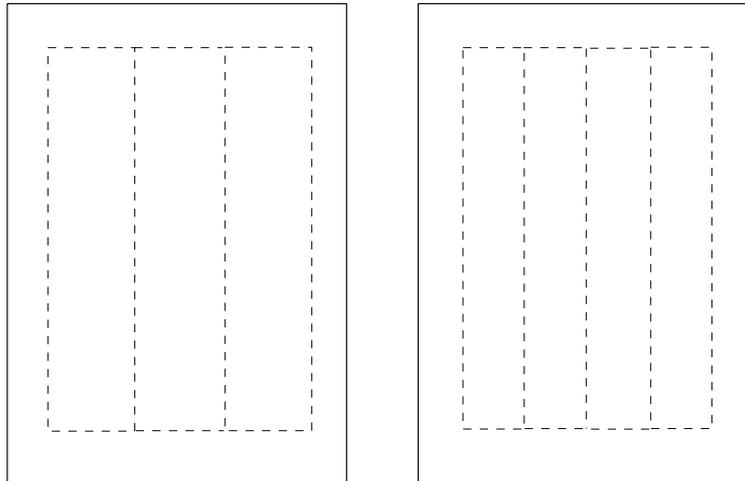
**Figure 9.5** *Three ways of filling an A4 page with text, but not very interestingly*

larger doses on a page calls for some imagination, because not only have you got to attract the reader's eye in the first place (with something like a headline) but you must sustain the interest visually and yet keep the message clear. A 'busy' page may be distracting, yet a longish piece of text must be broken up somehow into manageable chunks by means of visual pointers or signposts. On the other hand a magazine page may have several shortish stories on it that should be kept separate, but the way they are assembled should nevertheless hold the page together rather than fragmenting it.

**Columns.** First, a look at continuous text: Figure 9.5 represents an A4 page with

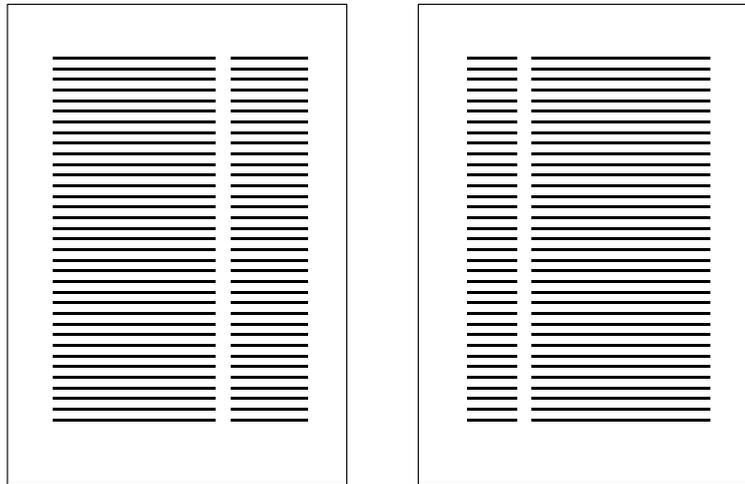
different numbers of columns of text on it. The first example, with one solid rectangle of text, certainly makes economical use of the page, but the area covered is far too big (the margins are too small) and the resulting lines are too long: the reader's eye will find it hard to find its way back to the beginning of the next line after finishing the one before. The double-column and triple-column examples do at least have larger margins but they are still very plain. Beware, too, of making the spaces between columns too narrow: the eye may jump the gap unintentionally. Putting a thin vertical line between columns consolidates the line ends and lets you make the gap narrower than if there is merely a white space. (To make a thin vertical line you can use a *very* narrow frame (1pt or less) with a black background and no border.) Narrow columns are a potential source of trouble in technical work, where the words tend to be longer than average, because there are more word breaks and extra problems with hyphenation.

How can we liven up the design of columns of text? One way is to place them decidedly asymmetrically on the page, which is easily achieved with the help of the guide frames or column guides provided in DTP software. Two common schemes are used professionally: the three-column grid and the four-column grid: just divide your working area up into three or four equal columns as shown in Figure 9.6.



**Figure 9.6** *Three-column and four-column grids*

Having set up the grids and arranged for frames to snap to them, you can feel free to ignore them to some extent, laying out your pages by taking one or more guide columns together. So, for instance, the three-column grid lends itself to a one-plus-two scheme, and the four-column grid can be turned into two-plus-two or three-plus-one. Figure 9.7 puts this into practice: things are already looking more interesting.



**Figure 9.7** Setting up two-plus-one (left) and one-plus-three (right) text arrangements, based on three-column and four-column grids respectively

There are a few things to note about these examples: first, they could just as easily have been one-plus-two and three-plus-one. Secondly, if your software lets you position guide frames automatically with spaces between them (*Acorn DTP* and *Ovation* do, for example), use this facility. Otherwise, if the frames are snapped to unspaced guide columns, as shown in Figure 9.6, the frames containing the text must have text repulsion turned on *inside* them to provide the gap between the columns. Thirdly, the wider column is the main feature on the page and so should contain the main text. Fourthly, the narrower column is most useful for something different from the main text, such as quotations or notes or comments: don't feel duty bound to fill it completely (ask yourself what you can do to offset the effect of the resulting white space, though) and the type size can be different from the main text, to emphasize their different roles.

A moment ago I mentioned white space. It is time to introduce rule five: *don't be afraid of white space*. You are under no obligation to fill every cranny of the page with print, and the most successful designs make creative use of the areas on the page that have no print on them. Naturally a balance has to be struck between filling the working area with matter and leaving a hole at a corner that makes the page look lopsided – so how about experimenting with using a rule, a tint panel or a page number as a counterweight? As long as the notional rectangle is completed in some convincing way, the eye will do its averaging job and all will be well. To give yourself a fresh look at the balance of a page, try half-closing your eyes so that you lose

the detail: this forces you to see the whole as an average rather than as a set of parts.

**Cross-heads.** Another way of breaking up a solid mass of text, this time adding horizontal white lines, is with *cross-heads*. You will often have seen these headings in newspapers and magazines. They consist of one or two words set in a contrasting size and weight of type, and serve two purposes: to make the text fill the space available (purely practical) and to reduce the solid mass of text to manageable chunks. The headings are normally any old words taken from the following text; if this is done relatively infrequently and subtly, the reading eye will pass right over the heading as though it weren't there, but the overall effect is more inviting, less daunting to the eye. On the other hand, the text may divide up naturally into sections and subsections with logical titles: such cross-heads are then called *subheadings*.

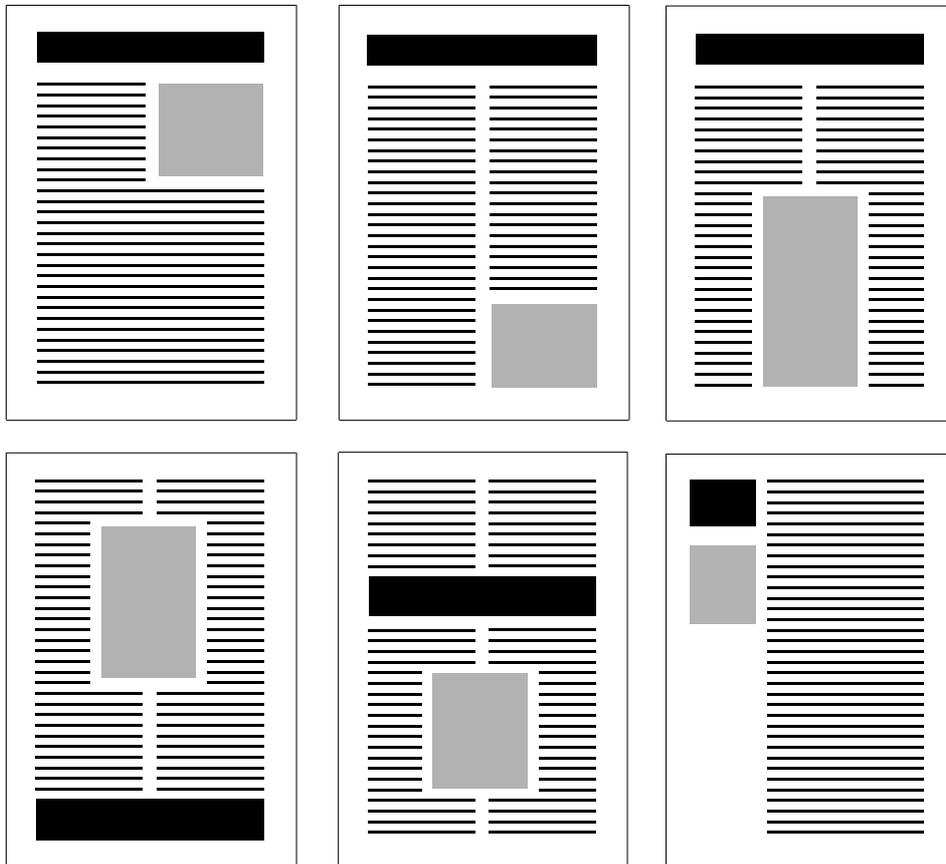
**Adding Graphics.** Up to now in this chapter we have largely ignored the very thing that makes DTP special: the ability to mix text and graphics freely on the page. Introducing graphics into your design adds a whole new layer of complexity. Not only do you have to decide where pictures should go but you also have to integrate their sizes and densities into the plan. Some publications, such as newspapers, simplify the procedure by having a consistent, *modular*, design that makes use of a tried and tested formula. However, this has the side effect of making every issue look similar – good for continuity and for making readers feel at home, but dangerously repetitive if not done expertly.

Even so, you should have a plan. To start with, while you develop some expertise, stick to rule six: *don't be afraid of rectangles*. Modular design is a safe principle and needn't be boring. The title bar, the headline, the picture, the story – all can fit together neatly on the page as long as you continue to think about balance. But (to repeat an important point) balance doesn't mean that everything has to be centred.

Let us look at a few examples, in Figure 9.8, of page layouts containing a headline, text and a picture so you can see the effects of size and position. The headline is represented by a solid block, the picture by a tint area and the text areas as before by lines. The beauty of DTP is that you can do this exercise for yourself with your own software and try out hundreds of permutations where I only have room to show six.

The first example has the text in a single column; it is a pretty uninspired layout with the headline at the top and the picture on the right. The single column won't work on an A4 page with type smaller than about 12pt and leading of less than 3pt, because the eye will tend to jump back to the wrong place from the end of each line. As 12pt type is generous for something like a magazine (though it might be all right for a glossy business document), let us look at using two columns.

The second attempt has the picture at the bottom right of the page, which fails



**Figure 9.8** *Examples of page layouts, some of which work better than others*

because it seems to be falling out of the page. Curiously, though, if you enlarge the picture and then change its shape by cropping you can place it successfully at the foot of the page, as in the third example.

The next shows how you can vary the position of the headline – it doesn't have to be always at the top. However, if you put it at the bottom it needs to be very prominent to ensure that it is the first thing that is read on the page.

The fifth example illustrates the danger of splitting the text without guiding the eye. The headline is part of the way down the page, resulting in confusion for the reader: where does the text follow from the top left block? Does it run to the top right or the bottom left?

The last illustration is based on a three-column grid: the narrow title band with the picture (a photograph of the author?) underneath satisfactorily offsets the austerity of the relatively wide text column. There is no real feeling of lopsidedness: the title and picture look as though they are in what is simply a wide left margin, although if you are worried you could complete the rectangle with a horizontal rule (say) at the foot of the narrow column. And cross-heads or other subheadings can be placed (ranged left) in the margin, like little flags, rather than in the text column.

Although I introduced this section by mentioning A4 pages, smaller pages such as A5 or others of similar proportions can also be divided up in these general ways, though it is better not to use more than two columns (unless you are prepared to use a fairly small type size) because of the narrower page.

This by no means exhausts the possibilities of page layout, as you can imagine. For instance, in a magazine-type publication a heading or title that is two or more columns wide can extend over a story consisting of two or more single-width columns, and rules used discreetly can separate different stories on the same page. And so on: your imagination and design sense are literally the only limitations to what you can achieve.

## Double Pages

If your document will be printed on both sides of the paper and extends over several pages, some of the pages will be visible together. That being so, design them together as what is called a *double-page spread*. Once again balance is the goal, but this time each page contributes only half of the design. The asymmetry on each page due to a binding allowance (that is, in the *spine* of the publication) can now be made part of a symmetrical pair of facing pages. Interestingly, the traditional arrangement is to have a narrower margin in the spine than at the outside edges, to counter the appearance that the type is falling off the edge of the page. In fact, making the margins equal may end up looking right if the spine doesn't open flat. Or else having each page asymmetric in the same direction might (or might not) work.

Designing a double-page spread for a single occasion can be unexpectedly tricky and can undermine your whole purpose. A recent car advertisement, showing one picture spread across two facing pages, had a heading running across the top: WE WON'T CRAMP YOUR STYLE. It is a pity that the designer apparently failed to allow for the fact that the M was tucked into the spine and was therefore invisible at first glance; I say 'apparently' because I refuse to believe it was deliberate. A bit of forethought would have shifted the heading so the spine hit a space between words.

**Page Heads.** If you are producing a document of many pages that tells some sort of story (it could be a novel, a manual, a magazine or a set of articles) your readers will

almost certainly appreciate being kept informed of whereabouts they are in relation to the whole document. Use *page heads* to do this: they are normally ranged left, ranged right or centred, but can be anywhere at the top of the page (or, to be different, at the bottom of the page – see below) that fits in with the page design. Once again, consider your readers and make the page head distinctive both typographically (size and weight) and in its position: don't let it be confused with a subheading or a title. You can use a rule (as in this book) or two to confirm the special status of the page head as being separate from anything else, or white type in a black frame. But don't make rules or black areas too prominent or they will be distracting or overpowering (balance, balance...)

What words you use in the page head are up to you: this book's style specifies an unchanging left-hand one – the book title – and a right-hand one that echoes the chapter title. For a manual it might be more appropriate to use the chapter title on the left and the main section heading on the right; you could also include the chapter number on the left and the section number on the right, as in Figure 9.9.



**Figure 9.9** Three-part page heads: 'busy' but useful for complex documents

**Page Numbers.** The most usual and utterly traditional position for page numbers (in the trade a page number is known as a *folio*) in a reference-type book is in the top outside corner: this allows a specific page to be found quickly. In a company prospectus, novel or parish magazine it is arguably less important to be able to find a particular page quickly, and subject to the constraints of good sense there is considerable flexibility over where it can be placed. Magazines often have them on the outer margin or at the foot of the page, 'tabbed' as shown alongside (but beware: they may get partly trimmed off if the printer has to cut the pages down to size). This may give you ideas – how about a 'phone book' type of arrangement, where the numbers travel down the outside edge as you progress through the publication? Or instead of a rectangle you could use a triangle pointing into the page. Or maybe a circle or ellipse lined up on the inner margin at the foot of the page? To be honest, the page footing below looks a bit anarchic, but with some massaging it could work.

However, let us not get carried away with details, fun though it is. Almost without realising it we have left the provinces of page design and zoomed in on the typographical level.

## Typographical Design

A full description of typography is way beyond the scope of this book, but a few pointers on how you can use type faces, sizes, weights and arrangements successfully will not go amiss.

### Text as an Image

Design and typography really go hand in hand, but at least to start with you can plan the shapes on the page before worrying about choosing the typefaces you will use. However, your choice of fonts and type sizes will make or mar the page design you have carefully drawn up. Extreme examples of font excess were used in recent advertisements for the Post Office on the London Underground, and part of one of them is reproduced as best I can in Figure 9.10. It is a real hotch-potch that at first glance repels rather than attracts the eye to the message. Yes, all right, it did its job because I spotted it, but it treads a very risky path; see if you can decide the thinking behind the particular choices of fonts and sizes. When it comes to fonts, your best bet (unless you have years of experience to back you up) will be generally to stick to rule seven: *keep the type faces and sizes few*. In other words, master the traditional and straightforward before you try the avant garde.

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*“You know, I COULDN’T BELIEVE MY EYES,  
Elvis WEARING NOTHING BUT A G-STRING WALKED  
INTO THE **POST OFFICE** YESTERDAY.  
HE BOUGHT A *Mercurycard* THEN *walked out* AGAIN.”*

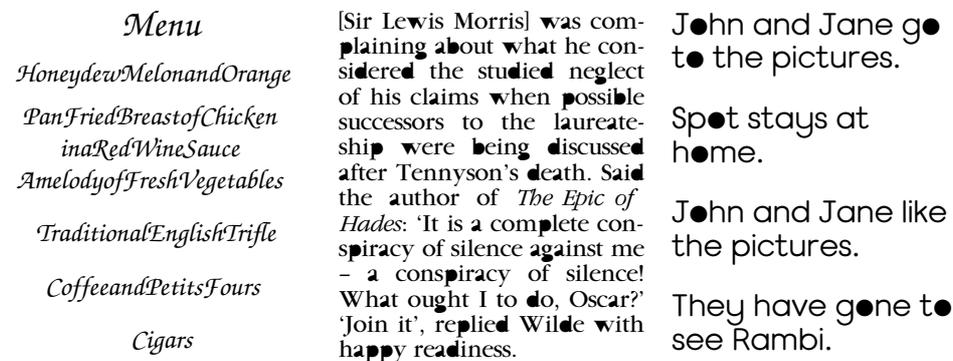
*Figure 9.10* Typographical chaos or clever design?

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**Choosing a Text Font.** This is the most basic and probably the most important decision you have to make after designing your layout. Not only will the font you choose for the body text determine how readable the words will be, but it will add a flavour to the words, make a statement *about* the statement in the text. The mental associations of a serified font such as Trinity (Times), which is widely used and recognisable from *The Times* newspaper, lend an authority to what you are saying (which is perhaps why Sigma Press chose it for their books...). It is also popular for business correspondence. Something like London font (Garamond), with its classical

lines, might be more appropriate for a book of poetry or literature. Homerton, on the other hand, is a clean and clear face that children would find easy to read in primer books (though the shape of the letter a, a, is wrong for young children to read easily; there is a Primary font which is better). Chance (Zapf Chancery) is a very elegant script face with a calligraphic style, and so is useful for formal items, from wedding invitations to business cards. Paladin/Pembroke (Palatino) has a formal yet modern appearance; like Trinity it carries some authority.

Rather than just looking at fonts, try listening to what they say to you. (I expect that sounds pretentious, but think about it.) In Figure 9.11 three different fonts (Chance, a Garamond equivalent and Primary) show typical uses that they might be put to.



**Figure 9.11** Three fonts, three uses (the middle text is reprinted from *A Book of Famous Wits* (1912), by Walter Jerrold, p. 318, by permission of Methuen & Co. Ltd)

Just one word of advice: if you are using a script font such as Chance, Church or OldEnglish, don't use them in all capitals because they weren't designed for it. Remember, *DON'T USE THEM IN ALL CAPS* – they are hard to read (that font was Sophie).

**Mix and Match.** You can mix perhaps two different fonts on a page (remember that a double-page spread is seen at one time), and use two or three in one type family, before things get out of hand. Sans serif type such as Homerton is better in headings than in extensive text; a serified font such as Trinity or Pembroke (*alias* Paladin) is more easily read in quantity than Homerton. So you could safely use Trinity as your body text and Homerton (if bold, then not too large) for headings. Choose fonts that work together rather than competing for attention.

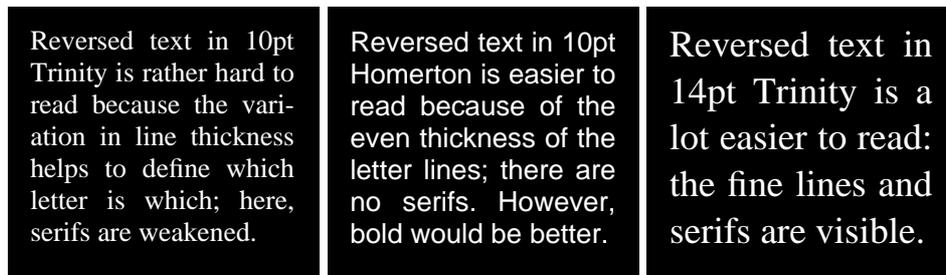
**Titles and Headings.** For a slightly refined touch, if that is appropriate to your publication, use an italic font (as opposed to oblique or sloping roman; see pages 8

and 9) for titles and headings. True italic fonts are generally more elegant than their corresponding roman originals used as body text. A bold face gives impact, a shout rather than a discreet cough to attract attention.

**Emphasis.** Contain your enthusiasm and save emphasis for special occasions. Just as in talking to someone else, if you yell all the while you will either lose your voice or lose your listener. Trying to emphasise everything leaves you emphasising nothing: it is self-defeating. So you can use *italics* for mild emphasis or some sort of differentiation of types of things (as I have done for the names of Archimedes applications), or **bold** if you need something to stand out a little more. Using CAPITALS is a real shout and is, perversely, harder to read than lower-case.

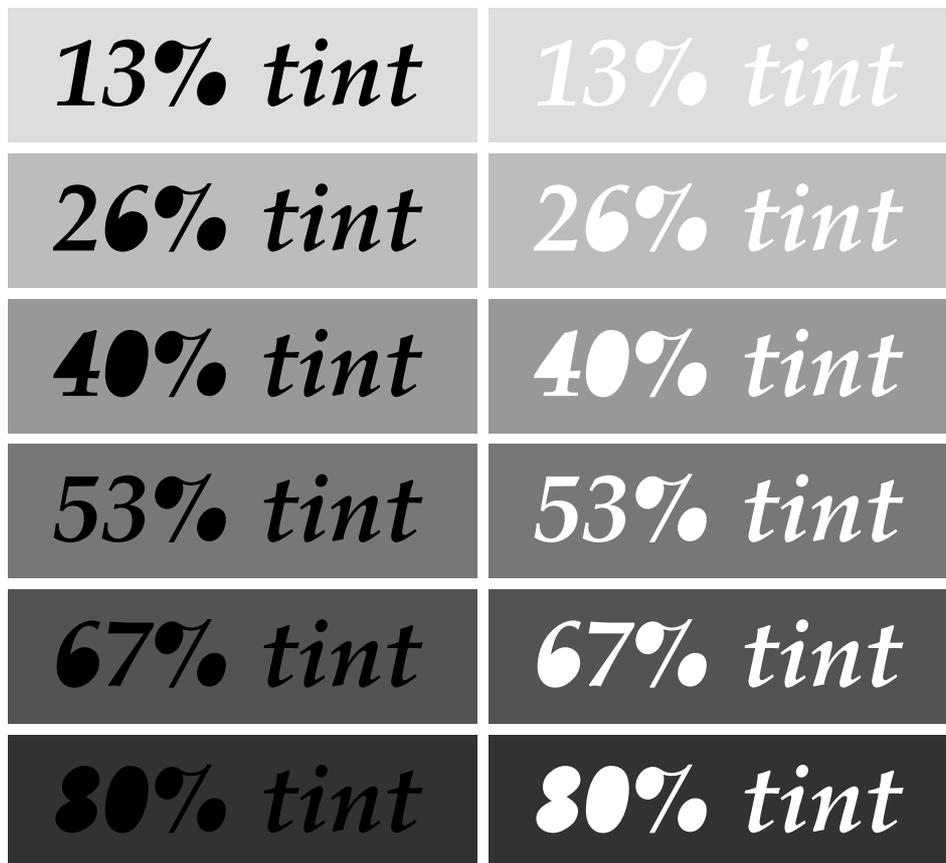
**Special Features.** Sometimes you may be inspired to use a particular font in a heading or a piece of text simply because it has a particular feature that makes it especially relevant or attractive to use. For example, the **Warsaw** (Tiffany) family has interesting ‘spikes’ that may conjure images of thorns: perhaps for an Easter edition of a parish magazine? Used with restraint, such devices can be very effective.

**Reversed Text.** The word ‘reversed’ in this context doesn’t mean back-to front in space but reversed in colour, white text on a black background. It is a useful technique for providing contrast on a page, but take care with it: using a serifed font or simply too small a size will lose clarity. This is another place where the final reproduction method may place restrictions on your design, because a dot-matrix printer will tend to fill in the white areas more than a laser printer. Figure 9.12 shows typical limitations in type face and size.



**Figure 9.12** The effect of type face and size on legibility of reversed print

**Text on Tints.** The decreased legibility of smallish text printed on a tint background was demonstrated in Figure 9.2. Larger text, though, can be printed in black or white on a tint and will be easily readable provided there is a good degree of contrast. Figure 9.13 attempts to quantify this for different tint densities, corresponding to greys on the standard palette (*Acorn DTP* provides fewer tints than this). If you want to be subtle you can use white text on 13% tint.



**Figure 9.13** *The legibility of text on tints*

The range of tints available can be extended in two ways. The first is by using the colours in the palette as well as the straight greys; in monochrome printing they will provide intermediate grey values. The cream colour of the title bar (colour 12) is the lightest you can get in a 16-colour screen mode. Secondly, if you have sufficient computer memory, you can use a 256-colour mode such as Mode 15 to define extra greys more or less to order.

Unfortunately, tints and frame borders are two features that newcomers to DTP tend to overwork most and use with the least discipline (see Figure 6.9). Unless applied sparingly and thoughtfully they will make your documents look obviously prepared by DTP. You may be happy with this – it may even be worth doing deliberately for effect sometimes – but as a rule (number eight): *try to avoid the ‘DTP feel’*.

**Filling the Headline Rectangle.** A neat rectangle filled with a headline or title, with one word to a line, is a tidy design principle that is often used in magazines. There are three ways of achieving a rectangular shape with a single word on each line, each with its strengths and weaknesses. Which you choose will depend on the circumstances.

1. Changing the type size. This is probably the most obvious but may be the least useful. If the words are of significantly different lengths they will end up in wildly varying type sizes; this may make a relatively unimportant word unsuitably large. The time to consider this technique, then, is when the words are about the same length and the most important word is the shortest (because it will end up in the largest type). Figure 9.14 shows two different effects, one good, one not so good. I use Homerton Bold font in all the examples so that you can visualise the important differences more easily without their being mixed up with variations in fonts.

<p><b>HAMSTER</b> <b>QUARTERLY</b></p>	<p><b>HARROGATE</b> <b>WEEKLY</b> <b>NEWS</b></p>
--	---

*Figure 9.14 Emphasising the right and the wrong things*

2. Stretching the lines to fit. If you have one of the programs that let you convert words to *Draw* images you can conveniently massage the lines to fit the length of the longest word – or you can squash the longest word somewhat: Figure 9.15 uses the same texts as before. This time the ‘weights’ of the words are more nearly equal.

<p><b>HAMSTER</b> <b>QUARTERLY</b></p>	<p><b>HARROGATE</b> <b>WEEKLY</b> <b>NEWS</b></p>
--	---

*Figure 9.15 Constant size: more nearly constant emphasis*

3. Using expanded spaces. This is a modern-looking way of filling the line: inserting space between the letters of shorter words so that they all end up the same length, but with an ‘airy’ look. It avoids the disadvantage of the other methods which add heaviness or distortion to the words; as Figure 9.16 demonstrates, the shortest words now have less, not more, prominence, and the overall size can be smaller, more discreet. I shall hint here at how it is done: remember that spaces are stretched by justification but hard spaces aren’t; don’t press Return if you want a line to be justified; you can prevent single letters from being taken onto a new line by tricking

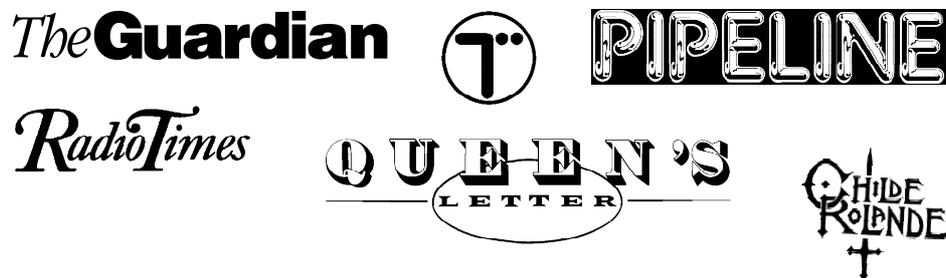
H A M S T E R  
 Q U A R T E R L Y

H A R R O G A T E  
 W E E K L Y  
 N E W S

*Figure 9.16* Titles with open spaces

the software with hard spaces to widen each letter; if there isn't enough space in a line to add full spaces between letters, use kerning or tracking.

**The Logo.** The final area that I want to mention where text can be made to provide an image beyond the words is in the logo, which is a (normally stylised) design composed either of letters or words entirely, or in combination with a graphic element. The words are often distorted in some way or contain unusual typographic juxtapositions; the aims are (1) to catch the eye, (2) to define some easily identifiable and memorable image, and (3) to fix some kind of identity in the reader's mind. It may be a corporate identity (very important these days, and talented designers command high fees) or it may be the title design for a magazine or newsletter. A few random examples are shown in Figure 9.17; again, give some thought to the purposes behind their quirks – and look at others to seek the principles in designing logos. This should give you ideas for when it comes to creating your own.



*Figure 9.17* Textual and graphic logos – a very few from very many

If it seems that we have come full circle in this section and are back with the avant garde, you shouldn't be too surprised. Design of the image, like all fashion, isn't something that is cut and dried but is evolving all the while: yesterday's innovation is today's commonplace, tomorrow's cliché and the next day's antique.

## Text as a Pattern

Looking beyond the detail of font and size, we can see that text also makes a pattern on the page; typography has messages here too. Some of the guidelines are

traditional, based on experience with hot-metal typesetting; some of the advice is modern and comes from recent developments that have arisen only because DTP has made them possible.

**Headings, Justification and Indentation.** There are conventions associated with laying out text and associated headings, based on what looks tidy and is therefore easier to read. In traditional justified text, the first line of every paragraph is indented and each paragraph block is unspaced from the one before or after. The first paragraph, though, shouldn't be indented, nor should any after a heading. On the other hand, if your text design is to put space between paragraphs, don't indent them (like this text).

In unjustified ('ragged right') setting, paragraphs are best without indentation because an indent will add raggedness to the left edge as well as the right; instead, paragraphs should be spaced. Figure 9.18 shows some examples of what I mean; you can design others for yourself.

**Rivers of White.** One of the disadvantages of columns that are narrow in relation to the type size, as already noted, is the problem of hyphenation and justification. If you don't adopt a 'tight' enough style to the setting (in other words, if the inter-word

## Heading

This paragraph is indented in the 'standard' way, with about an em space at the start. It looks untidy.

This second paragraph has the same treatment; note the justification of the text.

The third paragraph, for completeness, is similar to the first and second.

This piece of text is ranged left or unjustified and shows the effect of spacing between paragraphs.

It is also indented at the first line of each paragraph as in the example above; this doesn't look too good.

As you see, the indents make the paragraph 'blocks' look messy.

## Heading

This paragraph is not indented because it immediately follows a heading. It has a tidier aspect.

This second paragraph is indented as normal; note the continued justification of the text.

The third paragraph, for completeness, is similar to the second.

This piece of text is ranged left or unjustified and shows the effect of spacing between paragraphs.

This time the paragraphs aren't indented: the overall effect is a lot tidier.

The neat edge to the left of the text counterbalances the ragged right edge.

**Figure 9.18** Two layouts to avoid (on the left) and two to consider (on the right)

spacing is generally large), the reader's eye will tend to join up the spaces between words in a vertical direction, giving the impression of 'rivers of white', as shown in Figure 9.19. Possible cures are careful hyphenation, a different choice of type size or, in extreme cases, slightly rewording problem passages.

**Widows and Orphans.** These quaint names refer to a partial line at the top (widow) or bottom (orphan) of a text column, as shown in Figure 9.20. They should be avoided if possible because they upset the rectangular shape of the column.

Orphans are only really a problem if paragraphs are indented: in this book, paragraphs are defined by white space, not indention, so a single line starting a paragraph at the foot of a column isn't serious. Widows, on the other hand, I have had to weed out in every instance. On the Archimedes, adjustments to the page to avoid widows and orphans have to be made manually because none of the DTP programs yet allows automatic control (unlike on other machines). A page containing illustrations can be used as an adjustment point by simply putting more space (half a line or so) above and below a picture.

However, if your page is pure text it can be hard to add a few points of space, say between paragraphs, without it showing by comparison with other places. It can also be difficult to add a line to the length of a page. The easiest thing to do is to leave a

The underlying difficulty of justification in lines of diminished length is the tendency towards excessive spatial fragmentation, leading to an inescapable conclusion that deliberate meandering waterways are flowing through the typography under the irresistible influence of gravity.

The underlying difficulty of justification in lines of diminished length is the tendency towards excessive spatial fragmentation, leading to an inescapable conclusion that deliberate meandering waterways are flowing through the typography under the irresistible influence of gravity.

**Figure 9.19** *The 'rivers of white' phenomenon (left) and a partial cure by hyphenation*

a widow.

This column contains a widow. There's a widow in this column. There's a widow in this column.

There's a widow in this column. There's a widow in this column. There's a

This column contains an orphan. There's an orphan in this column. There's an orphan in this column.

There's an orphan in this column. There's an orphan in this column.

There's an orphan in

**Figure 9.20** *Widows and orphans*

column short by a line (put a one-line text-repelling frame at the bottom of the column): an orphan is thus moved to the start of the next column, and a widow becomes preceded by a full line. If you do this, try to make the same adjustment to all the columns on a page for the sake of evenness.

A traditional solution was to introduce *feathering* between the lines, by which all the lines on a page were spaced out equally by minute amounts to allow the bottom line to be taken over to the next page without shortening the page by one line. You can do this by adjusting the leading locally page by page or column by column if you wish, though it does mean that text lines in adjacent columns of text won't line up and the difference in leading may look untidy or at best a little odd.

Whichever stratagem you adopt, make sure you check that an improvement in one place hasn't created a problem on a later page. If all else fails you may have to bite the bullet and edit the text to make a line or lose one in the offending column. You don't necessarily have to edit the problem paragraph itself: choose one that is already almost flowing onto a new line, or else has only one or two words on a new line, to minimise the changes needed.

**Copy-fitting.** Depending on the type of publication you are preparing, you may have to place several stories on one page with a modular design. In that case, what do you do if there is too much text for the space allocated to one or more of the stories and you have no flexibility in the form of graphics that can be made smaller or even omitted? Editing down to length is much the best thing to do, but if this is out of the question, for whatever reason, you have three typographic options, although none is ideal.

First, you can reduce the type size in the offending stories; this will have the side effect of appearing to make those stories less important because they are in smaller type. Secondly, you can reduce the leading in the stories to squeeze the lines together rather than make the type itself smaller; this will make the affected stories appear 'heavier' and more difficult to read because there is less white space between lines. Thirdly, you can adjust the aspect ratio of the text in individual stories so that the letters are narrower in some than in others; if the changes are slight they may pass unnoticed, but remember how sensitive the eye is to even small differences. Figure 9.21 illustrates the three possibilities and their effects, though necessarily in a rather artificial way because of the small number of lines in the example texts.

As you can see, each of the 'solutions' leads to inconsistency of appearance on the page, which is a potential source of distraction to the reader as it lends what may be irrelevant emphasis to different stories. If you want to make such distinctions it is better that they should be intentional, with a specific purpose, rather than merely as an expedient.

- |  |  |  |
|--|--|--|
| <p>(a) <b>Story 1</b><br/>This story is going to fill the space allocated to it exactly. On the whole, as W. C. Fields was once heard to remark, I'd rather be in Philadelphia. At the time, it must be supposed, he was somewhere else.</p> | <p><b>Story 2</b><br/>This story is going to overrun by one word the space allocated to it. If it was part of the definition of swans that they were white, how is it that black swans were discovered in Australia? Did somebody</p>        | <p><b>Story 3</b><br/>This story is going to overrun by a whole line the space allocated to it. If the barber claims to shave all those people in town who don't shave themselves, who shaves the barber? Even growing a</p>                         |
| <p>(b) <b>Story 1</b><br/>This story is going to fill the space allocated to it exactly. On the whole, as W. C. Fields was once heard to remark, I'd rather be in Philadelphia. At the time, it must be supposed, he was somewhere else.</p> | <p><b>Story 2</b><br/>This story is going to overrun by one word the space allocated to it. If it was part of the definition of swans that they were white, how is it that black swans were discovered in Australia? Did somebody cheat?</p> | <p><b>Story 3</b><br/>This story is going to overrun by a whole line the space allocated to it. If the barber claims to shave all those people in town who don't shave themselves, who shaves the barber? Even growing a beard doesn't help him!</p> |
| <p>(c) <b>Story 1</b><br/>This story is going to fill the space allocated to it exactly. On the whole, as W. C. Fields was once heard to remark, I'd rather be in Philadelphia. At the time, it must be supposed, he was somewhere else.</p> | <p><b>Story 2</b><br/>This story is going to overrun by one word the space allocated to it. If it was part of the definition of swans that they were white, how is it that black swans were discovered in Australia? Did somebody cheat?</p> | <p><b>Story 3</b><br/>This story is going to overrun by a whole line the space allocated to it. If the barber claims to shave all those people in town who don't shave themselves, who shaves the barber? Even growing a beard doesn't help him!</p> |
| <p>(d) <b>Story 1</b><br/>This story is going to fill the space allocated to it exactly. On the whole, as W. C. Fields was once heard to remark, I'd rather be in Philadelphia. At the time, it must be supposed, he was somewhere else.</p> | <p><b>Story 2</b><br/>This story is going to overrun by one word the space allocated to it. If it was part of the definition of swans that they were white, how is it that black swans were discovered in Australia? Did somebody cheat?</p> | <p><b>Story 3</b><br/>This story is going to overrun by a whole line the space allocated to it. If the barber claims to shave all those people in town who don't shave themselves, who shaves the barber? Even growing a beard doesn't help him!</p> |

**Figure 9.21** Three ways of squeezing a story into a space (look up the classical Greek story about Procrustes): (a), the original stories; (b), type size adjusted to fit; (c), line spacing reduced; (d), aspect ratio altered

## Special Graphics

On the matter of how graphics can be used in page design there is little to be added to what I have already said, but apart from emphasising the need for visual balance between the various elements on the page I wanted somewhere to mention in a positive light something I was rather dismissive about on page 12, and to suggest that other effects are possible by combining several layers.

### 'Unscreened' Half-tones

Half-tones are the normal way of reproducing photographs and the like, but for specific subjects a good result can sometimes be obtained by using a sort of unscreened effect, where everything is either all black or all white. Figure 9.22 is an example of what I mean: it is dramatic and striking. Faces usually work well, but depending on your publication almost any relevant picture that is easily recognisable to the readership would suit.



*Figure 9.22 A half-tone converted to an unscreened version*

Preparing such an image from a half-tone sprite original (which is what you would expect to start with) is quite simple. Your best bet is to start with a bold and contrasty original: load it into *Paint* and alter the palette so that all the greys below a certain level turn white, and all the rest are black. To do this, you should first ensure that the sprite has a palette (the 'Palette' option in the Edit submenu should be ticked), then choose 'Show colours' from the Paint submenu. This will call up a window called Colours with which you choose, one by one, the colours you want to change: once you have clicked on a colour to pick it, bring up the 'Edit palette' dialogue box in the Paint submenu (the box itself is unfortunately called Edit

Colour). Then click on the black or white square (or drag all three sliders to 0 or 255) to convert the colour to black or white respectively, and click on OK. Work your way through all the greys and then study the result. Is the cut-off point too low or too high? In other words, is it almost all white or black? In that case, alter where the mid-range colours make the change from black to white. If you can't get it to look right, perhaps there wasn't enough contrast in the original and the resulting greys were a bit washed out, making the black/white decision point arbitrary when you came to convert it.

This technique is fine for a 16-colour sprite, especially as it is often only six of the colours that are used as greys. But what about a 256-colour sprite? It could take you forever to make the conversion by hand. Fortunately the software that comes with some scanners such as Scan-Light (Computer Concepts) and digitisers such as the Hawk V10 (Wild Vision) can be used for colour manipulation in a more convenient way, making even 256-colour sprites readily convertible to this form.

## Layering Text over Graphics

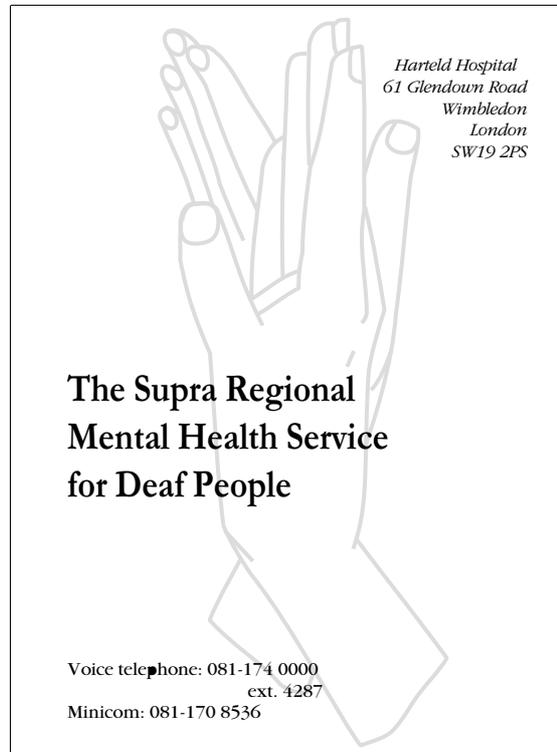
Graphics needn't only be positioned alongside the textual information as mere illustration: careful use of a large graphic behind reasonably bold text can be effective, providing strong visual support for the words. Figure 9.23, which is adapted from the cover of an A4 brochure describing the services of a psychiatric unit for the Deaf, is an example of this. The hands convey an important message in British Sign Language for the benefit of Deaf readers: the sign is for the word 'psychiatry', thus confirming the text. For this approach to work, the graphic must be fairly subtly portrayed (for instance, in a grey outline such as here) and any overlying text bold enough to stand up to the potentially distracting effect of having an illustration behind it.

## Multiple Graphic Effects

The effect shown in Figure 9.24, which looks like two transparent words printed on a grey background with a picture of the sea showing through, was very simple to achieve, although it took some time. It should be fairly easy for you to work out how it was done; all the tools are described in various places throughout the book, and the title is of course a hint. It is left, as they say, as an exercise for the interested reader.

## Colour

Colour printing is a very specialised subject and for the average user the reproduction and duplication costs are prohibitive. Designing for colour introduces a



**Figure 9.23** Multiple layers of information: use with care!

whole set of other considerations beyond those for black and white, which are quite sufficient to be going on with. However, even in documents that will be printed in black and white the careful use of tint areas and coloured text (that will print in grey) can add extra dimensions to the page, giving a sort of layered effect. Unfortunately, the grey levels you get from printing the screen colours aren't wholly predictable.

Don't try to print very small text in colour on a non-colour printer, because the dot pattern of the grey tint will break up the letter outlines, making them difficult to decipher. Figure 9.25 demonstrates this characteristic.

If you *are* able to print or duplicate in colour, remember that your aim in using it must be to attract attention, not to distract it. Beware of colour clashes: separate colours that are fine in themselves can be disastrous when used together. Also think about visibility if you want to print text of one colour on a differently-coloured background, in much the same way as illustrated for black and white in Figure 9.13.



**Figure 9.24** A special textual effect

Printing small text in colour  
Printing small text in colour

**Figure 9.25** The effect of text colour on printing in black and white in small sizes

## Two Final Rules

I began this chapter with the thought that design is all around us. Given that this is true, look around you: let other people's ideas inspire you. There is no need to reinvent the wheel, just follow the penultimate rule: *don't be ashamed to borrow*. Look around, copy the parts you like and see how they can be made to work for you.

And the last rule? Well, it follows from the previous one in a sense: *rules are for breaking*. Once you have gained a working experience of using the received wisdom expounded in this chapter, you may well want to set your sights beyond such simple precepts. No doubt much of what you will encounter outside this book in your search

for design ideas will appear to disobey one or more of the rules. Think about why, if such designs seem to work for someone else, they shouldn't also do so for you. Then make your own experiments and break your own trail; the mistakes will be made in privacy, even if the successful result is public.

