Typography without words

Michael Twyman

Abstract

This paper introduces a simple notation for presenting some of the graphic variables of typography. It rests on the use of the 'x', 'o' and 'i' of the typewriter and is intended for use by anyone concerned with graphic language. It is suggested that the notation is of value in relation to teaching because it encourages serious thinking about typographic problems in conceptual terms. The rules of the notation are explained and the general approach demonstrated by the treatment of a single topic 'Headings in text'. The topic was chosen because it relates to the theme of this issue of the journal. The notation has been used over a number of years in the Department of Typography & Graphic Communication of the University of Reading in connection with the teaching of undergraduates and lay people. Apart from its use in relation to teaching, it is suggested that the notation has a value in encouraging a dialogue between research workers and typographers.

The notation presented in this paper was devised to explain, primarily to non-specialists, some of the conceptual issues that underpin typography. It was used initially some years ago to demonstrate in simple terms how principles of Gestalt psychology relate to typography and how the spatial organization of elements could be used to provide readers with some advance notice of the structure of a piece of information. A series of examples was typed using 'x's as shown in Figures 1 to 3 below and slides were made from them. A typewriter was used for the sake of convenience in production, but it was soon realized that the constraints imposed by

1	2	3
xxxxx xxxxxxxxxxxxxx xxxxxxxxxxxxxxx xxxxxxxxxxxxx xxxxxx xxxxxxxxxxxxxxx xxxxxxxxxxxxx xxxxxxxxxxxxxxx	xxxxx xxxxxxxxxxxxxx xxxxxxxxxxxxxxx xxxxxxxxxxxxx xxxxxx xxxxxxxxxxxxxx xxxxxxxxxxxxx xxxxxxxxxxxxxxx	xx xxxxx xxxxxxxxxxxxxx xxxxxxxxxxxxxxx xxxxxxxxxxxxx xx xxxxxx xxxxxxxxxxxxxx xxxxxxxxxxxxx xxxxxxxxxxxxxxx

the machine had the beneficial effect of emphasizing the essential modular nature of typography. In the context of talks to non-specialists the underlying argument presented in these and other examples needed some explanation, but in a journal such as this the examples printed below can be left to speak for themselves.

Over the last few years this simple notation has been elaborated in a fairly consistent manner and has been tried out in a number of situations. In its developed form it has been used in connection with short courses in typography organized by the Department of Typography & Graphic Communication at the University of Reading for members of staff (teachers, administrators and librarians) and in relation to courses in the theory of typography for undergraduates. It has also been given an airing at external seminars and has been tried out by other people. Modifications have been made to it in the light of experience and the time now seems right to give it a more public showing.

The rules of the notation are very simple. The basic graphic unit is the small 'x', which stands for the typographic norm in any particular instance. The norm would usually be small letters in roman (upright) form, together with capitals for proper nouns, beginnings of sentences, etc., though it might take any typographic form. The secondary graphic unit is the small 'o', which stands for the primary variation from the typographic norm. If the norm was that described in the case above, then 'o's would stand for italic, bold or all capital setting. They might also stand for a colour variation, though a typewriter with a two-colour ribbon could be used for this purpose. The letters 'x' and 'o' were chosen because they are symmetrical and of similar visual weight (though it may well be that 'noughts and crosses' and the term 'x height' played some part in the choice). The tertiary graphic unit, which has been used only occasionally, is the small 'i'; it is brought into service when a further typographic distinction is needed.

It should be stressed that these graphic units of the notation do not stand for particular kinds of typographic language (roman, italic, bold, small letters, capitals, small capitals, condensed, expanded, etc.); they stand rather for the function of the typographic language in the particular situation under discussion. Thus, in the unlikely event of a whole passage being set in capitals, with just occasional words in small letters, the notation would be exactly the same as if the reverse were the case: 'x' stands for the norm; 'o' for a variation from the norm; 'i' for a further variation from the norm. There may be a need for the rules to shift a little when dealing with particular issues; for instance, it might be helpful to use capital 'X's, 'O's and 'I's if the notation is being used to explore ways of drawing attention to the beginnings of information units, such as items in lists.

This simple graphic notation is supported by an equally simple spatial notation. Spacing on the horizontal axis is very crude indeed and can only be used to indicate such general concepts as 'centred', 'to the left of' and 'ranged right'. A row of characters stands for a line of words, the length of the row being determined not so much by any real situation as by the nature of the problem to be discussed. No indication is normally given of spaces between words, though where such distinctions are held to be essential they can be made. Spacing on the vertical axis depends on the kind of typewriter being used; but whatever line increments are available standard units of space are used to demonstrate what might be called the 'grammar of space'

in relation to a particular issue. The spatial parts of the notation can do no more than suggest first, second and third orders of vertical spacing, just as the use of 'x's, 'o's and 'i's can do no more than suggest different graphic orders.

The notation described above has been used as a basis for discussing important variables of a number of typographic configurations and problem areas, including lists, tables, extracted material, notes and references, and headings in text. The case of headings in text has been selected as a means of demonstrating how the notation can be used because it seems to fit most happily into an issue of this journal devoted to spatial arrangements of text. The following examples form only part of a collection of material used in the discussion of headings in text, and it should be stressed that such an approach to the topic would always be followed by a critical look at specific items of typography. The notational approach is used to introduce general principles relating to the topic; the application of these principles to real situations and the consideration of points of detail (which often cannot be catered for by the notation) can best be considered when looking at actual examples of typography.

The first set of examples relating to headings in text shown here (Figures 4 to 9) draws attention to the major variables in terms of lateral position of the heading. Though there are other possibilities, these six examples cover the most widely adopted practices. They also point to the fact that the word 'heading' is a misnomer. Even with a schematic presentation of typographic ideas of this kind, experience has shown that it is possible to have fruitful discussions about such issues as visual effectiveness, speed and economy of production in relation to method of composition, and the consequences of varied lengths of heading and the use of numerical coding. In a teaching context such examples would be used as a means of considering general issues rather than as an aid to making decisions.

4

xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx
ooooo
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx

5

xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx
        ooooo
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx

6

xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx
ooooo
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx

7

xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx
      ooooo
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx

8

xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx .
oooo xxxxxxxxxxxxxxxxxxxxx
ooo xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx

9

xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx
oooo xxxxxxxxxxxxxxxxxxxxx
ooo   xxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx

The next group of examples (Figures 10 to 15) takes just one of the possibilities shown above in relation to the lateral position of headings (Figure 4) and uses it to explore some spatial variables in a vertical direction. Clearly the approaches shown in Figures 5 to 7 could be developed in similar ways. The principal issue to emerge from this group of examples concerns what many typographers would consider one of the few fundamental 'rules' of typography: that a heading in text should be separated from its neighbouring paragraph by at least as much space as the paragraphs relating to it are separated from one another. Figures 10 and 11 aim to demonstrate that the conventions adopted for distinguishing between paragraphs in a text have a crucial bearing on the treatment of space around headings. What may work in Figure 10 clearly does not work in Figure 11 since, in the latter, only the first paragraph appears to be related to the heading. It follows from this that when space is introduced between paragraphs, at least an equal amount of space must be introduced below the heading to separate it from the following paragraph. Other figures (12 to 15) show the desirability of introducing greater space above a heading than below it. Figure 15 shows, in terms of general principles, the very least space that needs to be introduced around a heading when paragraphs are separated by units of space. All these points are well enough known to typographers, but the logic of the argument can be put across forcefully using the notation described in this paper.

```
10                              11                              12

xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxxxx

ooooo                           ooooo                          ooooo
xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx               xxxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxxxx                                          xxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx


13                              14                              15

xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxxxx

ooooo
                                ooooo                          ooooo
xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx               xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
                                xxxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx               xxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx            xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx            xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx            xxxxxxxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxx
```
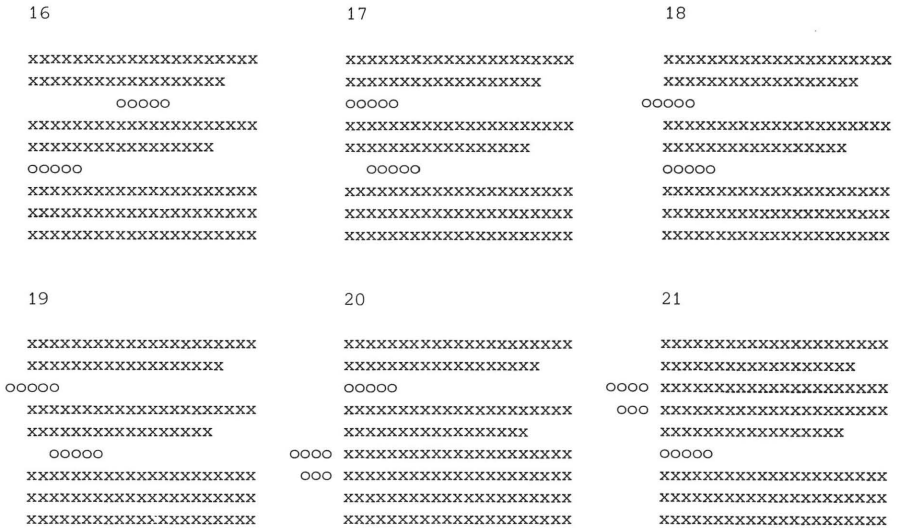
Figures 16 to 21 take up again the effect of the lateral position of headings, but in relation to two levels of importance. Only a few variables of the many possibilities are presented, but they are sufficient to highlight the difficulty of establishing which is the first order heading without the additional help of typographic coding, such as size, weight, and colour. Figures 20 and 21 present particular problems in this respect, and so to some degree do Figures 16 and 17; only Figures 18 and 19 seem to be reasonably unambiguous in visual terms. In such cases of ambiguity it is clear that typographic coding would need to be introduced to establish which are the first order headings.

```
16                             17                             18

xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxx            xxxxxxxxxxxxxxxxxx             xxxxxxxxxxxxxxxxxx
        ooooo                  ooooo                         ooooo
xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxx                xxxxxxxxxxxxxxxx
ooooo                                ooooo                   ooooo
xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx


19                             20                             21

xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxx            xxxxxxxxxxxxxxxxxx             xxxxxxxxxxxxxxxxxx
ooooo                         ooooo                    oooo  xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx    ooo  xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx              xxxxxxxxxxxxxxxx               xxxxxxxxxxxxxxxx
     ooooo             oooo  xxxxxxxxxxxxxxxxxxxxxx          ooooo
xxxxxxxxxxxxxxxxxxxxxx  ooo   xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx        xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx        xxxxxxxxxxxxxxxxxxxxxx         xxxxxxxxxxxxxxxxxxxxxx
```

One of the approaches to two-level headings shown above in Figure 18 is taken further in the next set of examples (Figures 22 to 25). The first example in this group (Figure 22) shows a straightforward application of this approach with text that uses traditional indentation to mark paragraph breaks. Figures 23 and 24 illustrate that the introduction of space between each of the sub-sections has a bearing on the spacing of the primary heading; Figure 24 shows the desirability of introducing additional space above it following the argument presented in Figures 12 to 15. Figure 25 draws attention to the consequence of using space as the convention for making distinctions between paragraphs even when a simple two-level hierarchy of headings has been adopted (in this example full points have been used to make it easier to count the modules of space between the graphic units).

22

```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxx
```

ooooo
  ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
```
 ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
    xxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
```

23

```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
```

ooooo
  ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
```
 ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
```

24

```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
```

 ooooo
  ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
```
 ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxx
```

25

```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
  .
  .
  .
```
ooooo
  .
  .
 ooooo
  .
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx

xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
```

26

```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
```
ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
```
 ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
   iiiii
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
   iiiiixxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
```

27

```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
```

ooooo

```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
```
 ooooo
```
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxx
   iiiii
xxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
   iiiiixxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx
```

Figures 26 and 27 explore some ways in which four levels of heading can be manipulated when space is at a premium (Figure 26) and when it is not (Figure 27). In these examples the third graphic unit of the notation, 'i', has been used for third and fourth order headings to denote a further typographic distinction. They also show something of the notation's capacity to handle quite complex material that would be difficult to describe clearly in written language.

The major benefit arising from the use of the notation is that it encourages serious thinking about typographic problems in conceptual terms, and independently of problems associated with particular copy or composition systems. Such problems are, needless to say, of the utmost importance; but in some situations they tend to mask other issues. A further benefit claimed for the notation is that it is so simple to adopt that anyone who is prepared to take graphic language seriously can quite easily learn to use it. Many non-typographers are hesitant to put marks on paper because they feel they do not have the requisite skills to do so effectively. The notation provides such people with a means of presenting thoughts about the structure of graphic language which can look as authoritative as the marks of a skilled typographer. The notation might therefore have a special value in encouraging a better dialogue between research workers and typographers by giving psychologists a simple vocabulary, grammar and production method through which graphic concepts can be expressed. From the point of view of students, the notation seems to be useful, not only because it enables general concepts to be put across, but also because it encourages them to think visually and to develop visual arguments.

The very crudeness of the notation is, paradoxically, one of its strengths. It is applicable to all systems of verbal graphic language (writing, typing, printing, videotex) and so encourages concentration on the essential structure of a message. Typographic niceties, which are often system dependent (sometimes even typeface dependent), such as the comparative weight or size of letters and subtleties of interlinear spacing, can be considered by different means. The use of a notation such as that described here would seem to be particularly important in a period when design decisions are frequently made 'cart before horse' and typographic detailing is determined before typographic structure. Furthermore, the increasing likelihood of messages being 'translated' from one system of communication to others with quite different typographic capacities in terms of range of characters must surely lead to greater emphasis being attached to general principles of organizing verbal graphic language.

There is a danger that an approach along the lines presented in this paper might lead to the use of the notation as a means of producing a 'recipe book' of ideas. Nothing could be further from the original purpose of the notation, which was to encourage serious thinking about typographic language across a broad spectrum of people. It has been criticised because it leaves out the essential element of language, information content. And of course it does. But our culture is so strongly biased verbally that the very understandable concern for content deflects many people from making sound visual judgments. Much typography works visually only because its configuration can be worked out from the information it carries. Figure 28 illustrates this point.

28

xxxxxxxx	xxxxxxx	xxxxxxx	xxxxx
xxxxxxx	xxxxxxxxx	xxxxxxx	xxxxxxxx
xxxxxxxxx	xxxxxxx	xxxxxxxxx	xxxxxxx
xxxxxxx	xxxxxxxx	xxxxxxx	xxxxxxxxx
xxxxxxxxx	xxxxxx	xxxxxxxx	xxxxxxx
xxxxxx	xxxxxxxxxx	xxxxxxx	xxxxxx

Figure 28 might represent a single list that has been chopped up into columns for the sake of convenience, or four separate lists displayed side by side; or it might perhaps represent a table which has to be read off along two axes. A reader would only know how to 'read' or 'read off' the information when it has to some extent been read. More attention to the visual configurations of language and the effects they have on reading strategies would surely lead to that closer relation between content and form that is the quest of all good typographers.