

Publish and be damned! Principle and practice of desktop publishing

Rainer Reisenberger

*Managing Director, Arrow Technical Translations Ltd.
Canterbury, UK*

INTRODUCTION

Some of you may remember us exhibiting at last year's conference. We had ventured into desktop publishing, or DTP, as it is now commonly referred to, some three months earlier, as an extension of our translation services, and we were so enthusiastic about the new technology that I offered to report on our experience there and then. Luckily for you, perhaps, the conference programme was complete, and you were spared the experience! However, my task would have been so much easier at that time! Since then the market has become totally perplexing, most of the hardware and software suppliers in the computer industry have jumped onto the bandwagon, and the very word 'desktop' has been invested with an implausible new sales magic. As a result, you now find 'desktop' prefixed to just about any information technology offering – desktop computing, desktop engineering, desktop accounting . . . why not desktop translations? If you ask me, I have been in DTP – desktop translation peddling – for well over fifteen years.

PRINCIPLE

Let us look at the principle, the theory, of this new technology. What is desktop publishing or electronic publishing, how did it evolve, how does it compare with traditional methods and how does it differ from word processing?

What is desktop publishing?

Desktop publishing is a new way of taking text, and assembling it electronically

on a computer screen, with a variety of graphic design elements such as ruled lines, boxes, tints, logos and even pictures. The resulting complete pages are then printed out at your desktop on a high-quality output device, usually a laser printer – and either used directly or as camera-ready artwork for offset printing.

The desktop publishing phenomenon is only one aspect of electronic publishing, which – as a wider concept – encompasses the dissemination of any information on electronic devices, for instance also in the form of public databases such as Prestel or Dun and Bradstreet.

While the term ‘desktop’ is either too specific or too vague to describe the phenomenon, the term ‘publishing’, on the other hand, is probably too ambitious or presumptuous. We must thank Paul Brainerd of Aldus, father of PageMaker, for this latest buzzword. Publishing is essentially writing, producing and distributing information to a readership, and until less than two years ago was the sole preserve of publishing houses and highly trained craftsmen. While we have all been made aware of the sociopolitical upheavals caused by this revolution – Eddie Shah and Wapping spring to mind – it would be fair to say that through the new technology publishing has become democratised and widely affordable beyond the fondest dreams of only a few years ago.

How did DTP evolve?

Back in 1973 Xerox developed a graphics workstation based on four key concepts:

- (1) Seeing and pointing – rather than remembering and typing.
- (2) Progressive disclosure – only the information relevant at any particular moment was to be presented.
- (3) Uniformity of commands across domains – commands should be common to all programs to enable you to deduce what to do next – without recourse to manuals.

These three concepts add up to the WIMPs environment of Windows, Icons, Mouse and Pulldown menus.

- (4) WYSIWYG – What You See Is What You Get: the display on the screen should always be a close facsimile of the final printed document.

These concepts, radical in their departure from the prevalent command-based approach to working on computers, were picked up and pursued by Apple and first realised in the LISA, a desktop unit with a high-resolution bit-mapped display screen in which almost all the screen was used to portray a desktop environment. (See Figure 1.) So-called icons, or small images, represented various familiar objects you could point to and move about to make things happen. The LISA was expensive, ahead of its time and, most of all, lacked an output device to match its sophistication. In January 1984 Apple followed the LISA with the Macintosh. But still, there was no desktop-publishing

phenomenon. This only began a year later, January 1985, with the LaserWriter – a laser printer with a resolution of 300 dots per inch, or 90,000 dots per square

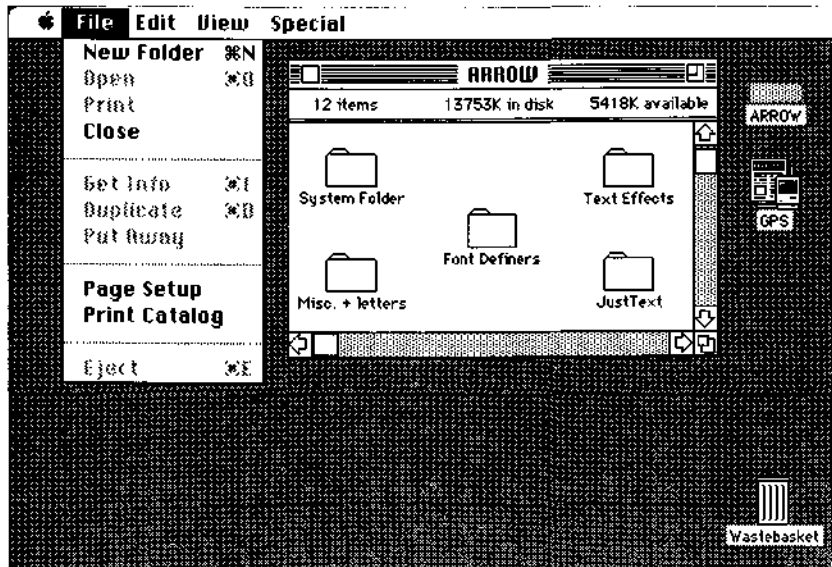


Figure 1. Electronic 'desktop'

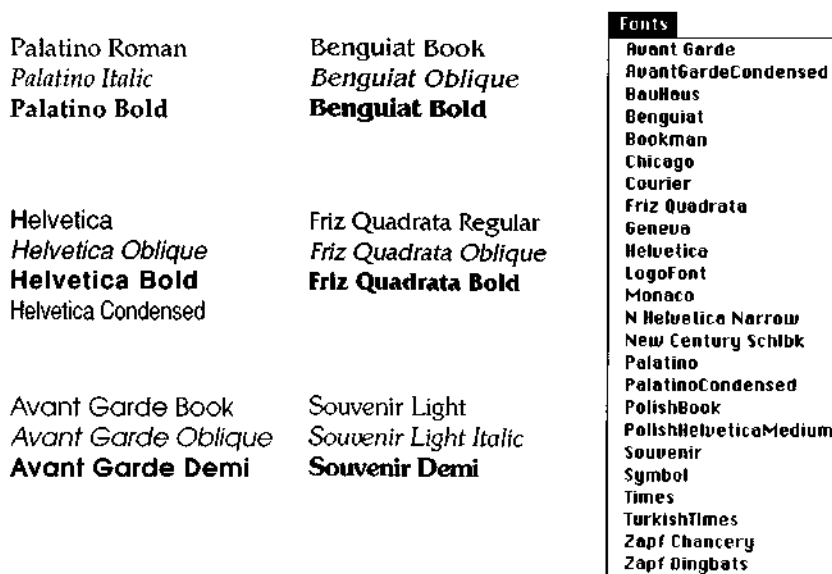


Figure 2. Examples of available fonts

inch, which - thanks to a new page description language from Adobe, was able to create the flexibility and impression, if not the quality, of a typeset document. Allied Linotype gave the new technology their blessing by supporting it with two typesetters able to receive, process and output Macintosh files without any further changes or intervention. Additionally, Linotype began digitising their vast font library for use on the Macintosh, so causing other suppliers to do likewise. (See Figure 2 above).

To understand the full impact of this new technology, we must take a brief look at traditional publishing, as bequeathed to us by Gutenberg, Caxton and others.

How does DTP compare with traditional methods?

Old/traditional

Copy is translated, edited and word processed.

Page layout is designed. Changes are costly and time consuming.

Copy is marked with type specifications and sent to the typesetter.

Type is set in galley form and returned to the author.

The author proofs galleys and returns them to the typesetter for changes and corrections.

The typesetter makes corrections and returns them to the author.

Illustrations are prepared and sent out for camera work.

Text and graphics are cut and pasted onto layout sheets.

Any changes are sent to the typesetter.

The typesetter makes corrections and returns them for approval. Final corrections are made and sent back to the typesetter.

New/electronic

Copy is translated, edited and word processed.

Page layout is designed on screen. Changes can be made at any time with a few keystrokes.

Type specifications are already completed. Multiple proofings are not needed.

Illustrations are created and edited on the system.

Page layout and type changes are done on screen.

Old/traditional

New/electronic

Paste-up is completed and given final proofing.

Page proofs are printed and given final proofing.

Masters are sent to the printer.

Masters are sent to the printer.

This then is the user's perspective. But what about the operator's perspective?

How does DTP differ from word processing?

Very generally, DTP differs from word processing in that it is concerned with processing pages or even whole documents rather than words alone. In word processed documents your text is usually printed out in one fixed size, in a uniform style, although most WP packages will now let you set text in bold and italic as well as 'normal'. With DTP, however, your text can appear in a variety of different sizes and styles so that it has much more of an upmarket 'published' look to it. (See Figure 3.)

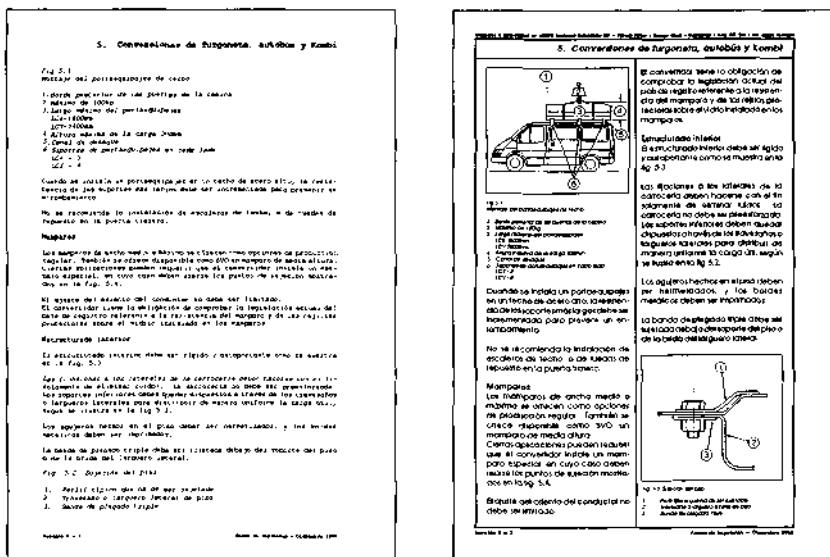


Figure 3. WP versus DTP

In word processed texts you have to leave gaps for pictures and then paste them into the gaps after the document has been printed. By contrast, most DTP systems can handle graphics as well, so that you can incorporate pictures in your document.

In word processed documents, text is usually printed out as one, sometimes two, continuous columns which fill the page. To rearrange chunks of text

differently on a page, you have to cut them out and paste them up. DTP, on the other hand, gives you much more control over the way pictures and blocks of text are positioned or 'laid out' on the page. You can play around with the layout until you are happy with it – and that, in my view, is one of the most attractive features of DTP.

Having drawn these distinctions, it is only fair to say that the last year has seen the emergence of a host of enhanced WP packages offering quite a few DTP features, so that the boundaries are becoming increasingly blurred. In many ways, DTP can broadly be seen as second-generation word processing.

So much for the principle or theory of DTP. What about the practice?

PRACTICE

Here the following questions arise:

- What do you need?
- How do you set up a page?
- What can you use it for?
- What are the benefits?
- Why did we go into it?
- Is it for you?
- What are the costs?
- What are the limitations?

What do you need?

We are looking here at the low end of the market, i.e. PC-based systems for personal publishing, rather than dedicated systems for corporate departments for distributed publishing.

There are basically two 'platforms' for DTP systems – the Apple Macintosh or the IBM and its clones, although there are others like Atari who are getting in on the act. It was, however, Apple who created the market with their graphics-oriented system – and who still dominate it, having become the de facto standard for others to emulate, but this year has seen a veritable avalanche of new product offerings for IBM users and family.

In essence, you need four components:

- (1) a powerful computer
- (2) a laser printer
- (3) an image scanner
- (4) a desktop publishing program

Hardware

DTP is far more demanding than almost any other PC application, so your minimum configuration requirements go much beyond the standard equipment

levels sufficient for ordinary word processing. (For example, see Figure 4 for the Arrow system configuration.) You therefore need a powerful 16/32-bit Intel 80286/386 or Motorola 68000/68020 processor chip. The computer should further ideally have at least 640 Kb RAM, two high-capacity floppy disk drives or, better and, in my view, essential, a hard disk of at least 20 Mb capacity. Next, a high-resolution screen is a must for any serious would-be publisher. All these criteria are met by the Apple computer range from the Macintosh Plus upwards. On the side of IBM and compatibles, you will need an IBM AT type machine rather than the PC version, you will further need a graphics card to bring the screen resolution up to an acceptable level. Mostly, though not always, IBM compatibles tend to have a higher entry-level standard specification than IBM, though I believe this may be changing with the latest IBM Personal System/2 range.

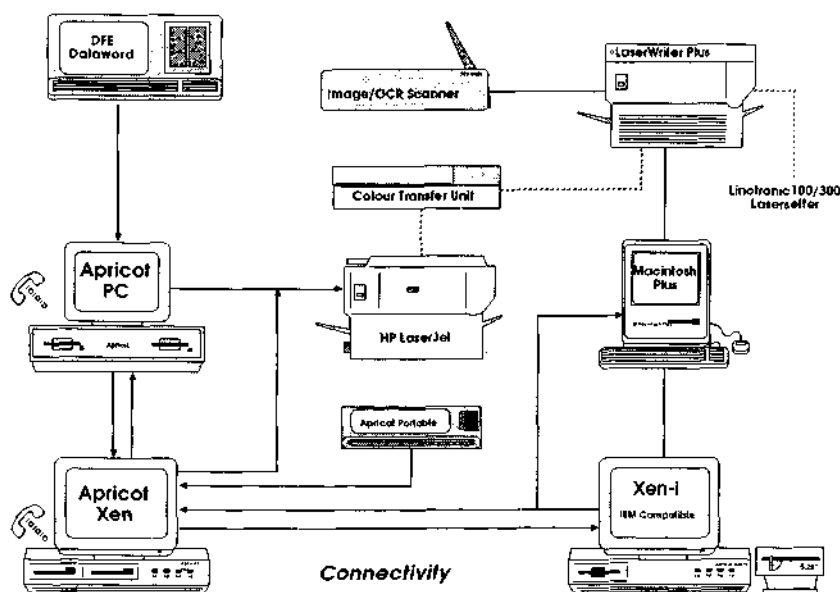


Figure 4. Arrow system configuration

Most DTP programs also require the use of a mouse – a desktop pointing device employed to move the cursor on the screen rapidly and accurately when working with graphics. People brought up on a keyboard are often surprisingly emotional in their rejection of the mouse as input device but quite a few programs do, in fact, make it mandatory.

The key element, however, in any DTP system is the laser printer. It would go beyond the scope and space available here to explain the principle of operation of laser printers. Suffice it to say that without the advent of relatively inexpensive

laser printers, capable of emulating typeset-quality text at a resolution of 300 dots per inch, there would be no desktop publishing revolution. However, not just any laser printer is good enough. It is important to appreciate the difference between those laser printers which employ a 'page description language' (PDL) and those which do not. Most printers, particularly the ones without PDL support, such as the popular Hewlett-Packard LaserJet, generally store typefaces as a pattern of dots, called a bit-map. For each typeface in a given size, there will be a corresponding bit-map. The drawback is that, even with a large printer-internal memory, there is a limit to the number of typefaces and sizes a printer can store in this way. This means that you may find yourself limited to four or five fairly small sizes of a particular typeface, and this, of course, hardly allows you the flexibility to design a page layout. By contrast, a printer equipped with a powerful page description language such as PostScript stores a typeface much more economically – as a mathematical representation of its outline, rather than as a set of bit-maps. To obtain different-sized characters, it scales the single, stored outline to whatever size is required. In the same way, this allows for special print effects such as condensed, expanded, even rotated or otherwise distorted type. Apart from PostScript, there are several other Page Description Languages, notably Interpress from Xerox, DDL from Imagen and PCL from Hewlett Packard.

The final element, possibly optional, is an image scanner for inputting artwork, preferably offering the same resolution as the printer (see Figure 5). Image scanners at the DTP level are capable of processing line artwork such as logos, technical illustrations, even maps and half-tones, but not generally continuous-tone originals such as photographs, although here too progress is being made (see Figure 6). Incidentally, increasingly better OCR/ICR (optical character recognition/intelligent character recognition) software is being developed for these scanners, making them doubly useful.

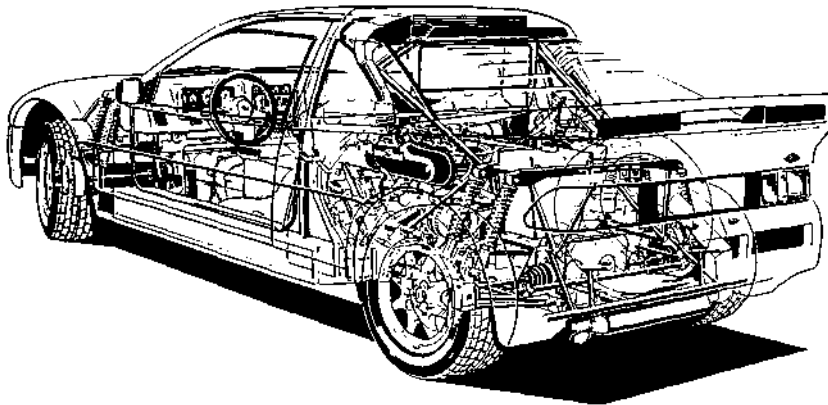


Figure 5. Example of artwork produced with an image scanner /digitiser



*Please find enclosed my
disk and proof-copy of
"Sunflowers" file, with
necessary colour codes to
assist with colour
separations.*

Vincent

Arles, 1887

Figure 6. 'Letter from Vincent' - produced with an image scanner

Software

I have dealt with the hardware first, but the software is the more critical choice - as it is with word processing. It has always made sense to choose the software first and then locate hardware which will run it. The publishing software lets you design a page format, compose the layout and control the typographic specifications and print attributes. To a lesser extent, page make-up software also offers text and graphics creation and editing facilities, but in most cases these elements are already catered for in separate compatible word processing and graphics-illustration programs.

The two basic approaches to the design of publishing software for microcomputers are menus or coded commands (see Figure 7). Menu-driven programs are easier to learn and more interactive, but they can lack the precision and speed of command-driven ones. Command-driven programs, on the other hand, can have codes that are difficult to learn and remember, and, more often than not, they lack an interactive interface.

Another way of looking at publishing programs is to establish their parentage. In other words, are they watered-down typesetting or text-composition programs or are they souped-up word processing programs? A true DTP program should combine precise text composition with flexible page layout and pagination facilities while providing the user with an interactive interface.

This means that the key concepts to look for are

Integration of text and graphics

+

What you see is what you get

DTP programs allow you to incorporate in the text a wide variety of graphics including business charts, line art, scanned images, CAD files, etc., and offer facilities for adding graphic design elements such as boxes and rules in different styles and thicknesses as well as tints and background patterns (see Figure 8). And, of course, a good DTP program should show you at all times what your document looks like on the screen before it is printed. It should also display the proper typefaces and typesizes chosen and instantly reflect any changes made throughout the document.

Typesetting terms. Choosing the right DTP package has become a bewildering business, not least because of the extensive technical typesetting jargon that has to be assimilated before you can begin to evaluate the relative merits of the products on offer. So this is perhaps a good point to acquaint ourselves with some of the phraseology you will come across when looking at DTP programs.

Type		
<input checked="" type="checkbox"/> Normal	⇧⌘	{c1, 738, 50, 670, 346}
Bold	⇧⌘B	{cj1}
<i>Italic</i>	⇧⌘I	{p11}{l13}{f14}As
<u>Underline</u>	⇧⌘U	professional
Strikethru	⇧⌘/	translators, {f15} we
Type specs... ⌘T		value both tradition
Paragraph... ⌘M		and technology, {fj}
Indents/tabs... ⌘I		recognising the
Spacing...		contributions made by
<input checked="" type="checkbox"/> Align left	⇧⌘L	man and machine, wor...
Align center	⇧⌘C	{ps}/Benguiat-Book
Align right	⇧⌘R	findfont [0 12 12 32.3]
Justify	⇧⌘J	makefont setfont QQ
Reverse type		

Figure 7. Menu versus codes

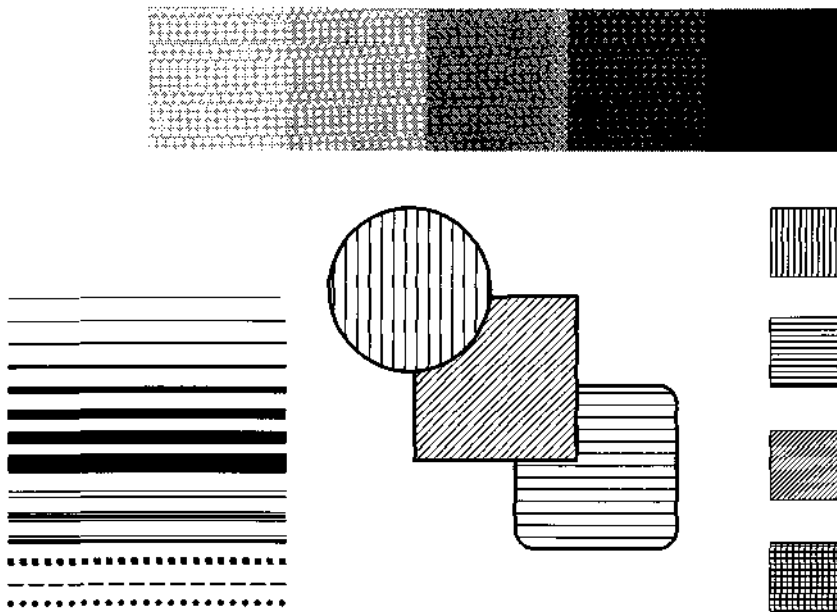


Figure 8. Examples of rules, boxes, tints and patterns

Points ami picas. Typesizes are measured in points. 1 point is 1/72 of an inch or 0.35 mm. 12 points make up 1 pica. 6 picas equal 1 inch. Many DTP packages conveniently allow you to work in points and picas as well as in millimetres and inches.

Leading. Line spacing is not expressed in lines per inch as on a typewriter, but as 'leading'. The term hails back to the days of Caxton techniques of setting text in molten lead. To separate lines, a wad of lead was inserted between them, rather like a long piece of chewing gum. Leading is measured in points; it is generally one or two points larger than the point size selected for the text.

Kerning and tracking. Apart from monospacing and proportional spacing, already familiar from typewriter technology, DTP packages additionally often offer fine-tuned letter spacing, called kerning (see Figure 9). The aim of kerning is to move characters closer together to avoid unnecessary or unsightly white space between letters, and this is done either automatically or manually. Tracking is concerned with intercharacter spacing throughout a document. It allows uniform alteration of space between characters, i.e. more space between characters for text of small point-size for greater readability.

Apart from typographical terms, there are those from the areas of design and traditional print technology to be assimilated, such as overmatter, dingbats

(see Figure 10), hanging indents, drop capitals, thumbnails, gutters, rivers, greeking, to name but a few.



Figure 9. Illustration of kerning

Strengths and weaknesses of the major programs. When we went into desktop publishing, we were not faced with any significant choice as far as publishing programs were concerned as there was virtually only PageMaker. As it takes quite a while, whatever the advertisements may say, to become fully conversant with the software, and in view of the cost of publishing programs, we have stuck with PageMaker although we are now using the latest, much improved, version of it. For this reason I am not qualified to offer a personal evaluation of current software on the market, but I shall attempt to highlight the strong and weak points of a few major programs, as far as I know them.

As with WordStar, PageMaker was the first software package in its field and has therefore very much become the standard against which other offerings are measured. And as with WordStar, later programs may be either more sophisticated or better value for money – or even both.

Here are a few packages which a serious contender for DTP might do well to consider.

PageMaker from Aldus. This program, with which Apple created the DTP market, is now also available for the IBM PC (see Figure 11). It now copes with documents up to 128 pages instead of just 16 as originally, is essentially page-oriented and therefore good for newsletters, brochures and all publications of varying page design, but it still suffers from various problems, notably when re-flowing text into a document following text editing or the insertion of graphics.

Ventura Publisher from Xerox. This package is document-oriented and generally good for the creation of long documents with consistent layout

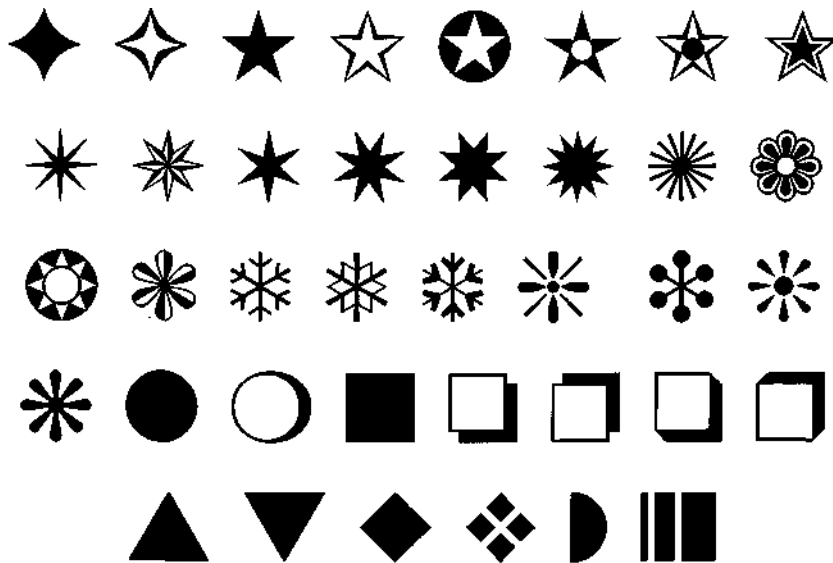


Figure 10. Dingbat samples

features. It offers a facility called ‘style sheets’, with which you can set up the overall format for a whole document at the start, e.g. the page size, margin and column-settings, recurring fonts for body copy and display headings, etc.

Incidentally, the word processor MS-Word in its latest version offers style sheets in much the same way.

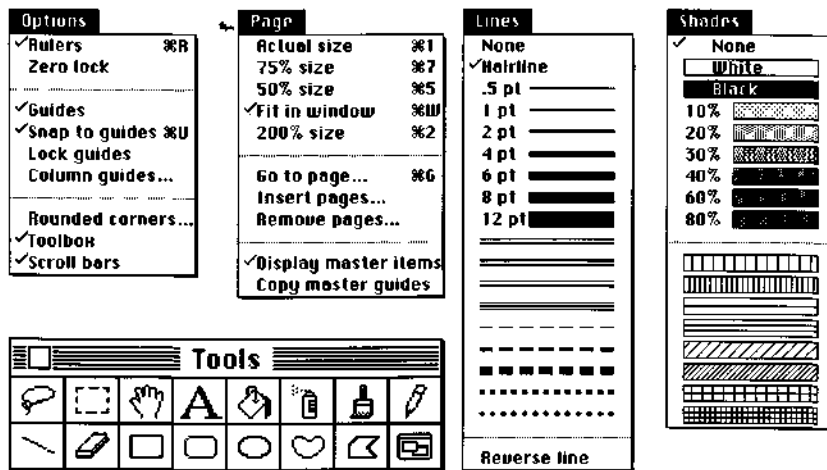


Figure 11. PageMaker menus

Quark Xpress. At £895 this program for the Macintosh is rather expensive when compared to £395 for PageMaker, and it will run only with a PostScript printer, but it is one of the most fully-featured programs on the market which combines typesetting accuracy with easy-to-use and fast page make-up facilities.

Ready, Set, Go! 3. If Xpress is perhaps the Rolls-Royce among DTP packages at the moment, then RSG3 from Letraset is certainly a close rival at less than half the price. For that you have to put up with some bugs, possibly ironed out in the forthcoming version 4. Notwithstanding these, it is a fully-featured program, which is easy and fast in use and offers a good compromise between mouse convenience and code setting accuracy.

Other packages. Other packages worth a close look are: Ragtime, Protex, Harvard Professional Publisher, Desktop Macpage, MacPublisher III, TEXTure, Prefis Book Machine and Newswriter.

Typesetting programs. Finally, it is just worth mentioning that there are also some excellent typesetting programs available for the serious DTP publisher. One of the best we have come across is JustText, which will flow text very accurately round totally irregular shapes. At £195 it offers a degree of control and accuracy for which typesetting houses might have been paying more than ten times as much.

In this connection, it may be interesting to know that since the emergence of the Macintosh, at a conservative estimate, more than half of all typesetters in the United States are using Macs as front-ends for their typesetting operations.

A word of warning. While price is not necessarily an indication of value, it is fair to say that in DTP it does not make much sense to lay out a fairly hefty amount of money on hardware such as PostScript laser printer and then economise on the software for it.

There certainly are some very cheap programs around, for instance Fleet Street Editor/Publisher, for the BBC, Atari, or Amstrad to name just one, but they are likely to restrict the capabilities of your DTP system and, without a laser printer, give you output which, more likely than not, will be unacceptable to end users as camera-ready copy.

How do you set up a page?

To set up a page, you first create or type your text, using a compatible word processing program. You will usually use just *one* straight column, and only set up boldening, italics, typesize changes and centring or justification. The more complex parameters are better dealt with by the page layout software. Then you draw or scan any graphic images you want to include. You may, however, already have existing word processing files or even files captured by

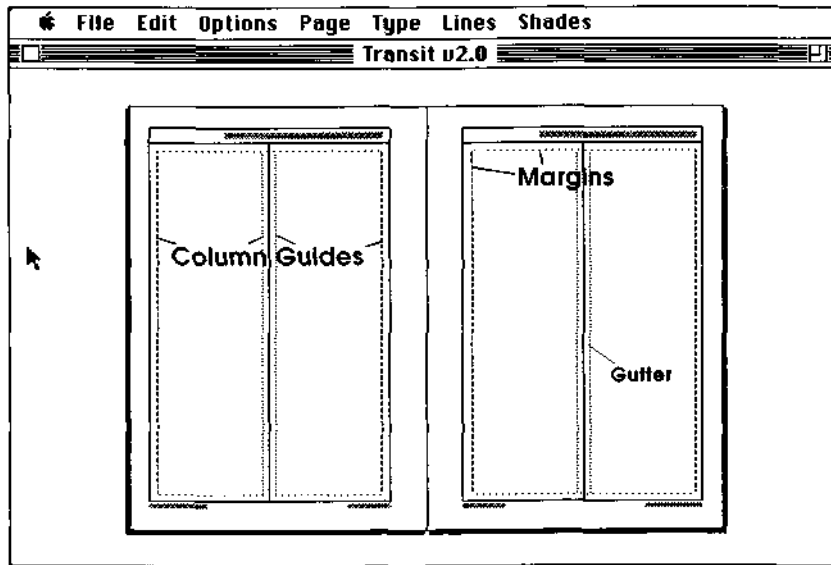


Figure 12. Master pages

electronic mail or an optical character reader. Similarly, you may have graphic files, CAD files, business charts, etc., from other software packages ready for use.

You are now ready to integrate text and pictures into one combined document. First, you establish the size of paper, the most common dimensions of the pages, the normal number of columns and the gap between them, the page numbering, and whether the left and right margins alternate to allow for binding. This information is the skeleton of the document. Most programs have a facility to allow for a specific format to be used for all the pages in the document, so that you need only set it up once, rather than for every page. Next you specify the number of columns and the gap, or gutter, between them. The program will then generate guides for columns of equal width. At this stage, you can also set the position of the page numbers and any other repeating text, such as headers and footers. Similarly, you can also add any rules, boxes, etc. (See Figure 12).

The format of the pages is now set up. For those few pages which do not adhere to the standard format, you can, of course, overrule it. Now all you need to do is to 'flow' your word processed text into the column guides which you have set up earlier. (See Figure 13.) The text will reshape to fit the column width, hyphenating and kerning as necessary. When it reaches the bottom of one column, you pick up the remaining text and restart it at the top of the next. All the columns are linked together. So if you decide to insert another paragraph earlier on, the text will not produce columns that drop off the page, but will move on to the next column. If you have an illustration to insert at the bottom of a

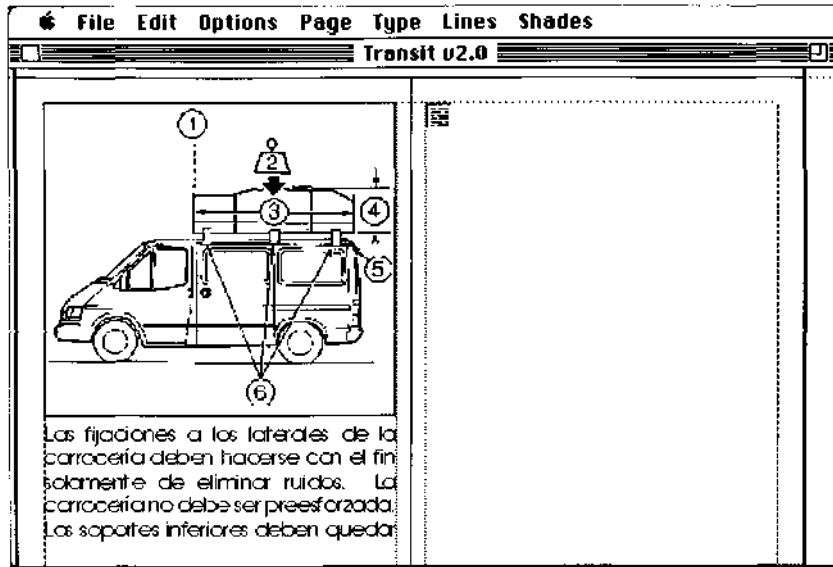


Figure 13. Flowing in text

column, you shorten the column, thereby forcing the text over onto the next column. Next you call up your scanned image, or the picture you have drawn, and place it in the space vacated. As it may not be the right size for the space, you can either shrink or enlarge the image, still maintaining the image proportions, or 'crop' or trim it down to size. The document is now ready to be printed. As you can see the document on the screen, you will know exactly how it will look when it prints out.

Xerox Ventura Publisher takes a different approach: you specify the document format at the outset, and the program will then generate the whole document automatically, flowing the text into the pages as it goes. To allow for graphics, you just alter all the pages affected. This works best for long documents with fairly consistent layout and not too many pictures.

What can you use DTP for?

Both the brochure and the application form for this conference were created on our system, using PageMaker (see Figures 14 and 15.) The Aslib logo and the location plan were digitised from photocopies, using our electronic image scanner. All the lines and boxes on the application form were done in PageMaker, too, and the figure 9 on the title page was created with a drawing program in order to overcome PageMaker's maximum point-size limitation of 127 point. We proofed the final copy on our PostScript laser printer. When we were happy with it – and Aslib had approved it – we ran the files direct from our disk through a Linotronic 100 typesetter (via a so-called RIP or Raster Image

Processor), which output the typefaces chosen - Friz Quadrata Regular, Bold and Slanted as well as Helvetica - at 1,270 dots per inch. Then there followed the traditional part: the photographs were dropped into blank keyline boxes,

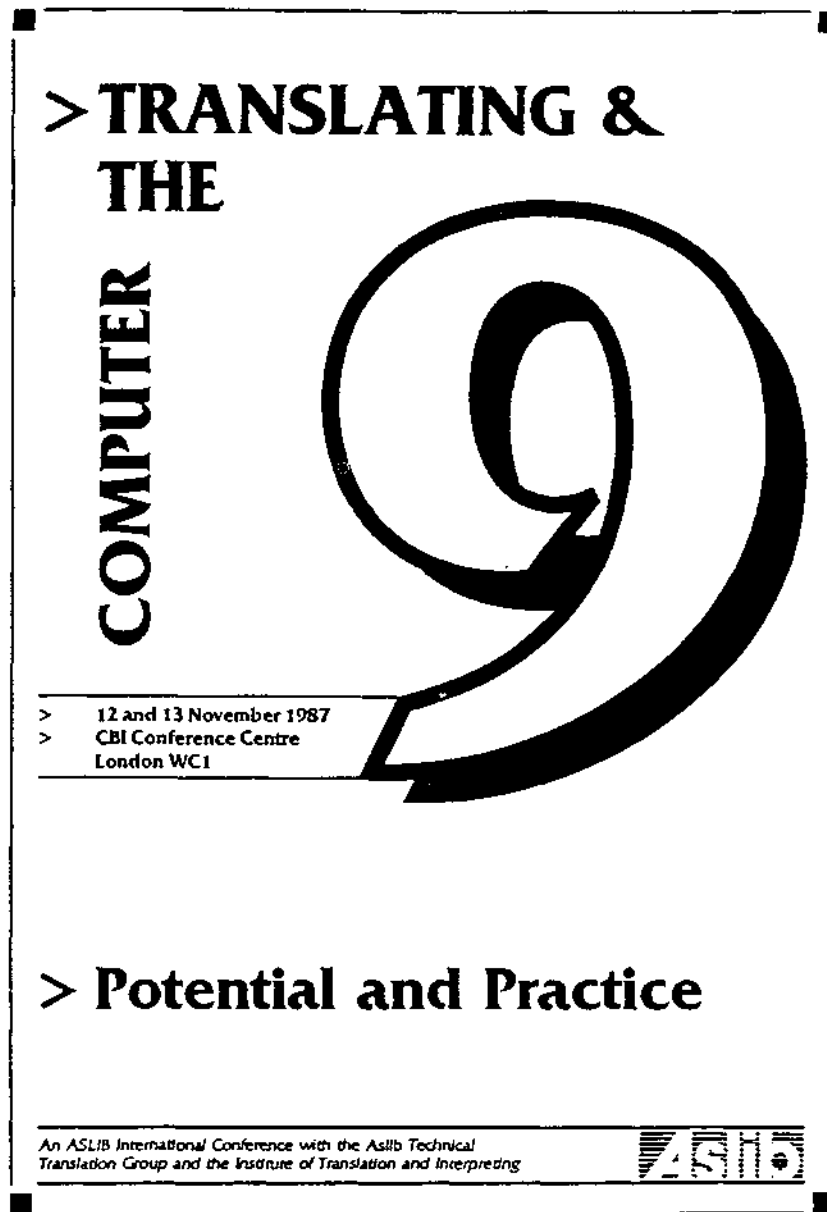


Figure 14. Front of the conference brochure, created using PageMaker

and then two sets of plates were made, one for the black copy and one for the items picked out in red spot colour. This was followed by conventional volume printing.

While the market for DTP applications draws both on the traditional publishing sector on the one hand and on the area of word processing jobs on the other, it has largely created an entirely new market.

Figures 16-18 show three typical examples from our work.

The range of applications is endless. A good deal of material worth translating will benefit from the advantages of electronic publishing.

What are the benefits?

With the new technology, all the stages of origination and production can be carried out:

- on one desktop
- on one system
- by one operator
- in one operation

There is no rekeying by typesetters, there are no repeated proofings, no trips back and forth between design studio and typesetters. This makes desktop publishing simpler, quicker and cheaper. Because it is simpler and more flexible, publications can be printed on demand. So there is no need to go to

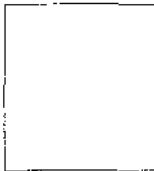
PROGRAMME

> **Thursday, 12 November 1987**

> **Sharing Experience** **Session 1**

Chaired by Catriona Picken, Consultant

- **The three faces of joyce: word processors & other hardware of use to translators**
John Hayes, erstwhile Chartered Mechanical Engineer and freelance technical translator for 25 years, will discuss in critical detail word processors and other gadgets which are allegedly of use to translators.
- **Update on software for translators**
This paper will bring you up to date on the latest software packages for translators to come on the market.
- **Publish and be damned! Principle and practice of desktop publishing**
Rainer Reisenberger, Head of Arrow Technical Translations Ltd and early convert to electronic publishing, will introduce this new technology and examine its usefulness to individual and corporate users.
- **New ways to communicate**
Malcolm Jones of British Telecom Research will introduce you to the latest communication and data transmission technologies - Fax, E-mail, telex and so on - and discuss the practicability of using such technologies in small translation units.


John Hayes



Rainer Reisenberger

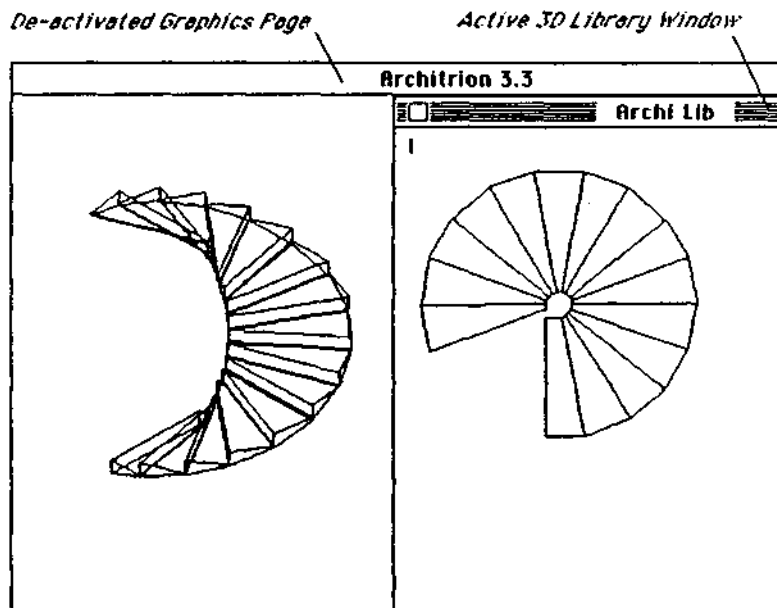
Figure 15. Extract from conference brochure, created using PageMaker

6) LIBRARIES

6.1) 3D Library

This function enables the volume element library which is available to be called up.

USE: In order to insert an object into this library, after opening it simply select the object using the lasso and copy it, or cut and paste it into the 3D library. In order to insert a library object into the Mac Architriion document (present on the screen), after selecting the library graphics page, simply copy and paste it in the position you want in the document.



Note: the 3D library appears on the right of the screen and can contain up to 100 elements.

Keyboard equivalent: Command + J.

POSITION: the 3D Library function is on the "Facilities" menu.

Figure 16. Example of DTP application - 3D user manual



Figure 17. Example of DTP application - Engine manual

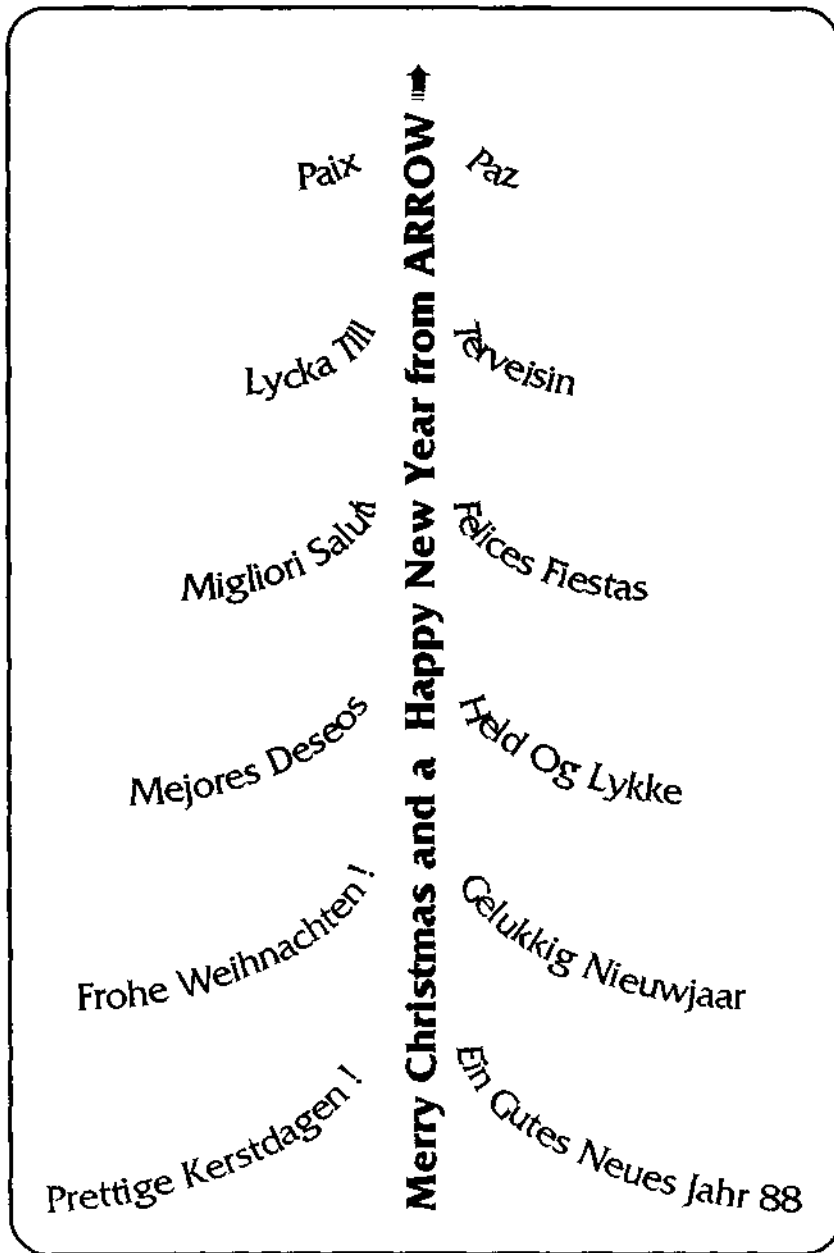


Figure 18. Example of DTP application - Christmas card

Typical Example: 30 page operator manual

the old way ...

Job N° 123	Progress and analysis		
	Quantities	Turnaround	Costs
Mark-up copy	10 hrs	3 days	£250
Typeset	30 hrs	11 days	£1,350
Paste-up	15 hrs	6 days	£525
Proof-read	10 hrs	4 days	£200
Corrections	5 hrs	4 days	£225
Check artwork	3 hrs	3 days	£105
Messengers between typesetters, design studio & proof-readers	110 miles		£45
TOTAL		31 days	£2,700

the ARROW way ...

Job N° 123	Progress and analysis		
	Quantities	Turnaround	Costs
Produce complete set of finished page artwork, using electronic page composition methods – all in-house		10 days	£1000
TOTAL		10 days	£1,000

Figure 19. Cost comparison

expensive print runs, with the potential for waste when the material is out of date before the print run is used up. Because it is quicker and more flexible, literature can be produced faster and updated more often. Because it is cheaper, it is viable to publish material that was previously uneconomical to produce.

Wildly conflicting claims are being made about cost savings for the end-users of DTP, and hard facts are difficult to come by. Figure 19 shows what, in our own experience, is the rough cost comparison between doing it ourselves and buying in all the different services to produce a technical manual of about 10,000 words or thirty pages.

Because all the activities are happening in one place, under one roof, control over document production is returned to the originators. In other words, the author is back in control of things.

Why did we go into DTP?

Control over the final quality of a document was our main reason for embracing this new technology as soon as it had become available, at least at PC level. As professional linguists, we take a perfectionist approach. Now the quality of our work is no longer jeopardised by third-party services such as non-specialist typesetters not equipped or trained to deal with foreign language print. I cannot tell you how frustrating it is to have taken every possible care with a translation only to find it ruined in print, for instance because

- (1) the setters thought a Greek Beta would do nicely for the German 'ß' character and
- (2) they were not convinced that their galleys needed proof-reading, even though we have always offered to carry out proof-reading of our own work for free, for this very reason.

The other reason for our venturing into DTP, apart from a general keen interest

Greek

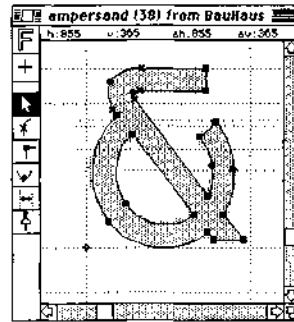
γεωμορφολογία ηλεκτρονική

Turkish

Karıştırdığınız düğmeye dışarı

Polish

układzie różni^ę część wyposa^żenia

**New Fonts****ARROW Technical Translations Ltd****Figure 20. Creating fonts and characters**

in information technology, was the consummate ease with which we would be able to create any character in any script or language. The arrival of laser printers with graphics capability did away, in one stroke, with the maddening limitations of daisywheel printers – a subject we have heard so much about in this forum over the years.

Previously, it had taken us a long time to tweak our tune-honoured dedicated word processor, originally meant to work only in German and English, to splutter out thirteen European languages. By the time we decided to switch to a PC, it was already easier to ‘doctor’ a word processing package like Wordcraft to work in the same thirteen languages in various typefaces – a feat considered impossible by Wordcraft themselves. Within weeks of acquiring our DTP system, however, we found ourselves designing a Polish and a Turkish character set as well as our own house-style typeface, using a commercially available font design program. (See Figure 20.) What is more, we quickly discovered that any new characters created could be reproduced in any font we already had, and added to the printer repertoire. (See Figure 21.) Similarly, though less important, complete logo can be created and assigned to a single key for call-up with one keystroke. (See Figure 27.) This is more useful than it may sound, as the logos can be sized up or down and placed at will wherever our clients may want them.

Is DTP for you?

Well, you could do worse than to ask my old friend and mentor John Hayes. He told us many years ago that any self-respecting translator could earn 30 K (and



Figure 21. Creation of non-Roman scripts

that was at a time when 30 K was still a lot of RAM for a computer), with minimal investment in equipment. If that proves inconclusive, ask your bank manager. He or she just might come up with the same answer.



Figure 22. Examples of logos created

Seriously, first of all, I think, we need to be clear about it that desktop publishing, in the context of this conference about translating and the computer, is essentially a post-translation activity. While in my mind, at least, there is no doubt that for corporate enterprises electronic publishing is a revolution worth embracing on account of its many benefits, either as operators of their own corporate publishing departments or as users of commercial DTP services mushrooming all over the country, the matter may not be quite as cut and dried for individual translators.

We know some translators who have set themselves up successfully as 'personal publishers' and have found it an extremely satisfying medium. Job satisfaction in terms of the presentation of your work may be so preciously important to you that it may well outweigh all other considerations.

However, you may still want to ask yourself these questions:

- Do your clients need this service?
- Will you use the equipment enough to justify the cost?
- Are there other options?
- What will it cost you?
- What are the limitations?

Look at your clients: do you have many direct clients to whom you could sell such a service or do you mainly work for translation companies, who are likely to edit your work and therefore not have much use for DTP presentation?

Do your clients need this service? Although awareness of this new technology is growing, there is still a surprising reluctance in industry to change to new ways, and you may find it hard to convince your clients of the benefits. On the other hand, those clients who are convinced of the benefits are probably busy setting up their own internal publishing departments – Volvo and Jaguar are just two names that spring to mind.

Use of equipment: if you work in a comparatively small area of specialisation, say, if you do a lot of similar manuals, then you are more likely to use your equipment cost-effectively. If, on the other hand, you translate a wide variety of material, there may be only a few jobs suitable for desktop publishing, and this may mean that, as a casual user, you (a) never get enough practice to become proficient, and (b) never earn enough money from it.

Other options: there are other options. If you want to go along this route without committing yourself too much, you can go part of the way by buying DTP software for your computer, but not the expensive laser printer. You can then take your disks to a bureau for outputting your files on a laser printer or even a typesetter. In this context, it may be of interest to you that Apple themselves are actively involved in setting up a whole chain of AppleCentres with associated DTP services, and it is very likely that there will be one near you fairly soon; similarly, instant print chains like Prontaprint, Pip and others are entering the market, and in the last year alone around 30 Linotronic PostScript bureaus have sprung up in the country who will set your disks for anything

between £6 and £12 a page (although graphics often cost extra).

Another, even softer, option is to upgrade your word processing software. Packages like Wordperfect, Wordcraft Elite with the Imagemaster module, Samna 4 and others are offering an increasing range of DTP features, which you may or may not be able to use with your equipment, although you are likely to need a scanner. Theoretically, there is even the option of getting some very cheap DTP package for the BBC, Atari or Amstrad, but in my view these are not for professional use. For the serious would-be publisher, however, DTP is unthinkable without a laser printer.

For those amongst you who are considering DTP in earnest, we have devised a check list of hardware and software criteria to look for, as well as a compilation of useful sources of further information on the subject. Before you study this, you really need to look at how you perceive your role. As a translator or writer your chief concern may, perhaps should, be with content rather than form or presentation. You may not necessarily be interested in producing handsome documents, even though accurate content will still benefit from being presented professionally.

You need to examine your all-round skills, because, as a desktop publisher, you are combining the roles of writer, editor, designer, typographer and graphic artist – a job description you may find impossible to satisfy.

However, if you have an aptitude for these new activities, you may wish to embark on more formal training to acquire the new skills necessary.

That leaves us with the \$64,000 question:

What does DTP cost?

Broadly speaking, the cost of a DTP system will be in the region of £6,000 to £15,000. £6,000 will not buy you very much, though – and certainly not a PostScript printer as part of your package, which would seem fairly crucial and could cost you £5,000 alone. If you include a scanner as well, it is unlikely that you will get away with spending less than £10,000. I am not dwelling on these prices, because they are changing fast and likely to come down further and vary considerably according to your system requirements. It is, however, as well to remember that, as soon as you do own such a system, you are likely to discover further, hitherto unknown needs – printer spoolers, tape streamers, bigger hard disks, font families, to name but a few.

Added to this are the running costs. Laser printers are expensive to run, mainly in terms of toner cartridges and drums, and the copy costs can vary from 0.25 pence (Xerox) to nearly 3 pence per sheet (early models with Canon print engine). Your paper consumption will go up dramatically, making the ‘paperless office’ a complete myth (somebody aptly, if somewhat crudely, said: ‘the paperless office makes about as much sense as the paperless toilet’).

Last but not least, you ought to count the cost of your time. Those of you who have used computers in anger will already know how time runs through your

fingers when discoursing with computers. This is true in the extreme once you get involved in the niceties of picas and points or the complexities of file conversion problems when importing other peoples' files into your DTP document.

Let us assume for a moment that this update on Gutenberg is beginning to burn a hole into your pocket and that you are ready to sell your house and family in search of the 'telematic nomadism' this do-it-yourself personal publishing panacea is holding out for you.

What about the limitations?

Leaving aside the socio-political upheavals associated with the emergence of this new technology – and it will not go away, the first technical argument that detractors of it tend to field is the one about poor print resolution. And they are right! For many applications, the laser printer resolution of 300 dots per inch is just not good enough.

But then it should be remembered that the files created on a Macintosh and increasingly on IBMs and clones can be passed through a typesetter. Linotype were the first ones to go with the new technology rather than against it, and now Monotype, amongst others, have joined the fray, developing interfaces to allow personal computers to be used as so-called front ends to drive professional typesetting machines.

Even if you do not want to go to the length of outputting your files through a typesetter, there are, in fact, various simple ways to compensate for poor print resolution, at least up to a point. For instance, many manuals are produced to A5 format. If you create the camera-ready copy (CRC) master copies in A4, the photographic reduction required effectively increases the resolution by about 41 per cent. If, on top of that, you urge your printer to overexpose the plates by one 'stop' or so, you may well end up with print that is visually hard to distinguish from fully-fledged typesetting.

This is where the typesetting fraternity feel threatened, and with good reason! They will have easily spent 10 times or more in terms of capital expenditure on their pre-press equipment, so it is not surprising that they will always manage to find a magnifying glass in one of their pockets to prove to you that laser output is 'fuzzy'. Indeed, they are right! But our clients do not generally walk around with magnifying glasses in their pockets, and for many short-lived applications there is simply no need for the exacting standards of top-flight typesetting. Less facetiously perhaps, let me say that higher print resolutions are on the way. The Varityper AM VT600, promoted as a plain-paper typesetter, offers 600 dots per linear inch, i.e. 360,000 per square inch – a four-fold improvement on the current standard. In fact, as I understand it, resolution is currently mainly limited by the problem of making the plastic toner particles small enough, but still higher resolutions will be achieved, blurring completely the demarcation towards typesetting as we know it today.

translations in print

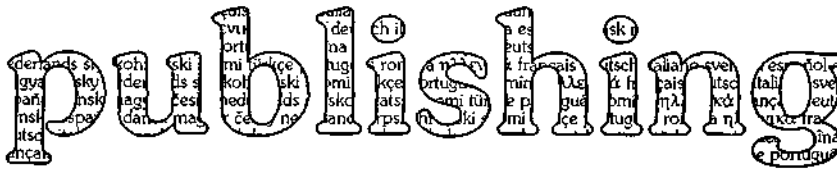


Figure 23. Example of DTP application

A real, practical limitation is processing speed and printing speed. Figure 23 took a hefty forty minutes of hard number-crunching by the high-speed processor chip resident in the printer before it was persuaded to part company with its product. Once out, though, you can have eight more pages of the same within the space of one minute.

Here, however, is another limitation – printing speed. When you create a document, every page is different. This means that the printer has to process each page separately, making a mockery of all those ‘ppm’ (pages-per-minute) values quoted for laser printers for the sort of applications you or we may have. In practice, you may well print no more than one page a minute, even less at times, depending on the complexity and graphic content of your page. This points to another limitation. You cannot really use such a PC-based system for volume printing jobs, nor could you even overcome the problem by leaving the printer to chug away at night because of the limited paper tray capacities (quite apart from the fact that, true to Murphy’s Law, the printer would probably run out of memory on the next page the very moment you have turned your back on it).

Duplex printing is another problem with most low-end laser printers. You are looking at something like £15,000 before you can overcome this limitation. Very much the same goes for paper size. Laser printers capable of handling A3 – and there are not many of those – are so expensive still that it might make more sense to consider typesetting equipment.

Furthermore, colour work is not really viable. Mostly, it is still a question of ‘You can have any colour so long as it’s black’. True, there are now colour toners available – if you can find them; they are like gold dust – in red, blue, green or sepia brown; even if you can afford them, you can only have one colour at a time. We run a colour transfer unit, which allows some degree of multi-coloured work on documents already printed in black, but the process is a little cumbersome. The Macintosh II works in colour, and some page make-up programs will allow you to create colour separations, but this is of interest more to users of reprographic equipment, which is a different story altogether.

All these limitations seem to be shortcomings of the hardware. This is not to say, by any means, that there are not annoying, time-wasting limitations in the software that is available, but these can generally only be assessed in use.

Finally, if you are operating at the leading edge of technology, there is, of course, always the vexing problem of 'Vapourware' – software that is just around the corner but ever so long in coming.

In the interaction between man and machine – machine in the widest sense of the word – it is not just the machinery that is subject to limitations; in desktop publishing, operator-related limitations can be the more serious! It is here that I feel I need to sound a warning. In theory, the new technology enables anyone so inclined to become a publisher. Notwithstanding the WIMPs and WYSIWYG concepts, DTP software, consisting, as it does, of a collection of different programs, is quite complex and time-consuming to master, however easy to learn it may seem at first WYSIWYG sight. But mere technical proficiency in the operation of a DTP system – and this may be hard enough to attain – is not enough. The best technical operator can produce sub-standard, if not downright monstrously hideous work – and, sadly, this in, in fact, happening quite a lot – if he or she does not have either a natural flair for, or professional training in, principles of aesthetic design, or if he or she does not have a sense of balance of text on a page or an eye for the eloquence of typography used well. Given a dazzling array of typefaces and a multitude of tempting tools, it is only too easy to try and use everything in sight on your electronic desktop – and produce some truly horrible work in the process. Generally speaking, design is most effective when it goes unnoticed – when it concentrates the reader's mind on communication and not on some elements in design. So Figure 24 shows some vital principles that any would-be desktop publisher should learn – because if you do, you may publish and be damned!

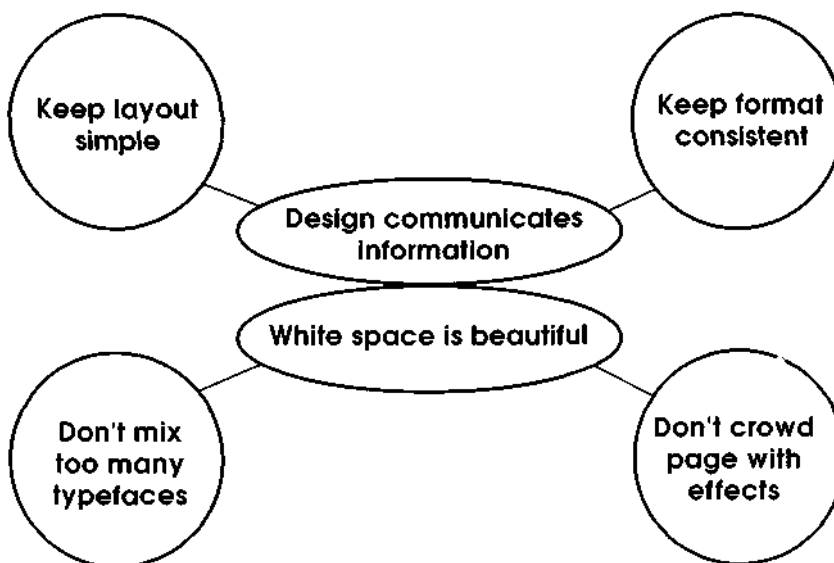


Figure 24. Principles of good design