
Typographers' Inn

Peter Flynn

To print or not to print

For over 500 years we have been surrounded by the idea that the final act of creating text is to print it. Then you can bind it, sell it, lend it, circulate it, or whatever you want, because you have ‘it’ in your hands: a book or pamphlet or leaflet, something tangible.

That idea led to the consolidation of conventions in European publishing and elsewhere, some of which was drawn from the manuscript era, about how documents work.

- The document is made up of rectangular pages, held together to form the book.
- The text starts at the beginning, in the appropriate corner, and progresses, symbol by symbol, until the end.
- Along the way it can be broken into divisions according to some conceptual or logical plan defined by the author, which can be used to guide or inform readers.
- There can be other waypoints or milestones to show readers where they are in the document, and to enable them to tell others how to find some item of interest.
- Once we moved from scrolls to pages, a human desire for order in chaos seems to have engendered some conceptions of how things conventionally look:
 - all the pages should be the same size;
 - they should all look roughly the same, or follow a limited set of patterns;
 - they should normally have the same number of lines per page; even when intruded upon by other material (mathematics, music, figures, tables) the positioning of the remaining lines should be consistent.

This is not just to make them easier to bind, but to make them easier to read, and because the people who printed and published the books eventually wanted their editions to be uniform between themselves, but still distinct from everyone else’s.

Take away the idea of printing, and you are left with the PDF or web page on your screen. It may even look like the printed page, but of course it’s just a bunch of colored dots. Yet we keep most of the features listed above because they’re useful to the readers [5]—or we hope they are.

There is a substantial body of opinion, some backed by research and some not, that you should *not* use PDF format for non-print use (e.g. web ‘pages’) because of the potential for severe usability problems compared with conventional HTML:

PDFs are meant for distributing documents that users will print. They’re optimized for paper sizes, not browser windows or modern device viewports. We often see users get lost in PDFs because the print-oriented view provides only a small glimpse of the content. Users can’t scan and scroll around in a PDF like on a web page. Content is split up across sheets of paper, which is fine for printed documents, but causes severe usability problems online. [7]

Normal practice is to publish in multiple formats anyway, with a growing recommendation for HTML5 with CSS3 Paged Media features [9]. However, the use of PDF is in many cases unavoidable for technical or small-p political reasons, in particular the accuracy obtainable with L^AT_EX which is often unavailable in browsers even with HTML5/CSS3, so we need to consider how we can overcome the legacy problems of print. In particular, whichever format you choose (or are required to use), it is essential to make the document accessible according to the prevailing guidelines in your field.

Page numbers. When the idea of the web and other forms of networked electronic publishing caught on, many academic journals and citation format authorities, accustomed to page number references, had serious concerns, because a web page isn’t a page at all—it’s essentially like an endless scroll, able to hold an entire book or even collection of books, with never a page number to be seen. EPUB books change page numbers every time you zoom in or out for a better fit or font. Citation formats that made page numbers compulsory even came under attack for being old-fashioned by some of those who were by now publishing electronically only. Some formats dug their heels in and insisted on page numbers even for pageless documents. That particular panic is largely past, and many journals now retrofit page numbers from the PDF back into the web version (relatively trivial with T_EX).

Margins. Printed books and journals are bound at the left or right edge, according to writing system, which means the inside margin needs to be more than the outside one, to allow for the curvature of the pages close to the spine when the book is open. Historically the margins were a subject of

great care and attention in book design, both in manuscript and print, exemplified by Tschichold's famous diagram (Figure 1). Most printed documents were traditionally set justified, much easier even in hand-set type than in manuscript, so the idea of the text occupying a rectangle of fixed dimensions on each page was an easy convention to continue.

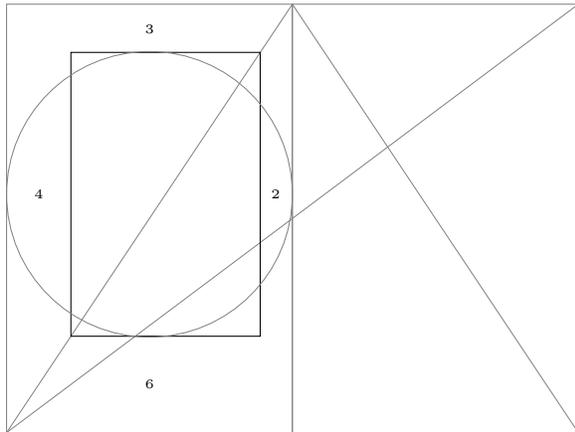


Figure 1: Sketch of page proportions (after Tschichold [8], quoted in Lewis [6]).

In a format designed for on-screen reading, the uneven but symmetrical margins are probably an unnecessary distraction unless you can expect readers to use facing-page software. Some publishers create separate print-ready and display-ready PDFs so that online readers don't see the odd and even margins intended for print.

Lines. While the number of lines per page can be controlled in a PDF, it is pointless and meaningless on the web, and makes an EPUB virtually unusable, as both those formats are designed to be resized by the reader. In any event, line alignment across a double-page spread is not meaningful in a browser or reader unless facing-page viewing is available. The problems of 'show-through', where the aligned or 'backed-up' lines of print on the next or previous page are visible through thin paper, are quite clearly a print-only concept.

Questions. So what should we be looking out for when formatting for non-print reading only? Perhaps the following can act as a starting-point:

- 'Page' shape (window or viewport shape may be a better term): portrait like an office document or landscape like a modern screen?
- Margins: if they no longer need to be asymmetrical, how big should they be?
- Line length: there's more space in landscape, but let's not use it at the expense of readability;

- Font size and leading: how can you use it to compensate for longer lines?
- 'Page' numbering: is it needed at all?
- Number of lines per page or screen or window: is it important?
- Consistency and similarity: do they need to be preserved if more than one document is being published in series?
- Document structure: some form of sectional division will probably continue to be needed; they will require a numbering scheme of some kind if there are no pages to number.

Paper isn't going away any time soon, but as we start to change our reading habits, it's worth starting to think about how that will affect our document classes.

Centering (again)

This has become a recurrent theme as people send me more examples of poor line-breaking in centred titles [2, 3]. In one article [4] I showed an early example (1549) which I reproduce again in Figure 2 where the word 'Contents' was broken 'CON' (in antiqua, large and red, between fleurons) and 'tents' (in blackletter, body text size).

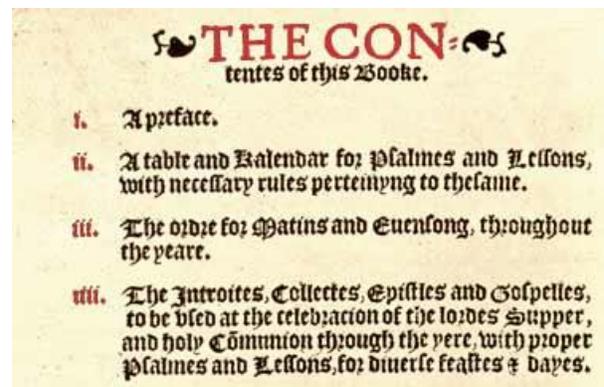


Figure 2: Unusual line-breaking in a heading (Book of Common Prayer, 1549, fragment, courtesy of The Society of Archbishop Justus); see [4] for the original context.

Recently I came across another early example, this time from 1573. It was posted on Twitter as a very low-resolution image on a bright violet background, and I am indebted to Paul W. Nash, Editor of the *Journal of the Printing Historical Society* for identifying it for me, and for providing much additional information (Figure 3). Richard Tottle (also Tottel and other spellings, as here) was a publisher in sixteenth century London, known for his *Miscellany*, the first collection of poetry in English.

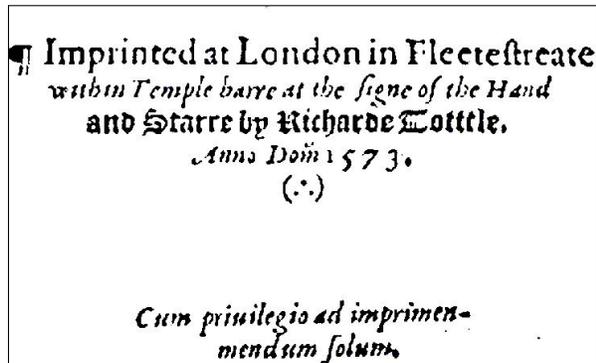


Figure 3: Colophon from Sir William Staunford’s *An exposition of the kinges prerogative, collected out of the great Abridgement of Justice Fitzherbert and other olde writers of the lawes of England* (1573) printed by Richard Tottle. Facsimile available at <https://books.google.co.uk/books?vid=OIQ8AAAAcAAJ>.

In this colophon, however, it’s not a word broken over a line but a phrase: the name of the location (Hand and Star). It is subject to a change of font, again from antiqua to blackletter, which to modern eyes appears strange. But it was a style at the time to alternate lines of different fonts, and Dr Nash is of the opinion that this was the prevailing factor in an arrangement like a colophon where it contributed to successive lines being shorter and shorter to obtain a triangular effect: the relation of the type to the meaning of the text was only considered very loosely if at all. The example is also curious for the extra ‘t’ in the printer’s name, and the accidental duplication of the syllable ‘men’ in the impressum at the bottom.

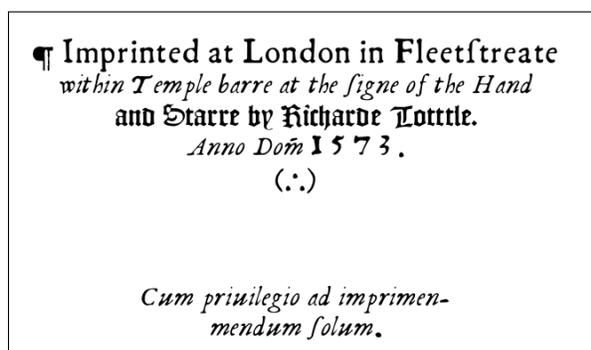


Figure 4: Typographically reconstructed colophon (draft, incomplete)

For a separate project I am using this as an example for typographic reconstruction using easily available modern fonts (Figure 4). In this case the antiqua is Ballard, from Proportional Lime, who specialise in modern cuttings of historical typefaces

(available from MyFonts.com). It is modeled on type used by Henrie Ballard, who ran a press just down the street from Tottle, the other side of Temple Bar, a few decades later. The blackletter is Missaali, a textura based on a much earlier typeface from the German printer Bartholomew Ghotan in the 1480s, and available from CTAN.

Despite the need to retain typographic unity within the line, it is interesting that neither compositors nor printers nor publishers (often the same in those days) felt it necessary for a name or a word to remain in the same font across a line-break. I did at one stage think that perhaps there was a feeling that the publisher’s name should be in a specific font, and that there could have been a technical reason behind this — font bodies were not of exact or even sizes between foundries, so a font of a given size from one foundry might not be the same depth as the same font of the same nominal size from another, and would require additional spacing material. But Dr Nash has identified other mixed lines elsewhere in the document which indicate that the smaller size of black letter and italic were indeed cast on the same size of body.

While we’re on the subject of mixing fonts, I was sent the sign in Figure 5. At first glance I thought it might be a UK placename like Ottery St Mary or Fornsett St Peter, but apparently it only refers to Osborne Street. Ultimately, if you simply don’t have access to the font any more, or it no longer exists in a usable form, your options for changing font in mid-line may be forced.



Figure 5: Garage sign in Colchester, UK

New device driver for old format

I was talking with Barbara Beeton a while ago about a project we are both involved in, and the topic of the durability of text came up. She was making the point that computer files have nowhere near the permanence of clay tablets, which, after all, only become more indestructible when subjected to fire [1].

Given that we can replicate a facsimile of a clay tablet using a 3D printer, and that numerous

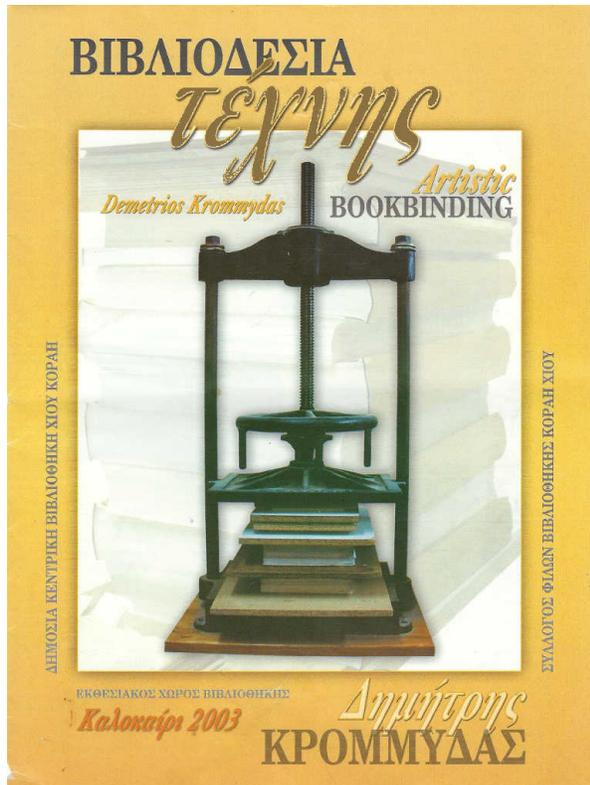


Figure 6: Catalog for *Artistic Bookbinding* (2003) [commemorative for Demetrios Krommydas of Chios (1942–2001)].

cuneiform fonts can be used with L^AT_EX, using the polyglossia package, it should surely be possible to create a dvi2tablet output driver (or an equivalent for a PDF file) so that students worried about the persistence of their dissertation would merely have to translate it into one of the supported languages (Akkadian, Eblaite, Elamite, Hattic, Hittite, Hurrian, Luwian, Sumerian, Urartian, or Old Persian) and output it to a 3D printer, bake the tablets, and store them in a convenient cave.

Afterthought: What’s in a name

Anyone who has read documentation about T_EX or L^AT_EX will probably have come across the description of how to pronounce the T_EX bit as ‘tecchh’ because Knuth based it on the Greek τέχνη, meaning ‘craft’ or ‘art’ (as in Knuth’s own *Art of Computer Programming*).

Olivia Fitzpatrick, formerly of UCC’s Boole Library, has shown me a copy of the commemorative catalog for the Greek bookbinder Demetrios Krommydas (Figure 6) which shows the word in a normal Greek context which serendipitously is a craft related to typesetting.

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References

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