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Typography is a grid

Grid structures are implicit in the word typography. After half a millennium it is time for an understanding and re-assessment

To mention both typographic, and, in the same breath / sentence, grids, is strictly tautologous. The word typography means to write / print using standard elements; to use standard elements implies some modular relationship between such elements; since such relationship is two-dimensional, it implies the determination of dimen- sions which are both horizontal and vertical.

Consider the problems which faced Gutenberg, some five hundred years ago, in helping 'the eternal God' to bring 'into existence the laudable art, by which men now print books, and multiply them so greatly ...'.[1] Item, the said Johann Gutenberg knew of the invention of paper (which had reached Cologne by 1320); item, knew of the development of suitable inks ... of the general features of the cloth- and wine- press, of the arts of the engravers, of the die- and punch-making of the goldsmiths (after all, he was a goldsmith himself).[2] What did Gutenberg invent?

In order that letters, characters, may be arranged in lines, line upon line, for printing, each letter must be of the same depth or body-size as its neighbours, irre- spective of its individual width: the vertical dimension (y in Cartesian co-ordinates) is critical. If, as seems historically probable, Gutenberg's invention was that of the adjustable type-mould, tolerant of characters of differing widths, intolerant of divergence in body-size [1: overleaf], this invention acted as a vertical grid upon the setting, the forme, the page.

But the length of line, the width of setting, provided another dimension. It seems that this horizontal dimension (x) of the grid was determined by convention, and embodied in the Procrustean bed of the composing stick – probably at that time,
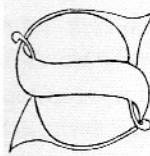
[1]
Chronicle of Cologne, 1499.

[2]
A.P. Usher, *A history of mechanical inventions*, Cambridge Mass: Harvard University Press, 1954. Chapter 10 deals with 'The invention of printing'; however, Chapter 4 on 'The emergence of novelty in thought and action' should not be missed.

Die unregelmäßigkeit dieses satzes wird durch die typen der buchstaben a und e verursacht; sie sind zwar größer als die anderen lettern, bei genauer messung aber doch nur um dreizehn tausendteile eines zolls. Dieser verschwindend kleine unterschied wiederholt und vergrößert sich mit jeder zeile, bis der zusammenhang der wörter und linien zum teil zerstört wird Wenn das größere a und e noch zu einem dutzend linien verwendet werden sollte, so wäre der leser gar nicht mer im stande den satz zu lesen.

[1]
Illegibility resulting from the mixture of types of differing body sizes (the 'a' and 'e' are 13 thou larger than the other letters). H. Meisner and J. Luther, *Die Erfindung der Buchdruckerkunst*, Bielefeld & Leipzig: Velhagen & Klasing, 1900.

[2]
Word and syllable abbreviations in Gutenberg's 36-line Bible.
Note that the hyphens override the measure.

[3]
Ptolemy, *Cosmographia*, Ulm, 1482.
Note the comparatively small size of the numerator in fractions; compare Stock Exchange fractions in financial columns for one of the alternative solutions.

[4]
Stéphane Mallarmé , 'Un coup de dés', *Cosmopolis*, May 1897.
Consider also the problems necessarily raised by poets in a socio-religious sense, discussed by Stefan Themerson, *Cardinal Pölätüo* (London: Gaberbocchus Press, 1961); note also the problems of relating the manuscript to typographical constraints, discussed by the same author in a most creative article 'Idéogrammes lyriques' (*Typographica*, no. 14, 1966, pp. 2–24).

as more lately in the case of 13-pica fixed newspaper sticks, an unadjustable hod into which the standard bricks of characters could be successively piled.

Of course, the fixing of a horizontal dimension or 'measure' demands conventions of variable spacing between words,* or of abbreviation of the words themselves [2], if all the characters align at left, where the line begins, and are to end as lead-soldiers dressed by the right. The multifarious grids used by the scribes were directly translated into the techniques of metal setting. The scribes had long explored the two-dimensional axes, long before Gutenberg, long before Descartes described them as constraints.

This account restricts itself to those who used the Latin alphabet, who read from left to right; but only so far as concerns continuous narrative text. Quite early on, even in the days of incunabula, not only letters but other characters, for example numerals, needed setting – and in the attempt of mathematical conventions to show the sequence of a proof, equalities and tabulations were aligned, each below its antecedent step: centring a new implicit axis on the page [3].

So during centuries: for the first ninety years of typographic printing saw the exploration and development of justified and unjustified setting, of italic, of new letters (J and U surviving; some, like the omega, left at last), of punctuation marks. After 1530, though, interest shifted toward experiment in letter design and, later, mechanical improvement.

All later work, until the demands of writers such as Blake or Mallarmé disrupted the conventions, considered the typographic grid unalterable [4]. And even with the poets, their understanding of typography was such that they hardly considered the presentation of their personal desires a challenge to the grid.

And here's a sadness. Typography, as taught in schools of art, and captioned in the illustrated books, is mostly but a word delimiting a field of art- / craft-history; books of types, of typographic ornaments and rules, of title-pages (fewer books of double-page spreads), sit on their shelves or presses. Typography (sic) has become the study of placing letters on a field: typography, a more precise form of lettering. And lettering, calligraphy, has died some sweet Roman death or letraset itself below the ground.

It is time, after half a millennium, for the re-assessment of typography.

In architecture, stones, mud, plants humbled together, were governed; labour was delegated, craftsmen worked their feeling for materials on that material, builders organized, architects, later, chiefed constructions. After the decline of architecture, all major work nowadays is done by those who dreamed of white cathedrals or had an intimate experience or interest in their material, old or new.

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At this point AF refers to one of the 'visual tables' from *Typographic norms* (see pp. 71–4 above), part of which he had reproduced on the cover of that issue of *The Designer*. His caption ran: 'Cover: thin, mid, thick, en and em spaces for 5, 6, 7, 8, 9, 10, 12, 14, 18, 24, 30, 36, 42, 48 and 60 point anglo-american. The spaces printed in grey are interchangeable with 2-, 3- and 4-pica quadrats.'