

Random or

Reasoned: Design and the

journal article

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The scholarly journal

- As of December 2014, *Ulrich's Periodicals Directory* reports:

65,892

active, peer-reviewed, scholarly journals [1]

[1] <https://ulrichsweb-serialssolutions-com.ezproxy.library.yorku.ca/>

The scholarly article

- The scholarly journal has a distinctive, recognizable appearance.
- Layout of the digital article is largely “predigital” (Hall, 59)
 - Evokes issues of legitimacy and authority (Hall, 59)
 - Evokes hierarchy and standards of peer review (Hall, 59)

Current landscape

- Article design, typography, and layout recommendations absent from recently published guides to journal publishing.
 - *Handbook of Journal Publishing* (Morris, 2013)
 - *Guide to Developing Open Access Journals* (Soloman, 2008)

Research questions

- Are current scholarly article layouts reflecting best practices as outlined in the research and technical literature?
- Does article layout differ by discipline?
- To what extent is the current PDF pre-digital?

Methodology

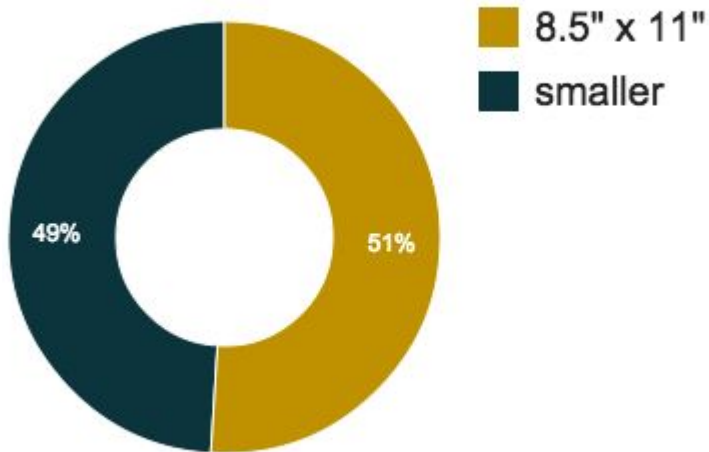
- Content analysis, limited to PDF only
- Selected 80 research articles across 5 disciplines
- Articles selected from most recent issues
- Larger, smaller, university, independent, and open access publishers represented in sample
- Viewed on a screen, not in print

Page size (Xerox Corporation, 4-15)

- 5.5" x 8.5"
 - promotes ease of handling
 - 56%-75% increase in page count
- 8.5" x 11"
 - accommodates longer text
 - accommodates multiple illustrations

Results: page size

Distribution for entire sample:



Smaller size uptake across disciplines:

- History - 88%
- Design - 69%
- Communication - 63%
- Physics - 17%
- Biology - 13%

Whitespace

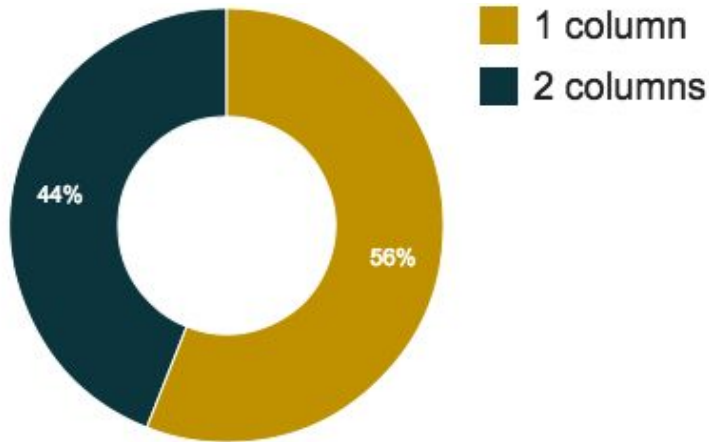
- Xerox Corporation recommends generous whitespace (4-5)
 - popping out of headings
 - accommodates wider graphics
 - for translation (30% more space needed for German)
- Scholar's margin (White, 37)
 - ample space for note taking

Layout (Xerox Corporation, 4-15)

- One column is recommended
 - one wider reading column with a narrower empty column
 - “lends itself to the fastest possible scanning by the reader”
 - “adds a special character to the document”

Results: use of columns

Distribution for entire sample:



One column uptake by discipline:

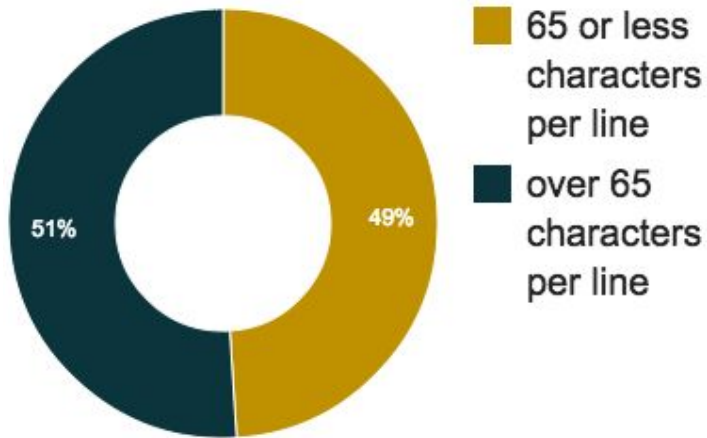
- History - 100%
- Design - 62%
- Communication - 94%
- Physics - 17%
- Biology - 13%

Line length

- “Should not exceed 2.5 times the length of the lowercase alphabet” (Xerox, 4-31)
- “Well set text has 50-60 characters per line, including spaces and punctuation” (White, 194)
- 45-90 characters per line (Butterick, 2010)

Results: line length

Distribution for entire sample:



Line length is 65 characters or less:

- History - 12%
- Design - 54%
- Communication - 13%
- Physics - 78%
- Biology - 88%

Line spacing

- Single space for primary leading (Xerox, 4-32)
- 1.5 spaces between paragraphs (Xerox, 4-32)
- 120-145% of the point size for primary leading (Butterick, 2010)
- Never indent first paragraph of text after a heading; it spoils the left clean corner and is redundant (White, 193)

Results: line spacing

Indents (entire sample):

- Paragraph indents - 90%
- Indent after heading - 65%

Leading (entire sample):

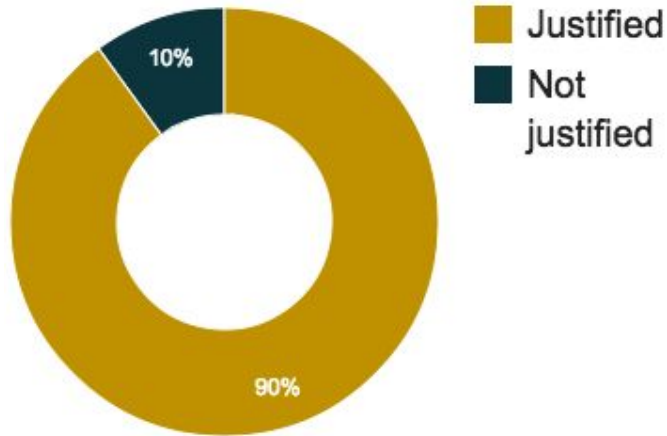
- Added leading between paragraphs - 19%
- Added leading before headings - 83%
- Added leading after headings - 36%

Justification

- Xerox recommends justification (4-32)
 - Word spacing should be invisible and should hold integrity of the line (White, 195)
 - Requires a minimum of 5 word spaces per line to absorb leftover space (White, 195)
 - Turn hyphenation on (White, 195)
- For reading, no significant difference between justified and unjustified text (Hartley, 4)

Results: justification

Distribution for entire sample:



Justification by discipline:

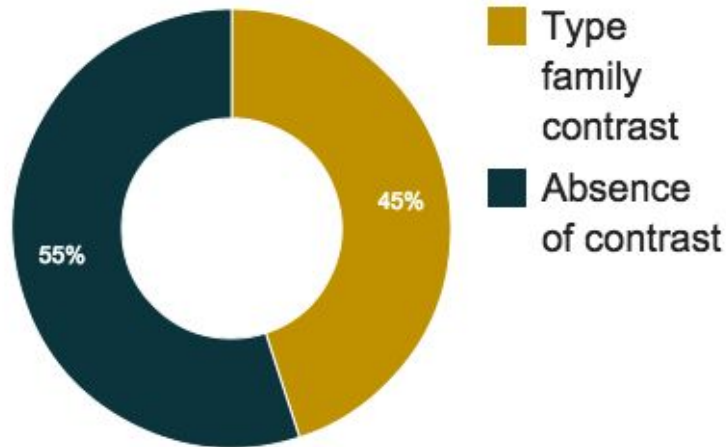
- History - 76%
- Design - 85%
- Communication - 88%
- Physics - 100%
- Biology - 100%

Font choice

- “Writing can and should be considered graphic speaking” (White, 149)
- Invest in professional fonts (Butterick, 2010)
- Type family contrast recommended, i.e. serif with sans-serif (Williams, 75)
- Do not combine fonts from the same type family, i.e. sans with sans (Williams 75)

Results: type contrast

Distribution for entire sample:



Contrast by discipline:

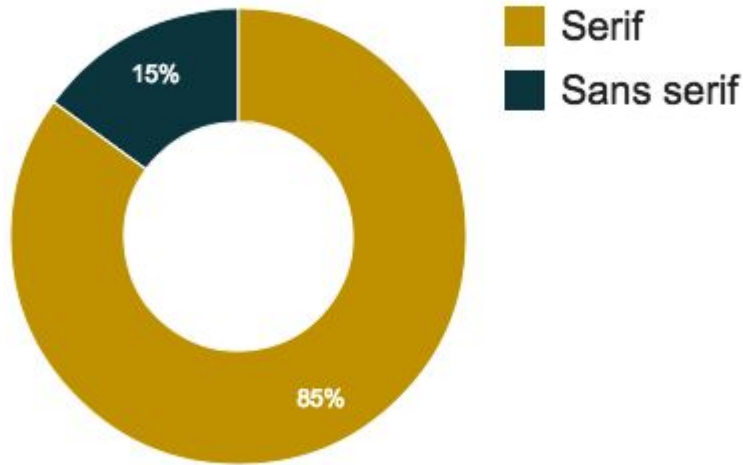
- History - 24%
- Design - 46%
- Communication - 63%
- Physics - 56%
- Biology - 38%

Type family

- Serifs are easier to read for body text, sans serif ideal for headings and titles (White, 195)
- No conclusive proof that serifs are easier to read (Hartley, 8)
- Add extra line spacing when using sans serif in body text (White, 195)

Results: type families

Use of serif in body text:



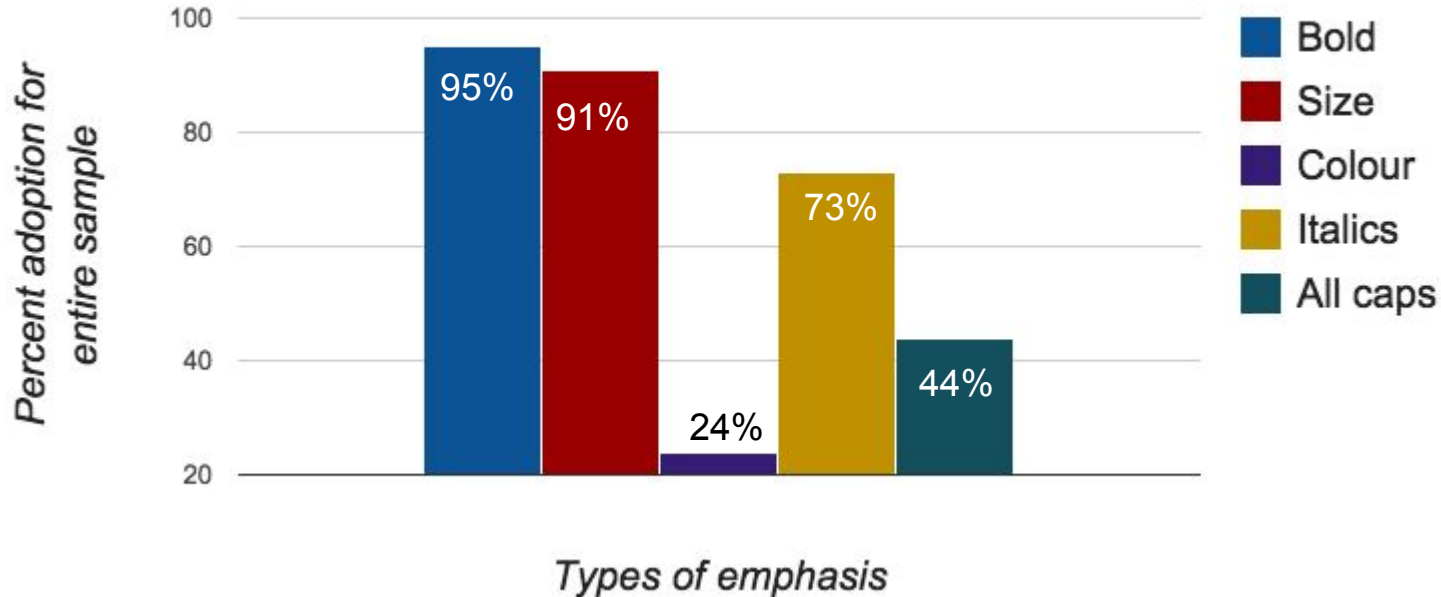
Use of serif in body text by discipline:

- History - 100%
- Design - 54%
- Communication - 75%
- Physics - 100%
- Biology - 88%

Point size and emphasis

- A span of 10-12 points is recommended for body text (White, Butterick, Xerox)
- Limit all caps to one line (Butterick, Xerox)
- Be sparing with italics, they are harder to read (White, Hartley and Sydes)
- Refrain from underlining (Butterick, 2010)

Results: emphasis



Conclusion: best practices

Partial adoption:

- smaller page size (49%)
- single column (56%)
- 65 or less characters per line (49%)
- type family contrast (45%)

High adoption:

- justification (90%)
- serif for body text (85%)

Low adoption:

- added leading between paragraphs (19%)

Conclusion: uptake by discipline

- There is marked difference between for particular categories, such as page size, characters per line and single column usage
- Overall adoption level is similar

Discipline	% Smaller page size	% Single column	% 65 characters or less	% Justification	% Type family contrast	% Serif	% Overall adoption
History	88	100	12	76	24	100	67
Design	69	62	54	85	46	54	62
Communication	63	94	13	88	63	75	66
Physics	17	17	78	100	56	100	61
Biology	13	13	88	100	38	88	57

Conclusion: pre-digital PDFs

- 81% of the sample showed a deliberate switch between verso and recto orientation of a page
 - alignment of text
 - difference in headers for verso and recto orientations
- Use of two column layouts (44%) and larger page sizes (51%) to cram as much text onto a page as possible
- Lack of colour use for emphasis (24%)

Further research

- User study
 - Preferred layouts by discipline for different modes of reading (skimming, searching for info, in-depth reading)
 - Capture aesthetic preference
- Compare design recommendations to best practices for text accessibility
- Examine best practices for online display on a variety of platforms

References

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- Dyson, M. C. (2004). How physical text layout affects reading from screen. *Behaviour & Information Technology*, 23(6) 377-393. doi: 10.1080/01449290410001715714
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