To Attract or to Inform: What Are Titles For?

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This paper critiques some titles in journal articles for being misleading and it argues that titles need to be informative. Examples are given of work on measuring the effectiveness of titles in two areas—sentence structure and reader comprehension — and the paper concludes with brief comments on the effectiveness of book titles.

Panel 1 below lists some of the titles of journal articles that I have come across recently. Readers are invited to consider what these articles are about. As a hint, I also list the journals in which these titles appeared. (Answers are provided at the end of the article.)

In my view the titles of journal articles should be informative. Many colleagues say much the same [e.g., 1,2,3,4,5]. The temptation to ‘sex up’ titles, to be witty and clever, may be fun for the cognoscenti but such procedures are of no help to those not ‘in the know’ [despite some protestations, e.g., 6].

Panel 1
1. More sex please, we’re psychologists. (The Psychologist)
3. Outside the whale. (Information Design Journal)
4. How do you know you’ve alternated? (Social Studies of Science)
5. Scented memories of the literature. (Memory)
6. Leading with the heart. (Northwest Education magazine)
7. When a bottom up innovation meets itself as a top-down policy: The AVID untracking program. (Science Communication)
9. James Bond and citations to his books. (Scientometrics)

This article was inspired by the title given to an article of mine, ‘Are sex please, we’re psychologists,’ by The Psychologist™. The original title was, ‘Were there any sex differences? Missing data in psychology journals.’ Despite my view that the original title was more informative, The Psychologist went ahead with their version on the grounds that it would attract more readers. However, I shudder to think of what any computer-based search and retrieval systems will do with this and, indeed, of any of the titles listed in Panel 1.

This distinction, between titles that attract and titles that inform, is important. In the context of a specific journal’s contents pages, the titles shown in Panel 1 might attract their readers. Some are witty, and or memorable. Few can be taken literally. But in the context of information retrieval, they are unlikely to succeed (without key words or an abstract). So here is a paradox. If you want your research to be widely available and beyond the narrow readership of a particular journal) then it might be better to emphasise what your article is about.

Most style guides on scientific writing have useful sections on writing titles [e.g., see 2,3,4] but, in point of fact, there is very little research on titles and their effects. What research there is can be grouped (for convenience) into two rather different areas: the first concerns the effects of their sentence structure, and the second their influence on the readers’ comprehension of the subsequent text. There is virtually no research on the typographic settings of titles [but see 8].

1 Sentence Structure and Titles

Titles come in many different forms—statements, questions, puns, quotations, etc. And, although there has been some work on the effects of sub-headings writ-
ten in different kinds of structure[10] I know of no such work with titles.

One area that has received some attention, however, is on the use of colons. In 1981 Dillon[12] reported that a colon was used in the titles in 72% of the published articles in the then current issues of 10 journals in psychology, education and literary criticism. This figure was compared with that of around 20% found in unpublished works and published non-research titles. Dillon concluded that ‘titular colonicity’ was a predominant characteristic of scholarly publication. Tiles with colons contained on average just over 17 words compared with titles without them (less than 9).

In 1982 Dillon[13] followed up this original paper by noting that, in the subsequent issue of the journal in which his article had first appeared (1) 60% of the titles of articles contained colons; (2) these colonic titles were grouped apart from the noncolonic ones; and (3) they were given first place in the contents’ list. (These dramatic observations lose their force somewhat when inspection reveals that there are only 5 articles in this particular issue.)

Townsend[14] and Perry[15] checked out Dillon’s observations. Townsend found (in New Zealand) that the percentages of titles with colons in education and psychology journals increased from 22% in 1972 to 34% in 1981, but that the citation rates for papers with and without colons did not differ significantly. Perry also found an increase in the percentages of titles with colons in ecology journals from 1920 to 1982 and, in this case, that the more research-oriented journals in this field had more titles containing colons (24% vs 3%) for the period 1978—1982.

Ten years later Diers and Downs[16] and Michelson[17] reported more studies. Diers and Downs found that the percentage of colons in nursing journals increased from about 20% in the 1960s to about 30% in the 1980s. Michelson tested whether nor not high status journals published in the 1980s in the field of Industrial Relations contained more titles with colons than did low status ones. Contrary to Dillon’s findings, Michelson found that the lower the status of the journal, the more that colonic titles were used. However, Michelson confounded status with age, since in this study a journal’s status was determined by the number of years that it had existed.

Table 1 shows some more recent data of my own in this respect. Here I have tabulated the proportion of title formats used in 54 journals covering two different areas of psychology (in 2002). It can be seen that the proportions for the two areas are very similar and that colonic titles occur in almost 50% of the articles.

| Table 1 The proportions of title formats in journal articles in three different areas of psychology in 2002 |
|----------------------------------|------------------|------------------|------------------|
| Format                        | Articles in 31 developmental journals | Articles in 23 applied journals | Articles in both sets of journals (N=54) |
| Simple sentence               | N   | %   | N   | %   | N   | %   |
| Short: long*                  | 132 | 46  | 166 | 48  | 298 | 47  |
| Long: short*                  | 59  | 20  | 73  | 21  | 132 | 21  |
| Balanced*                     | 52  | 18  | 46  | 13  | 98  | 15  |
| Question                      | 33  | 11  | 39  | 11  | 72  | 11  |

More recent studies have also reported disciplinary differences in the proportion of colonic or hanging titles. Fontanet, Coll, Palmer and Posteguillo[18], for example, found colonic titles in 12% of the articles in 8 computer-science journals and in 33% in articles in business and economics and applied linguistics. Anthony[19] also found colonic titles in about 13% of 6 computer science journals (with a range of 7%—20%). Lewis[20] found a shift in the proportion of colonic titles in medical journals from 15% to 38% as one moves from basic research to more applied journals. And in my own researches I have found colonic titles in about 50% of articles in the American Historical Review.

Table 1 also shows that some 5% of these recent psychology journal articles have titles in the form of a question (as does this paper). Hyland[21] examined a corpus of 120 research articles, 56 textbook chapters and 64 student projects. He suggests that titles in the form of questions can gain the reader’s attention at the outset, ‘with an arresting directness’ (p.539). However, Hyland only found titles written in the form of questions in the ‘soft’ as opposed to the ‘hard’ disciplines. Again this appears to be a matter of disciplinary differences. Day[22], for example, recommends that titles in the form of questions should not be used (as well as being dismissive of colonic titles) presumably because he is
writing in the context of ‘hard’ science. Anthony [18] found only two titles written in the form of questions in his sample of 600 articles in computer science.

Finally in this section we might note that the titles of articles in scientific journals seem to have been getting longer—and thus more informative. Berkenkotter and Huckin[22] noted this for the period 1944—1989. Whisell[23,24] reported that the average length of titles in psychology journals had increased from 9.0 words in during 1955—1959 to 10.7 words in 1995, and that they contained more colons and fewer extremely common words. Lewison[25] found, for UK cancer papers, that the average length of the titles increased from 11.5 words in 1981 to 12.6 words in 1991, and to 14.1 words in 2001. Lewison[25] also reported that the numbers of long words (with 6 or more characters) in titles in medical journals also increased slightly from 1985 to 1987. Interestingly enough Yitzhaki[26] found a small correlation between the length of the title of a paper and the number of authors involved (and that this was more prevalent in science papers). He also reported a slight correlation between the length of the title of a paper and the length of the articles in science journals[28].

2 Comprehension and Recall

There have been a number of studies on the effects of titles on comprehension and recall but few that I know of where the titles in question have been those of journal articles. Comprehension and recall have been discussed more in the wider context of research on reading. Here some studies[e.g., 27] have used titles to clarify the meaning of ambiguous passages, and others have used passages from childrens stories, factual accounts, or narratives to study their effects[e.g., 9, 28].

Niegeman[29] summarised the results of eight such enquiries and included three more of his own to investigate whether or not titles influenced the subsequent recall of instructional text. In Niegemann’s studies college and university students received copies of texts from a correspondence course in History or a science periodical with or without titles. The students receiving the texts with titles were further divided into two groups that received separate titles—each emphasising different aspects of the text. The participants were then asked to recall the information provided. The results showed no significant differences between the mean overall scores but that recall was differentially affected by the titles that the students had been given. Table 2 shows schematically what this kind of result looks like. [Similar results have been obtained in studies of headings in the text, e.g., see 10.]

Ainley, Hidi and Berndorf[30] show how these sorts of findings can be made relevant to writing titles for journal articles. These authors studied the choices of 14 year-old students for 4 expository texts that varied in their interest for these readers, and where the titles given to these texts reflected these concerns. Specific topic interest (e.g. body image) and general concerns (e.g., personal health) determined the sequence of the students’ choices.

<table>
<thead>
<tr>
<th>Title</th>
<th>Recall of material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>No title</td>
<td>25%</td>
</tr>
<tr>
<td>Title A</td>
<td>35%</td>
</tr>
<tr>
<td>Title B</td>
<td>15%</td>
</tr>
</tbody>
</table>

It is possible that appealing to specific interests and general concerns—helped perhaps by the use of a colon—might lead to more effective titles for journal articles. However, a word of caution might be in order here for those writers who choose a colonic title. This concerns the need to think carefully about which phrase to use first. Some journal contents pages (and publishers’ catalogues) do not always include the full title, and thus initially it is only the first part that gets the readers’ attention. Consider what the title ‘From field to fantasy’ (in Social Studies of Science) might be about without knowing that it should be completed by ‘Classifying nature, constructing Europe’.

And, as noted earlier, the choice of words for the title is important with respect to computer based search and retrieval systems. Lewison and Paraje[31], for instance, were able to use the authors’ choice of particular words in their titles to discriminate between clinical and research journals in the bio-medical sciences.

3 Book Titles

Some words or phrases in the titles of articles convey certain expectations. We know what to expect from ‘a review’ or ‘an empirical investigation’. Similarly, with book titles, we know that ‘a handbook’ is likely to
contain a detailed and scholarly coverage of the topic in question, with many contributors. And we expect 'a guide to' a particular topic to provide us with simpler ways to approaching complex problems, and to be written in a reassuring tone. A set of 'Readings' might be a bit more difficult. But these are few of the possibilities available.

Table 3 shows the results that I found when I examined the titles of over 300 books on my office shelves (mainly in the field of educational psychology). It is clear that the most common format is to use a brief title and a longer subtitle (52%) or just a brief title (46%). However, full sentences for the title and the subtitle are much more common than are sentences split by colons, and most single sentence titles contain only three or four words. Titles are normally printed in larger type (both on the cover and the spine) and subtitles in smaller print, but subtitles do not always appear on the spine.

<table>
<thead>
<tr>
<th>Format</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence + sub-tit</td>
<td>172</td>
<td>52</td>
</tr>
<tr>
<td>Simple sentence</td>
<td>140</td>
<td>42</td>
</tr>
<tr>
<td>Balanced *</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Short: long *</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Long: short *</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Balanced + subtitle</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Short: long + subtitle</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

* These are different formats for colonic titles. Short: long, for instance has a short opening statement, and a longer qualification, whereas long: short has a long opening statement and a short qualification.

Whatever the format, book titles are remarkable for conveying a good deal of information in very few words. An anecdote from Alastair Cooke is apposite here. He recalled (in one of his radio broadcasts) persuading Bing Crosby to write an autobiography. Bing eventually came up with the title, My Friends Call Me Bing. Cooke's judgement was that this title had four words too many.

Curiously enough, I have not been able to find many misleading or meaningless titles among the books on my shelves, although I do recall finding Christopher Isherwood's novel Mr. Norris Changes Trains once displayed in the 'Railways' section of a bookstore. With academic texts ambiguous titles are usually clarified by the subtitle. Thus Lessons to Learn, for example, is explicated by the subtitle, Voices from the Frontlines of Teaching for America, and similarly, The Tangled Wing by Biological Constraints on the Human Spirit. Panel 2, however, does give some examples of titles that are uninformative outside their particular context (or in a publisher's list, for example).

Thus we come full circle. The titles shown in Panels 1 and 2 might attract readers, but they might cause difficulty for information retrieval systems. If we want titles to be successful then they should both attract and inform, perhaps with the help of colons.

Panel 2
1. Stop stealing sheep (Adopt how type works) (Adobe Press, 2002)
2. Picture My World (Trencham Books, 1995)
4. A Leg to Stand On (Pan Books, 1986)
5. Diary of a Deputy (Routledge/Falmer, 2003)
6. Reorganizing Primary Classroom Learning (Open University Press, 2002)

References


Appendix:
Answers for Panel 1.
1. This paper is about the lack of data in many psychology journal articles on the sex distribution of the participants involved.
2. October Brown turns out to be the name of a teacher in a segregated African American elementary school.
3. 'Outside the whale' refers to the fact that the author is describing a typographic design course that was run for over 20 years independently of, and not swallowed by, the requirements of Fine Art Schools in the UK.
4. This paper is about the problems sociologists have when alternating between presenting an accurate description of the groups they study and then presenting their interpretation to readers.
5. Something Proustian here. The authors report on an experimental study of the effects of reading two passages involving positive subject matter and two involving negative subject matter whilst sniffing pleasant or unpleasant odours.
6. This article describes a charismatic teacher of reading who places books at the heart of the classroom.
7. Readers need to know that AVID stands for Advancement Via Individual Determination.
8. A personal view on the problems of managing and juggling the digital information flow.
9. This paper is about James Bond the ornithologist.

Answers for Panel 2.
1. The authors quote this anecdote to explain their title: In 1936, Frederic Goudy was in New York City to receive an
award for excellence in type design. Upon accepting a certificate, he took one look at it and declared that "Anyone who would letterspace black letter would steal sheep." This was an uncomfortable moment for the man sitting in the audience who had hand lettered the award certificate. Mr Goudy later apologized profusely, claiming that he said that about everything. (Black letter is a specialist gothic-like typeface.)

2. This is a book for teachers interested in developing photographic skills with children.

3. An EMAG is apparently an Ethnic Minority Achievement Grant.

4. This is a moving and wide-ranging account of the experience of losing the sensation from one 's leg.

5. A deputy head of a UK school in this case.

6. What is being re-organized here are the desks and the seating plans for the classroom.

7. Even with its sub-title ('long-term Consequences of Considering Race in College and University Admissions') it is not immediately clear (especially to non-Americans) what the title means. The preface explains that the image of Mark Twain 's 1200 mile Mississippi River-with its rapids, rocks, eddies, sandbars and slow channels-is central to the book which is concerned with the flow of black talent through the USA 's system of higher education and on into the market place and the larger society.

(continued from page 58)

The selective area CL spectrum of a single ZnO nano-tetrapod is characterized by a stronger ultraviolet (UV) emission without broad defect-related emission band in its lower energy side, as show in Fig.4. Detailed examination showed that the emission energy in the core is several meV lower than that in the legs. This result can be attributable to the larger exciton binding energy due to the stronger Coulomb interaction in the smaller size of the core.

4 Conclusions

The ZnO nano-tetrapod properties between the core and leg are different. This suggests that there is heterostructure between the core and leg in the nano-tetrapod formed by the wurtzite structure legs and zinc-blende structure core.

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References