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On the Informativeness of Titles

The frequency of non-informative titles of journal articles was assessed for two fields: library and information science and sociology. The percentage of non-informative titles was 21% in the former and 15% in the latter. In both fields, the non-informative titles, were concentrated in only a few journals. The non-informative titles in library science were derived mainly from non-research oriented journals. In sociology the reasons for non-informative titles may be more complex; some of these journals are highly cited. For the improvement of retrieval efficiency the adoption of a policy encouraging informative titles (as in journals of chemistry) is recommended. (Author)

1. Introduction

The title of a journal article is one of its most important information access points. Indexing devices such as KWIC, KWOC, and many others rely on the information contained in the title; the whole subject approach to the different Citation Indexes produced by the Institute for Scientific Information is based on titles. Indeed, it is the practice of indexers to use title information as a key element in indexing in general (1). An essential current awareness service, such as *Current Contents*, is based on the reproduction of tables of contents,that is, on lists of paper titles. Finally, in computerized searches the title has become an element of crucial importance.

The topic is not new. In the late fifties and early sixties, when automatic indexing came into existence, many studies were devoted to this subject. Among the pioneers were: Luhn (2), Montgomery and Swanson (3), Brandenberg (4), Herner (5), Kennedy (6), and many others. For the 26th Annual Meeting of the American Documentation Institute held in Chicago in October 1963 very specific instructions were given to the authors of the presented papers: "The title must be composed with care and must contain at least six significant words." Many papers included in the three volume proceedings of the conference reflect the interest of the early sixties in this problem. However, twenty one years later find us still facing the issue of the role of titles in information retrieval.

In spite of the importance of title information, little was done in recent years to investigate it. Buxton and Meadows (7) have shown that the information contents of titles varies according to the scientific discipline, from high values for chemistry and botany to low values for philosophy. Diodato (8) extended this study to an analysis of first and last paragraphs of the papers' texts. In attempt to test the effectiveness of retrieval using title word searches only, Hodges (9) has shown that fewer than 50% of relevant articles were retrieved by keywords in titles. (Surprisingly, the best retrieval rate was found for the social sciences.) Garfield (10) discusses the low informativeness of titles in the humanities and the problems involved in the creation of Arts and Humanities Citation Index.

Generally speaking, journals tend to provide little guidance for prospective authors regarding the formulation of titles. In a brief preliminary survey of leading journals in chemistry, biology, economics, sociology and library and information science it was found that only chemistry was an exception to this rule. None of the fifteen journals in economics or the fifteen journals in sociology, and only two out of twenty journals in biology give any instructions regarding titles; on the other hand, seven out of the fifteen chemistry journals provide specific guidelines on titles. (Interestingly, the only information science journal giving such guidelines was the *Journal of Chemical Information and Computer Science*). In chemistry, title guidelines tend to be content-related ("a brief, accurate description of content") and oriented toward information retrieval ("of great importance for current awareness and information retrieval"). On the whole, however, the title appears to be less important than other aspects of the guidelines for authors, such as statements of purpose and method, reference styles, etc.

2. Objectives

The information input provided by the title of a journal article may vary according to its discipline; nevertheless, there is a fairly clear and unequivocal dichotomy between article titles which tell you what the paper is "about" and those which do not.

The objective of the present paper is to study the frequency of non-informative titles — that is of titles which fail to provide the reader with any useful clues regarding its subject area — in two fields: sociology and library and information science.

3. Methods

The populations selected for this study came from two different fields: library and information science and sociology. The data was collected from two abstracting services serving the information needs of those two fields: *Library and Information Science Abstracts* and *Sociological Abstracts*. The years of publication for these two services were:

Library and Information Science Abstracts, the issue of November 1983.
Sociological Abstracts, the issue of October 1983.

For the latter, because of its interdisciplinary coverage and vastness of the material included (1673 abstracts in one issue), a selection was made: seven sections, pertinent to sociology proper, were selected (662 papers). The sections were as follows:

Sociology; history and theory
Culture and social structure
Complex organization
Social differentiation
Sociology of religion
Sociology of science and technology
The family and socialization

In both *Library and Information Science Abstracts* and *Sociological Abstracts* only papers in English, published

in an English language journal, were selected. (The faithful translation of foreign titles, with their variations in terminology could be the subject of a separate study.)

Excluded from the population were:

Books and monographs
Collected works
Reports
Conference proceedings
Pamphlets
Letters
News
Dissertations and theses

Duplicate listings were counted only once.

The titles were classified into two distinctive categories; informative and non-informative

Acronyms in title were considered informative, as well as proper and geographical names.

A title was considered informative if it conveyed at least some general idea of the paper's content, without recourse to other sources of information such as the abstract, the journal title, or the paper itself. In other words, the paper was considered informative if, upon reading the title, one felt that one knew what it was "about".

The non-informative titles were all submitted to a reliability test, having them scrutinized independently by another person.

For the informative titles a reliability test was conducted only on 93 (10%) of the population. In all but six titles there was agreement between the two readers. Disagreements were readily resolved by discussion.

For non-informative titles the names of the journals were also recorded.

The total number of papers submitted to analysis (after exclusions) were:

Library and Information Science Abstracts: 472
Sociological Abstracts: 461

4. Results

The following results were obtained by analyzing the two abstracting services:

1. The *Library and Information Science Abstracts* November issue of 1983 produced a total of 813 titles. After excluding the categories described in the methodology section, a total of 472 papers were obtained. The results were as follows:

Informative titles	372	79%
Non-Informative titles	100	21%
Total	472	100%

The 8 journals which produced 58 non-informative titles were identified in an earlier bibliometric study of core journals in the field of library and information science as belonging to "zone III" which included journals which produced 20% or less of research papers in the field (11).

Also, only one of the 8 journals was listed in the *Social Sciences Citation Index.*

The group of the journals which produced most non-informative titles belongs to magazines and bulletins, featuring news items and general information as well as journals of local professional organizations.

The 100 (21%) non-informative titles were so general that almost no clue to their subject matter could be derived from them. Only by looking at the name of the journal some connection between the title and the paper's content could be inferred.

2. The *Sociological Abstracts* October issue of 1983. The seven sections selected for analysis produced a total of 622 titles. After exclusions, a total of 461 papers were obtained. The results were as follows.

Informative titles	392	85%
Non-Informative titles	69	15%
Total	461	100%

Looking at each section separately, the distribution was as shown below.

The 69 non-informative titles are provided by 34 journals, and, again, 34 non-informative titles come from 4 journals only. The sections with the highest proportions of non-informative titles are: history and theory of sociology (26%) and the sociology of science and technology (25%).

It is interesting to see that in sociology certain types of journals have a high concentration of non-informative titles: the journal with the largest number of non-informative titles (twelve) is a much-cited magazine devoted to the social sciences. At least two of the other journals are highly cited; their relatively high share of non-informative titles may be due to chance, to editorial policy, or to some other unidentified factor.

5. Discussion

The percentage of non-informative titles found in this survey may seem somewhat high. These percentages must, however, be viewed in their proper context. The non-informative titles in library and information science, for instance, are essentially not in research-oriented journals; it is therefore natural to expect that editors should prefer the catchy caption to titles that are richer in content. From the point of view of information retrieval possibly not much relevant subject matter will be lost, merely because of non-informative titles.

The situation in sociology is somewhat different. By and large, the titles of sociological articles tend to be long, often have sub-titles, and are in general highly informative, making them good candidates for retrieval by keywords in title. Often the method of investigation is also stated in the title. This is in agreement with the findings of Hodges (9) that, across fields, the social sciences have the best retrieval rates. The non-infor-

Section	Total	%	Informative	%	Non-Informative	%
Sociology; history and theory	68	100	50	74	18	26
Culture and social structure	42	100	40	95	2	5
Complex organization	57	100	48	84	9	16
Social differentiation	69	100	65	94	4	6
Sociology of religion	38	100	35	92	3	8
Sociology of science and technology	36	100	27	75	9	25
The family and socialization	151	100	127	84	24	16
Total	461	–	392	–	69	–

mative titles in sociology are highly concentrated: about one half of all such titles are concentrated in only four journals. While one of these journals is basically a news magazine, the reasons for the low informativeness of the other three are far from obvious. Matters of policy and style, as well as the frequency of publication of material other than research reports might be involved here. Another interesting finding is that the non-informative titles are more frequent among the papers devoted to history and theory; such papers are by their nature and style closer to the humanities than to other social sciences disciplines.

It is worth noting that the retrieval effectiveness data given by Hodges (9) for title searches are much lower than the percentage of informative titles ascertained directly from our figures. As Hodges correctly states, this apparent discrepancy may be due to factors other than the titles themselves, such as user ignorance of terminology and other language problems. In any case, there is some interest in isolating the title issue per se from retrieval effectiveness.

One basic recommendation following from this survey is simple: needed are mainly guidelines to prospective authors, specifying the kinds of titles required. Guidance for referees might also be appropriate. The high informativeness of titles in chemistry (7) may well be related to the fact that this discipline specifically requires informative titles.

Journal editors often require the author to supply a list of keywords which would supplement the title and/or the abstract. It would be useful if as many of these keywords as possible were incorporated into the title. Article titles may become longer in consequence, but their value in current awareness, browsing, and retrieval would be greatly enhanced.

Titles may also contain additional items of information. Not only are the time and place of investigation important, the method of study and the manner of exposition are often crucial. It would increase the informativeness of titles if simple phrases such as a "comparative survey", "presidential address", "historical analysis" or "literature review" were incorporated into the title. This could be of great value to the process of selection.

One final caveat: only two fields are covered by the present study, thus limiting somewhat its generality. A wider representation of disciplines, and perhaps also a fuller assessment of informativeness, may be necessary.

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