

How do secondary services select journals?¹

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Abstracting and indexing services select journals based on five significant factors (availability, accessibility, citability, subject content, and editorial quality). Journal editors can assist these secondary services by ensuring accurate and timely coverage of the publication.

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Every year, the abstracting and indexing services of the world sift through literally tons of scientific and technical literature to catalog, summarize, and index in scores of different formats the information contained therein. This is done to assist the research scientist in the field or in the laboratory with the time-consuming, but necessary, literature-searching aspects attendant to any research project, thereby enabling him or her to spend time more productively on the investigation itself. Direct searching of the primary literature would be an unrealistic and impossible task.

Strictly speaking, journal literature consists of those subscription publications produced on a more or less regular cycle and containing original, referenced, and refereed research papers. Yet, many of the same selection criteria apply to other forms of scientific literature as well: the technical report, conference or symposium proceedings, the book, and the patent document.

Scientific journal literature had its beginnings more than

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300 years ago with the publication of the French *Journal des Sçavans* in January 1665.¹ As early as March 1664, permission had been granted by the Royal Society for publication of a scientific journal, but the *Philosophical Transactions of the Royal Society* was not published until two months after *Journal des Sçavans*. Nevertheless, the former continues to be published to this day and is often erroneously cited as the first of the learned journals. By extrapolation from previously published data,² an estimated 60,000 scientific journals exist today. Scientific journals, like living organisms, have not only increased in number, but have evolved to adapt to new environments. They have become increasingly specialized in content as they address more specific scientific subdisciplines. Major evolutionary leaps in format change are evident through the appearance of various microforms and with the advent of the electronic journal. Despite all of this increase in numbers and forms, the considerations which guide secondary information services in the selection of journals for coverage remain unchanged. Specific-journal coverage criteria for *Current Contents* have been described.³ General considerations to which most secondary services adhere can be identified; there are at least five:

1. Availability,
2. Accessibility,
3. Citability,
4. Journal content, and
5. Editorial quality.

Availability

First and foremost, the journal must be available to its potential readership. The secondary services deal mainly with the "open" literature. Internal publications, proprietary documents, and classified information are not a part of the open literature (not available to everyone) and, therefore, are not covered by the secondary information services, except for certain security-bound, private, custom-designed services established and operated for the exclusive use of a particular client. While some secondary services cover a defined core of specific subject-oriented journals, others seek to be comprehensive and complete in their coverage of the world's literature in a given discipline. Yet, the unavailability of journals of obscure origin may preclude the full realization of the completeness-of-coverage goal.

Accessibility

Second, the journal must be accessible. Acces-

sibility and availability are closely related, but they are by no means the same. A journal may not necessarily be available to a potential user and still be quite accessible. It is not possible, physically or economically, for every interested researcher to subscribe to every journal addressing his or her research interest; hence, the mission of the library. Neither is it possible, even for a large library, to acquire all of the journals of potential interest to all of its patrons; thus has evolved the concept of interlibrary loan. Although a journal may not be readily available for any one of a number of reasons, it can be accessible through a library or its interlibrary loan system. There are services that provide access information by issuing library-holdings listings (Chemical Abstracts Service Source Index 1907-1984 and proposed annual supplements). Some secondary services provide document access through a photocopy, original-document loan, or tear-sheet delivery service (CA and Related Services Catalog, Chemical Abstracts Service, and ISI Products and Services, Institute for Scientific Information) for the journal articles they cover.

It is important that the user have access to the original literature for one major and overriding reason: the abstract is not intended to be a substitute for the original document. This is the stated policy of Chemical Abstracts Service and other major secondary information services. An abstract is a concise summary of the salient points of an author's work and is sufficient in description and information for the researcher to determine whether or not to consult the original document for complete details. There are undeniable instances in which the abstract of a document from an obscure source in a difficult language and from some remote corner of the world is made the surrogate of the original article by the researcher. Yet, this circumstance in no way detracts from the importance of availability and accessibility as two of the prime characteristics of journals for coverage by the secondary services.

Citability

Citability refers to the bibliographic identity of a journal. As anyone who has ever performed even the most elementary of literature searches knows, a journal title alone is insufficient to locate an article. A complete and specific citation is required for easy access. Included in a complete journal citation are the year of publication, volume number, issue number, and article pagination. Omission of any of these elements does not necessarily preclude effective retrieval, but may

profoundly affect the accuracy, speed, and convenience with which the user can deal with the literature. If pagination is continuous through a given year or volume, an issue number is less important than if the pages are renumbered from issue to issue. It may seem strange, but serials do exist that lack pagination completely; such a practice may well be a factor in rejection for coverage by the secondary services.

The title of a journal is usually abbreviated by the secondary service in accordance with a standard abbreviation practice. These abbreviations or "short titles" not only comprise a portion of the bibliographic citation of the abstract, but they are employed as well in the references, footnotes, and bibliographies of the articles. In addition to short titles, there are two other abbreviated-title formats used by the secondary services in the processing of abstracts: CODEN and the ISSN.

CODEN (see the International CODEN Directory, American Chemical Society) are represented by six-character, compact, unique, and unambiguous abbreviations suitable for representing titles in either manual or machine-based information systems. For example, the CODEN for the *Journal of Medicinal Chemistry* is JCMAR. The first four letters are a derivation of the journal title. The fifth character (which could be a numeral) serves a statistical function. The final character is a computer-generated, computer-verifiable check that assures the reliability of CODEN in computer-based systems. Chemical Abstract Services uses CODEN to input journal names into its bibliographic information system and converts it to the more familiar and recognizable short title, *J. Med. Chem.*, in the printed abstract. CODEN for the CLEVELAND CLINIC QUARTERLY is CCQUA8.

The ISSN, the International Standard Serial Number (see the International Standard Serial Number, Documentation ISO [International Organization for Standardization] 3297-1975E, International Serials Data System), serves a similar function to CODEN. The ISSN is a concise, unique, and unambiguous numerical identification of serial titles and is assigned by the International Serial Data System national and regional centers which are coordinated with the International Center in Paris. The format complies with an ISO international standard. The ISSN for the *Journal of Medicinal Chemistry* is 0022-2623. The ISSN for the CLEVELAND CLINIC QUARTERLY is 0009-8787.

For years, journal editors have been urged, particularly by the secondary information ser-

vices, to display CODEN and/or the ISSN on the covers of their journals. From the point of view of the secondary services, the presence of CODEN/ISSN speeds the processing of bibliographic information and enhances accuracy. From the point of view of the online data-base user, the presence of CODEN/ISSN offers an accurate, cost-effective access point for searches in which the journal name is a factor.

Journal content

Obviously, subject content is an important consideration for a secondary service that covers a defined discipline. *Index Medicus* covers clinical medicine, *Biological Abstracts* covers the life sciences, *Chemical Abstracts* covers chemistry and chemical engineering, and *Current Contents* covers a prescribed list of scientific and technical journals in specific disciplines. Although there is overlap in coverage among all of these publications, the emphasis that each secondary service places on such features as the abstract, index content, and format reflects the mission of the service and the audience that it addresses.

Editorial quality

Editorial quality may imply that, if a journal does not meet some arbitrary standard of editorial excellence, it will not be covered by the secondary information services. This is not necessarily true. There are some obvious qualifications to be met in order for a journal to be considered a part of the legitimate scientific and technical literature of the world. A few of these factors were mentioned previously under the headings "Availability" and "Citability." There are some publications that do not adhere to the peer-review system, contain pseudoscientific work, or seek to promote some political bias rather than scientific investigation. These publications, when recognized, are generally not covered by the legitimate secondary scientific and technical information services.

Two factors pertaining to editorial quality that do not necessarily determine whether or not a journal is covered by a secondary service are important to the services for timely and accurate processing of abstracts and index entries. One is the presence of informative author-prepared abstracts. While in most cases, these abstracts are not copied verbatim from the journals, they can and do serve as a basis for the creation of the service-prepared abstract. After all, the author is in the best position to identify what he or she considers to be the salient procedures,

results, and conclusions of a study. The secondary services draw upon this rich source of insight and information to fashion and tailor their specific abstracts. The second factor is author-name specificity.⁴ The author indexes produced by some secondary services attempt to list as complete a name as possible. As an example, "Robert Stanley Brown" is indexed as "Brown, Robert Stanley" to aid the searcher in distinguishing Mr. Brown's works from those of his scientific colleagues who may have such names as Raymond S. Brown, Richard S. Brown, R. Sherman Brown, Rosalind S. Brown, etc. The 10th Collective Author Index of *Chemical Abstracts*, covering the five-year period 1977-1981, contains 43 references to papers by 13 R. S. Browns. Robert Stanley's 15 papers are readily identifiable apart from the others because of the specificity with which his name is indexed. The same is true of the 12 other R. S. Browns. Such specificity must be reflected in the pages of the journal for the secondary services to make such differentiations. While a complete author name is certainly not a requirement for secondary service coverage, this format does aid in cataloging an author's work, thus assisting the searcher of author names to gain access to the desired references quickly and unambiguously. The author is also assured of proper credit in the archival record.

Conclusion

A descriptive, if somewhat tenuous, analogy

may be drawn between the secondary information business and the auto industry. Flowing into the auto plant are unit assemblies and precision parts of various sorts to be skillfully fitted and assembled into the finished product. Flowing into the editorial offices of the secondary information services are issues of scientific and technical journals. A major difference, apart from the obvious, is the control exercised by the auto industry over the quantity, specifications, and quality of its input material—a control not shared by the secondary services over their raw materials. Both the primary journals and the secondary services address a common audience and thus have a common goal: the rapid and accurate dissemination of information to further advance the frontiers of knowledge. For each to recognize the concerns of the other creates a basis upon which each can do its best to reach this common goal.

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