A Comparison of Title Announcement Publications for Chemical Journals*

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INTRODUCTION

Time is often of the essence to the chemist. Many chemists, especially in industry, now try to keep themselves informed quickly of pertinent new journal literature by using a title announcement service. This paper describes three of these services, *Chemical Titles*, *Current Contents*, and *Current Chemical Papers*, and compares several of their features.

The stated purposes of these services are relatively modest. For example, the introduction to *Current Chemical Papers* is as follows: "*Current Chemical Papers* is intended to inform chemists of new work more quickly than an abstract journal can. It is not intended to replace abstracts. *Current Chemical Papers* will best serve as a guide to a chemist's reading, rather than as the basis of his permanent records. For this reason, and because they would double the price, indexes are not included (in *Current Chemical Papers*)."

The principal advantage of title-announcement services is speed of announcement. These services ordinarily offer the chemist a chance to look at more titles than he would have if he were to limit his reading to only a few original journals. Title-announcement services also offer the opportunity to look at sources of pertinent information not readily available. As compared to those programs which disseminate information selectively based on interest profiles, the title-announcement services described in this paper offer broader coverage, permit serendipity, and encourage browsing.

The inadequacy of journal article titles for permanent indexing has been the subject of much discussion. It is obvious that a title announcement service is not intended to replace the necessity for personal perusal of original journals. Titles can be misleading or incomplete regardless of the extent to which they are "expanded."

Also, of necessity, subscription services include some journals of no interest and omit others of particular interest to an individual research laboratory. No rapid subscription title-announcement service attempts complete coverage of the world's significant chemical literature.

CHEMICAL TITLES

Chemical Titles (CT) is a biweekly publication of the Chemical Abstracts Service. It provides a keyword-in-context listing for about 80,000 titles per year (1964) selected from approximately 650 foreign and domestic journals. These journals are said (in the introduction to CT) to cover pure and applied chemistry and chemical engineering. In addition to the keyword approach, CT provides an author index and the tables of contents of the journals included in each issue.

Some chemists have suggested coverage of more applied journals in CT. Also, rapid indexing of *Chemical and Engineering News* in CT could be a valuable addition. Undoubtedly, economics will determine whether or not these extensions can be consumated.

Many have found CT to be of particular value because of its speed in announcing titles—sometimes six months or so before the full abstracts appear in *Chemical Abstracts*. (D. B. Baker reports that the median time between publication of original papers and appearance of abstracts in CA is now 3.5 months; this includes a median of 20 days for receipt of the journal.) The translation of foreign titles into English is another desirable feature. The novel features of CT encouraged us to conduct the joint experiment with the Chemical Abstracts Service which was described in a previous issue of the *Journal of Chemical Documentation* (*1*). This experiment involved computer searching for specific words or fragments and subsequent dissemination of the product. We found this experiment to be of real value. The output from CT under the new special subscription service is full sized and is not reduced photographically as in the regular issues of CT.

CURRENT CONTENTS

Current Contents (Space, Electronic, and Physical Sciences Edition) is a weekly publication of the Institute for Scientific Information. The table-of-contents pages of about 600 domestic and foreign journals are covered regularly. This publication provides a broad subject approach by grouping together the title pages of journals with like subject content. Since journals in sciences other than chemistry are included, chemists may find peripheral or extraneous material in this publication. An author index is combined with an address list to aid the reader in requesting reprints from authors, but a subject index is not included. The title-pages are reproduced photographically, usually in smaller size than the originals.

CURRENT CHEMICAL PAPERS

A third major service to be discussed in this paper is *Current Chemical Papers* which covers only new material

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in pure chemistry. In addition to journal articles, it includes a number of "advances" publications which appear annually or irregularly. The titles selected are conveniently grouped into 13 broad subject areas. In the more extensive sections, subdivisions are used.

Papers with main subjects pertinent to more than one section receive two or more entries. Titles are expanded when necessary, "sufficiently to indicate the general type of subject matter." In one issue which was examined, about 20 (out of a total of about 2800) titles were so expanded. Papers by specific authors cannot be conveniently located. This publication is produced by conventional typesetting methods.

COMPARISON OF SPEED AND COMPLETENESS OF COVERAGE

To provide a basis of comparison for these services, 12 journals which are included in all three title bulletins were used to provide information on the speed and comprehensiveness of coverage. The journals selected were: *Bulletin de la Societe Chimique de France, Chemical Engineering Progress, Chemische Berichte, Chemie-Ingenieur-Technik, Canadian Journal of Chemistry, Gazzetta Chimica Italiana, Helvetica Chimica Acta, Journal of the American Chemical Society, Journal of Applied Chemistry, Journal of the Chemical Society, Kogyo Kagaku Zasshi (Journal of the Chemical Society of Japan, Industrial Chemistry Section),* and *Zhurnal Obshchei Khimii (Journal of General Chemistry, USSR).*

We examined issues of these journals for the six-month period from September 1963 to February 1964, checking their contents against the three title-announcement services to determine date of inclusion and extent of coverage.

In determining appearance times, the dates used were those of the issue of the title-announcement bulletins. Coverage figures were for technical articles only.

Chemical Titles was the fastest of the three services for the test period. Papers were listed in *Chemical Titles* from 1 to 4 weeks before they appeared in *Current Contents*, and from 1 to 4 months before they appeared in *Current Chemical Papers*. These figures represent ranges rather than averages.

As far as coverage is concerned, *Current Contents* and *Chemical Titles* almost always gave 100% coverage. Coverage in *Current Chemical Papers* ranged as low as 56%, but this was expected from the service's emphasis on pure chemistry.

Both *Current Contents* and *Current Chemical Papers* offer a service for obtaining copies of articles from current journals covered by the services. *Chemical Titles* offers a photocopying service for papers which appear in Russian journals. These copying services are important to a chemist who learns about a new paper of great interest and wants to look at the paper as quickly as possible. Since subscription title announcement services often make arrangements to receive new journals as rapidly as possible, announcement of new titles can precede the receipt of original journals in individual research libraries in industry and universities.

COST

The cost of the three publications studied as purchased by the individual chemist varies as follows: (1) *Current Chemical Papers* costs about $21/year (not air mail); (2) *Chemical Titles* costs $25/year to ACS members and to colleges and universities, and $50/year to all others with special rates for multiple purchases; and (3) *Current Contents* costs $50/year to educational organizations and affiliated persons, and $100/year to all others with group rates available on special request.

INTERNAL SERVICES

One characteristic of subscription services is that they must, of necessity, include some journals of no interest and omit others of particular interest to an individual research center. As stated earlier, no subscription title-announcement service could attempt complete coverage of the world's chemical literature.

For these reasons, an individual research center may want to provide its own chemical title-announcement services. This could be a computer produced permuted index or a table-of-contents page booklet produced *via* photographic reproduction and geared to meet the specific research needs of the laboratory.

Research centers alternatively could provide their chemists with copies of table-of-contents pages of the journals in which each chemist has expressed a specific interest. This provides fast, personalized service. Usually the photographic reproductions of title-pages are full sized. This is a distinct advantage for those chemists with poor vision and contrasts with some of the commercial services in which the information is photographically reduced. Also, title-pages reproduced and distributed individually can be easily manipulated, marked up, and filed or circulated.

If this kind of custom service is provided, the chemist receives only those table-of-contents pages for journals in which he expresses an interest. Such a service operates best when journals do not circulate so that chemists can be sure that they will find the journals in which they are interested quickly and will not need to wait several days or possibly weeks for a reprint.

A personalized table-of-contents page service also provides a means for determining which journals are most or least needed in a laboratory. Journals for which no one requests table-of-contents are often likely candidates for cancellation. Journals for which many requests for title-pages are received may indicate the need for multiple copies.

However, just as subscription title-announcement services do not cover all journals, neither can the individual research centers attempt to do this. A combination of this custom or personalized service, in which each chemist selects only those table-of-contents which he wants, and some reliance on the subscription services may be a good solution but by no means a perfect one.

There has been speculation about a rapid expanded-title index to patents. Many believe that such an index would be worthwhile because of its speed and would aid in patent location until the permanent abstract record appeared.

It can be expected that authors, as they become more aware of the extent to which chemical title-announcement services are used, will title their papers more carefully. Titles have become recognized as an aid in information retrieval by government and industrial information centers.

LITERATURE CITED

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Internal Alerting with Keyword-in-Context Indexes*

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Keyword-in-context (permuted keyword) indexes of documents are being increasingly produced for alerting and retrieval of information. Publications such as *Chemical Titles* and *The Biochemical Titles Index* have done much to establish standards of terminology and format and to assure reader acceptance of internal keyword indexes.

Keyword-in-context indexes achieve a balance among computer and program requirements and the individual needs within an organization. Thus, chemists are alerted to new developments within an organization by keyword indexes that are tailored to specific research programs.

Many companies start by using a keyword-in-context index to cover their own internal reports, and then discover that the same computer program or form of input may be modified to yield bibliographies and rapid-announcement bulletins. Indeed, the production of internal permuted keyword indexes may be part of an integrated program which also yields input for coordinate index systems and book catalogs.

While a permuted keyword index can be produced manually, this method is not economical. If an organization has access to a computer, the availability of several computer programs and the economy of producing permuted keyword indexes make them attractive for local use.

The internal keyword-in-context indexes to be discussed here will illustrate methods used to overcome the inflexibility of a computer program, variations of expressing chemical concepts in titles, and the problems of using computer printouts. In order to alert chemists to new developments, the new information has to be readable, easy to locate, and quickly discovered. Tailor-made internal keyword-in-context indexes achieve effective alerting, provide information retrieval, and produce management statistics by using a variety of formats and computer programs.

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GENERAL FORM AND ADVANTAGE OF KEYWORD-IN-CONTEXT INDEXES

Keyword-in-context indexes are indexes of the significant words or keywords in titles or sentences. To prevent entries for nonsignificant words, each word in the title is computer matched against a word list (stored in the computer memory) that contains primarily noninformation-containing words. The number of nonsignificant words used in the "stop list" depends on the specialization of the index. The more specialized indexes have longer lists of nonsignificant words because more technical words have to be included. The Oak Ridge National Laboratory (ORNL) indexes cover all the sciences, use 490 words in permanent storage, and provide space for an additional 150 words in a temporary storage. This allows a variation in vocabulary for the specialized indexes for chemists.

The length and form of the indexing sentence varies in the permuted part of the index, and all the keyword-in-context indexes have the snap-back or wrap-around feature. *Chemical Titles* (*1*) prints a 60-character title line, and fills in any remaining space with words from the beginning or end of the title. This IBM form of the permuted keyword index may be printed by photo-offset methods without reduction; with reduction, two columns per page are possible. One disadvantage of the IBM form for internal use is that it has no flexibility in its nonsignificant word list. The computer program does not provide for deletion or inclusion of a keyword for a single use. The form of the bibliography listing is in the common form of author first followed by title and reference.

The Bell Telephone Laboratories (Bell Laboratories) computer program has room for 105–106 characters of the title per line, and blank spaces are filled with words adjacent to the keyword (*2*). Use of the Bell Laboratories program causes less title omission and loss of keyword phrases (*3*) because of the longer line length, and it provides greater flexiblity in vocabulary control because of the opportunity to include words in a temporary stop list. It is possible to use segments of the output tape