

ACLC-6	1	Acid-base values of blood. Micromethods for measuring	APOR-2	93	Activation for determining reaction mechanisms. Use of volumes of
AHTC-2	287	Acid-catalyzed polymerization of pyrroles and indoles	AICR-5	135	Activation in gases and liquids. Chemical effects of nuclear
BIPR-10	93	Acid lipase	APOR-1	1	Activation and mechanisms of reactions in solution. Entropies of
ARCI-47	366	Acids, alkalies, and salts	HALE-58	233	Active processes in the brain stem during sleep.
PCLT-8	199	Acoustic effect. Magneto-	CEPS-41	52	Active sites in the nucleate boiling of liquids. Distribution of
PPOS-17	43	AC Thermionic converter study.	PDRR-5	155	Addiction. Analgesia and
ADAM-5	235	Actinomycetes and their antibiotics.	ADPC-1	115	Addition of atoms to olefins in the gas phase.
ADAM-5	271	Actinomycetes. Cancer chemotherapy agents from	APEC-7	2	Additives. Lubricating oil
DIMC-4	288	Actinophages. Preparation of phage-typing reagent: growth, purification, and concentration of	BIPR-10	3	Adenosine 3'-phosphate 5'-sulfatophosphate. "Active sulfate"
ARNU-13	145	Activation analysis. Methods and applications of	14UN	587	Adenosine triphosphate. Control of chloroplast structure by
13DS-2	3	Activation analysis with short-lived radio-isotopes	PPOS-17	19	Adhesives. Effects of radiation on transmittance of glasses and

## Abstract Journals and Bulletins\*

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Abstract journals have two somewhat disparate purposes: (1) to serve as a means of locating information in original literature (retrospective searching), and (2) to alert readers to the latest developments in a given area. This disparity is evident when one considers Crane's (2) *criteria* for an ideal abstracting journal: (a) covers field completely, (b) publishes good annual and collective indexes, (c) maintains high quality in abstracts, and (d) keeps service prompt. Complete field coverage and publication of good annual and collective indexes are usually cited as being most important; and so they are for a retrospective searching tool.

However, when considering abstract journals from the viewpoint of their value as *alerting services*, a modified set of *criteria* must be used. To serve as an adequate alerting service, an abstract journal should have the following characteristics (7-10):

(a) The abstract should be available quickly after publication of the primary communication.

(b) The abstract should be easy to skim. Ease of skimming is composed of a number of aspects. The following description given by Lewenz, *et al.* (8), would seem to sum it up. An abstract journal "should permit the busy reader to decide quickly whether the abstracted item is of interest and leave him with both time and inclination to read more abstracts." In other words, an abstract journal for alerting must be very readable from

both a physical and an intellectual viewpoint. Physically, print size should be adequate and format designed for ease of reading; intellectually, abstracts should be concise and well written.

(c) The abstract journal should not be so large that users are overwhelmed by the number of abstracts. As Weil, *et al.* (9), said, "Even well written abstracts are not basically an enjoyable type of reading in large collections." Reduction in the size of an abstracting journal can be accomplished in several ways, among which are selective coverage and specialized coverage.

A large number of journals contain abstracts of interest to chemists. Several of these journals will be discussed for their value in alerting chemists to new developments. They have been divided for the purpose of discussion into three categories:

- I. Abstracts of general chemical interest
- II. Abstracts of interest to specific branches of chemistry
- III. Abstracts of specific types of publication

The following information was gathered on each journal selected for analysis: (1) cost per year; (2) number of abstracts per year—1964 estimate; (3) cost per abstract to the subscriber; (4) frequency; (5) type of coverage; (6) speed of coverage. This is an estimate based on analyzing the time-lag between the publication date of the original communication and the date the abstract journal was received by the library. Unless otherwise stated, two 1964 issues for each journal were analyzed with spot

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checks being made in other 1964 issues. On the basis of these data, each journal was then compared against the previously cited criteria for an alerting abstract journal.

## DATA AND DISCUSSION

**I. Abstracts of General Chemical Interest.** The "big three" offering general coverage in the field of chemistry are *Chemical Abstracts* (C.A.), *Chemisches Zentralblatt* (C.Z.), and *Referativnyi Zhurnal, Khimiya* (R.Z.,K.). Table I gives cost data and volume of abstracts for these.

Table I

Journal	Cost/year, \$	Abstracts/year	Cost/abstract, \$	Frequency
C.A.	1000	187,500	0.0053	Biweekly
C.Z.	300	155,000	0.0019	Weekly
R.Z.,K.	200	170,000	0.0011	Semimonthly

While the subscription price for these large, comprehensive abstract journals might be considered high, the cost per abstract to the subscriber is very low.

A summary of the analysis of the speed of coverage for each journal is shown in Table II. In the sample analyzed less than 1% of the abstracts in *Chemisches Zentralblatt* appeared within six to seven months of publication of the primary communication. Most abstracts had a time-lag of a year or more with many ranging from two to seven years lag.

In *Referativnyi Zhurnal, Khimiya* most Russian material was covered within two to three months; most material from other countries was covered within six to nine

Table II. Speed of Coverage

Journal	Time-lag, months
C.A.	5
C.Z.	<12
R.Z.,K.	6

months. R.Z.,K. claims an average time-lag of six months (12) which seems to be borne out by observation. However, for fast detailed information on important articles in foreign journals, the publisher of R.Z.,K. (Inst. Sci. Inform. Acad. Sci. USSR) is issuing weekly journals called *Express Information* with a time-lag of two months (12).

In speed of coverage, *Chemical Abstracts* claims (5) that the mean time between issuance of periodical and publication of abstracts is five months. This would seem to be borne out by the data cited in Table III.

All three of these general chemical abstract journals are formidable to skim because of their relatively long abstracts, small type, closed format, and large number of abstracts. Even some of C.A. and R.Z.,K. sections are too big for easy skimming.

**II. Abstracts of Interest to Specialized Branches of Chemistry.** There are a large number of journals containing abstracts of interest to specialized branches of chemistry. They consist of journals containing abstracts only or

Table III. Speed of Coverage of *Chemical Abstracts*

Time-lag, months	Abstracts articles, %	Abstracts patents, %	Abstracts over-all, %
1	5	..	3
2	10	10	16
3	20	26	22
4	15	20	17
5	10	11	10
6 or more	30	33	32

primary journals containing abstract sections of some size. A list of some abstract journals containing material of interest to chemists is given in the Appendixes. Additional journals can be gleaned from a large number of sources (1-4, 6, 11, 13). Table IV gives some data on the four specialized abstract journals selected for discussion. Each of the specialized abstract journals analyzed claims comprehensive coverage for its specialized field.

*Analytical Abstracts* has comprehensive world-wide coverage in analytical chemistry.

*Chemical Market Abstracts* covers about two hundred sources of selected chemical marketing data monthly. Material abstracted includes government publications, company releases, and U. S. and foreign trade journals. The coverage is quite detailed and comprehensive.

*Fuel Abstracts and Current Titles* covers the world scientific and technical literature on fuels and power. It is fairly comprehensive and is especially good on European patents in its field.

*Nuclear Science Abstracts* includes comprehensive world-wide coverage in the field of nuclear chemistry. It covers journals, patents, books, technical reports of the U. S. Atomic Energy Commission and its contractors, technical reports of other U. S. government agencies, and other governments, universities, and industrial and research organization.

As with the general chemical abstract journals, the cost per abstract to the subscriber is relatively low. Table V gives a summary of the speed of coverage for these four journals.

*Analytical Abstracts* was remarkably consistent. About 90% of the abstracts had a time-lag of 11 to 13 months; 2% had a time-lag of 9 to 10 months; 8% had a time-lag of 14 months or more.

*Chemical Market Abstracts* does a good job as far as speed is concerned. This is a good alerting publication for a specialist in chemical marketing. This speed can probably be correlated with a somewhat higher cost/abstract. A more detailed analysis of speed of coverage for *Chemical Market Abstracts* is shown in Table VI.

*Fuel Abstracts* and *Nuclear Science Abstracts* have comparatively long time-lag as shown with more detail in Tables VII and VIII.

*Analytical Abstracts* is quite easy to skim because of the physical format; the print, particularly the use of boldface type for titles; the length of the abstracts; and the relatively small number of abstracts per journal issue.

In *Chemical Market Abstracts* the volume of abstracts is fairly high, but because the abstracts are short or consist of tables of data, skimming is relatively easy. The double columns and crowded abstracts make ease of skimming for current awareness more difficult than the previously used single column, spread-out format.

Table IV

Journal	Cost / year, \$	Abstracts / year	Cost / abstract, \$	Frequency
<i>Analytical Abstracts</i>	14	5,500	0.0025	Monthly
<i>Chemical Market Abstracts</i>	300 <sup>a</sup>	24,000	0.0125	Monthly
<i>Fuel Abstracts, and Current Titles</i>	36	8,700	0.0040	Monthly
<i>Nuclear Science Abstracts: Chemistry Section</i>	30	7,000 <sup>b</sup>	0.0043	Semimonthly

<sup>a</sup> Subsequent subscriptions \$160/year; would change with more than one subscription. <sup>b</sup> Total number of abstracts/year = 43,000.

*Fuel Abstracts* is comparatively easy to skim because of the open format, large type for titles, and short abstracts. The number of abstracts per year, however, is fairly large.

Skimming *Nuclear Science Abstracts* for titles only is easy since the titles are in bold print. Skimming the abstracts is difficult because of fine print and long abstracts. The number of abstracts in the Chemistry Section, however, is relatively small.

In general, the specialized abstract journals are much easier to skim for current awareness because of physical format, type of abstract, and smaller number of abstracts. However, except for *Chemical Market Abstracts*, which is set up primarily for current awareness and costs more per abstract, speed of coverage makes these specialized abstracting journals relatively poor tools as alerting services.

**III. Abstracts Devoted to a Specific Type of Material.** There are a number of journals devoted to a specific type of material which are of interest to chemists. The following examples of three types are discussed:

Patents: *Derwent Belgian Patents Report* (DBPR)  
Theses: *Dissertation Abstracts* (DA)  
Research reports: *U. S. Government Research Reports* (USGRR)

Table IX gives some information on these abstract journals.

DBPR covers Belgian patents of chemical and allied interest. DA covers doctoral dissertations submitted to University Microfilms, Inc. by 140+ cooperating universities and colleges, with some of the institutions sending only part of their dissertations. USGRR consists of two parts. The first part (TAB) covers the research and development reports of the Department of Defense and its contractors. Part two (Non-Military and Older Military Research Reports) covers reports issued by the civilian agencies of the government.

Cost per abstract to the subscriber is low, but it is interesting to note that DBPR is in the cents-per-abstract range.

For DA and USGRR, speed of coverage is difficult to determine and probably not too meaningful since the publishers have little or no control over when publications are submitted to them. Since each of these journals covers unique material, they are essential alerting tools.

DBPR gives fast coverage, as shown in Table X. Time-lag was taken to be the time between the date the Belgian patents were opened for inspection and the date the abstract journal was received in the library. Issues covered were for the first half of 1964.

Table V. Speed of Coverage

Journal	Time-lag, months
<i>Analytical Abstracts</i>	12
<i>Chemical Market Abstracts</i>	3
<i>Fuel Abstracts and Current Titles</i>	> 6
<i>Nuclear Science Abstracts: Chemistry Section</i>	> 6

Table VI. Speed of Coverage of Chemical Market Abstracts

Time-lag, months	Abstracts, %
2	37
3	59
4	2
5	2

Table VII. Speed of Coverage of Fuel Abstracts

Time-lag, months	Abstracts, %
2	2
3	7
4	12
5	6
6 or more	73

Table VIII. Speed of Coverage of Nuclear Science Abstracts

Time-lag, months	Abstracts, %
2	2
3	7
4	15
5	9
6 or more	67

Table IX

Journal	Cost / year, \$	Abstracts / year	Cost / abstract, \$	Frequency
DBPR	130	5,500	0.024	Weekly
DA	60	2,500 <sup>a</sup>	0.024	Monthly
USGRR	15	5,500 <sup>a</sup>	0.0027	Semimonthly

<sup>a</sup> For sections selected as being of interest to chemists. DA: Agriculture, Chemistry, Engineering-Chemical, Food Technology, Pharmacology. USGRR, Part 1: Chemical Warfare and Equipment, Chemistry, Fuels and Combustion, Material (Non-Metallic), Nuclear Physics and Chemistry; Part 2: Biological Sciences-Biochemistry, Chemistry, Engineering-Chemical, Materials, Nuclear Physics and Chemistry.

Table X. Speed of Coverage  
of Derwent Belgian Patents Report

Time-lag, months	Abstracts of Nondelayed Patents, %	Abstracts of Delayed Patents, %
1.5	...	26
2	8	60
2.5	68	14
3	14	...
4	10	...

DA is quite easy to skim because of its large print and open format, and the number of abstracts of interest to chemists is relatively small. However, the length and wordiness of the abstracts make the reader feel that he has done a lot of work.

DBPR is easy to skim because of its print size, open format, and short abstracts, and the number of abstracts per issue is low.

USGRR has an open format and uses large capitals for titles. This assists in skimming ease. The over-all bulk of the journal is a deterrent.

### CONCLUSION

This review of representative abstract journals shows that they are designed with either alerting or comprehensiveness and completeness as their primary objective. Those designed primarily for comprehensiveness are relatively poor alerting tools because of abstracting delays and bulk; those designed primarily for alerting—*Chemical Market Abstracts* and *Derwent Belgian Patents Report*—do a fairly good job on speed of coverage, but this is reflected in the cost per abstract.

### LITERATURE CITED

- (1) National Federation of Science Abstracting and Indexing Services, "A Guide to the World's Abstracting and Indexing Services in Science and Technology," Report No. 102, 1963.
- (2) Crane, E. J., Patterson, A. M., Marr, E. B., "A Guide to the Literature of Chemistry," 2nd Ed., John Wiley and Sons, Inc., New York, N. Y., 1957, pp. 123-150.
- (3) Mellan, M. G., "Chemical Publications. Their Nature and Use," McGraw-Hill Book Co., Inc., New York, N. Y., 1958, pp. 97-110.
- (4) Bottle, R. T., "Use of the Chemical Literature," Butterworths, London, 1962, pp. 55-72.
- (5) Chemical Abstracts Service, "Chemical Abstracts in 1964; A Catalog of Services," American Chemical Society, Washington, D. C.
- (6) McCandless, R. F. J., Skweir, A., Gordon, M., *J. Chem. Doc.*, **4**, 147 (1964).
- (7) Loev, B., *ibid.*, **1** (2), 27 (1961).
- (8) Lewenz, G. F., Zarembler, I., Brenner, E. H., *ibid.*, **1** (2), 48 (1961).
- (9) Weil, B. H., Zarembler, I., Owen, H., *ibid.*, **3**, 86 (1963).
- (10) Most, S., Kessler, S. K., *Am. Doc.*, **13**, 86 (1962).
- (11) Lederman, L. F., *J. Chem. Educ.*, **29**, 396 (1952).
- (12) Tareev, B. M., *Am. Doc.*, **13**, 338 (1962).
- (13) Martyn, J., Slater, M., *J. Doc.*, **20**, 212 (1964).

### APPENDIX I

#### Selected Abstract Journals of Interest to Specialized Branches of Chemistry

(English Language, starred items are discussed in paper)

ASM Review of Metal Literature  
 \*Analytical Abstracts  
 Biological Abstracts  
 British Plastics Federation Abstracts  
 Building Science Abstracts  
 \*Chemical Market Abstracts  
 Chemistry and Industry  
 Corrosion Abstracts  
 Engineering Index  
 Excerpta Medica (Holland) Sections II and III:  
   Physiology, Biochemistry, Pharmacology, and Endocrinology  
 Food Technology  
 \*Fuel Abstracts and Current Titles  
 Gas Abstracts  
 Gas Chromatography Abstracts  
 Index Chemicus  
 International Occupational Safety and Health Information (CIS)  
 Journal of the American Ceramic Society (Ceramic Abstracts)  
 Journal of the American Oil Chemists Society  
 Journal of Applied Chemistry  
 Journal of the Institute of Metals  
 Journal of the Institute of Petroleum  
 Journal of the Iron and Steel Institute  
 Journal of the Science of Food and Agriculture  
 Journal of the Textile Institute  
 Lead Abstracts  
 Microchemical Journal  
 Mineralogical Abstracts  
 Natural and Synthetic Fibers  
 Nickel Bulletin  
 \*Nuclear Science Abstracts  
 Nutrition Abstracts and Review  
 Resins-Rubbers-Plastics Literature Service  
 Review of Applied Entomology  
 Rubber Abstracts (England)  
 Search  
 Selenium and Tellurium Abstracts  
 Soils and Fertilizers  
 Technical Survey  
 Theoretical Chemical Engineering Abstracts (England)  
 Transactions of the British Ceramic Society (British Ceramic Abstracts)

### APPENDIX II

#### Selected Abstract Journals for Specific Types of Material

(English Language, starred items are discussed in paper)

Australian Official Journal of Patents, Trade Marks, and Design  
 Canadian Patent Office Record  
 \*Derwent Belgian Patents Report  
 Derwent British Patents Abstracts  
 Derwent French Patents Report  
 Derwent German Patents Abstracts  
 Derwent Japanese Patents Abstracts  
 Derwent Netherlands Patents Report  
 \*Dissertation Abstracts  
 Official Gazette (U. S. Patent Office)  
 Soviet Inventions Illustrated-Section I: Chemical (Derwent)  
 STAR (Scientific and Technical Aerospace Reports)  
 Technical Translations  
 \*U. S. Government Research Reports