# Periodical Use in a University Music Library: A Citation Study of Theses and Dissertations Submitted to the Indiana University School of Music from 1975-1980

### Richard Griscom

ABSTRACT. In an effort to measure in-house use of music periodicals, a citation study based on bibliographies in theses and dissertations was conducted at the Indiana University Music Library. A total of 256 titles were cited, but only 30% were cited more than once. While the periodical literature cited by musicologists has a low rate of obsolescence, the periodicals cited by theorists and educators becomes obsolete at a rapid rate, making the rate of obsolescence for the field as a whole, fairly high, unlike other subject areas in the humanities.

In these times of reduced budget allocations and economic recession, librarians have been forced to seek supplementary sources for funding and prepare themselves—in the event that their search fails—for the painful task of cutting back acquisitions budgets and reducing services. An already dismal situation is made worse by the constantly escalating prices of library materials—of journal subscriptions in particular.

During the past decade, journal prices have risen at a much faster rate than have book prices. Two options are available to the librarian with no alternate sources of funding: either shift funds from book budgets, or cancel subscriptions. Most librarians harbor protective feelings toward periodical subscriptions; after striving for years to maintain a complete run of a journal title, they are naturally reluctant to surrender that title, and instead choose to let the book budget suffer in favor of the long life of the periodical. In 1977, Richard DeGennaro addressed this problem in *American Libraries*, stating that journal publishers are quite aware of librarians' weakness for periodical holdings and have

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used it to their advantage by raising prices at a faster rate than justified and by inaugurating new titles far beyond the point of their being academically or economically feasible. He feels that so long as librarians continue to acquiesce to the demands of publishers, the prices will rise.<sup>2</sup>

The growing success of resource sharing in recent years gives librarians little reason to hesitate in cancelling periodical titles. Infrequently used titles can be dropped with the assurance that, if ever needed, they are accessible through one of a number of network-member libraries. When determining which journals to give up, librarians should exercise caution, however, for careless decisions can easily jeopardize the strength of the collection, or (viewed from a more practical standpoint) excite a barrage of complaints and interlibrary loan requests.

When confronted with such a delicate decision, the wise librarian turns to statistics for support; these provide hard facts in black and white, while remaining safely cloaked in a hazy-grey ambiguity of figures. The past two decades have seen the evolution of several statistical techniques designed to aid librarians in assessing the relative worth of library materials. For the most part, they fall into two categories: use studies and citation analyses.

The most important use studies have been conducted by Richard Trueswell, who proceeds from the assumption that use can be measured by keeping statistics on the most recent circulation date of library materials.<sup>3</sup> For example, materials that circulate only once every two years might be subject to removal from the collection without any fear of weakening the collection.

This technique, unfortunately, has little relevance for journals and other non-circulating materials. For these, other methods have been developed. Some researchers believe that book and journal use can be measured by keeping statistics on materials that have been pulled off shelves—a simple procedure, but relatively ineffective. How can one be certain that an item pulled off the shelf was actually used by the patron? It might have been pronounced worthless after closer examination. What about those patrons who insist—much to the dismay of librarians—on reshelving their own books? Use studies are valuable up to a point, but they cannot be relied upon as the basis for a journal acquisitions policy.

The second method, citation analysis, was first applied in the sciences and social sciences as a means of identifying core periodicals used by researchers. Since periodicals supposedly offer the most accurate and up-to-date picture of the current state of research, most studies are based on citations in periodical literature. Citation analysts compile statistics on who cites what where, enabling them to define the structure, content, and dissemination of research in a particular

field. In 1961, the Science Citation Index began publication, making the job of citation analysis in the sciences a much simpler one. The Arts & Humanities Citation Index was introduced in 1978 (extended retrospectively to include 1976 and 1977), and we can expect to see an onslaught of citation studies in the humanities based on the information contained in this valuable index.<sup>4</sup>

One of the principal uses of citation analysis is in identifying core periodicals in an area of research. Lists of core periodicals consist of a ranking of the most frequently cited periodicals, usually based on the number of citations in the journal literature, and, more often than not, these rankings have shown that a majority of citations are taken from a very small group of periodicals—disheartening news for librarians who put thousands of dollars into journal budgets.

Citation analysis can also be used to map the obsolescence rate of periodical literature, i.e., how quickly a periodical becomes dated by no longer being cited. For libraries with space limitations, this can be valuable information. Periodicals occupy an ever-growing amount of shelf-space, but growth can easily be reduced—or even arrested—if not by cancelling subscriptions, then by placing obsolescent issues in a central storage area or by acquiring microfilm copies and discarding the hard copy. Such is the case with journal materials of the sciences and social sciences, which have a very high rate of obsolescence.

The situation in the humanities, unfortunately, is not quite as simple, and this may be one reason why citation studies in the humanities have been slow to catch on. Seminal research in art and music has given support to the general assumption that journals in the humanities have a low rate of obsolescence.<sup>5</sup> Rey Longyear's 1977 study of six music periodicals is a recent example of research that arrives at this conclusion:

Journal literature in musicology does not "obsolesce" in the sense of the comparable literature in the sciences and technology on which virtually all the previous studies of journal obsolescence and "half-lives" have been based.<sup>6</sup>

Judging from these studies in the humanities, the use of journals declines with age, but not enough to warrant the removal of older volumes.

Both use studies and citation analysis are valuable tools, but each falls short in meeting the requirements of librarians interested in weeding a collection and possibly cancelling subscriptions. The primary fault of use studies lies in disagreement among researchers over what exactly constitutes library use. Is use circulation? Is use pulling books off shelves?

Citation analysis presents a different type of problem. The process traditionally involves counting and analyzing citations in widely cir-

culated periodicals, and so the findings reflect use by the authors published in those journals, each of whom probably had a different set of resources at hand when compiling research for his or her article. Therefore, citation analysis measures journal use in the scholarly community as a whole—not in a particular library—and any librarian who weighs the results too heavily is, in essence, basing decisions on the research habits of writers who never set foot in his or her library.

Yet librarians continue to consult citation analyses for help in maintaining their collections. Alan Singleton sums up the situation in this way:

Citation ranking in an attractive concept. For librarians, its use and value are severely limited. It would appear that its best use would be for a library operating in a well-defined subject area. In this case, the best source choice would appear to be . . . citations from papers on the subject (as opposed to papers from subject journals) . . .

Citation analysis is, however, a useful technique for examining journals in general, mapping trends in those journals or literature as a whole or of a particular country. Partly because of its many possible interpretations, it remains interesting.<sup>7</sup>

Here Singleton hits upon an important point that serves as a solution to the problem of devising an effective method for measuring inhouse use of periodicals. Librarians should study the products of research undertaken, or presumed to have been undertaken, in the library under study. Theses and dissertations serve as a convenient source of such in-house research; a citation study using these materials as source documents offers a practical compromise between use studies and traditional citation studies by avoiding most of the pitfalls of each while retaining most of the advantages.8

One question comes immediately to mind: if use cannot be measured by circulation dates or by the number of books pulled off shelves, then how can one maintain that it is possible to measure library use by analyzing citations in theses and dissertations? Granted, citation studies cannot measure the casual, day-to-day use of library materials—what has been termed "informal" use. Theses and dissertations are examples of the "formal" use of information, which is distinct from, yet related to, informal use just as written language remains separate from, yet akin, to spoken language. By measuring formal use, we determine which materials were important enough to the researcher to merit a citation. A study of theses and dissertations, therefore, does not assess the value of the library as a source of recreation or current awareness, but rather as a tool for research.

The process used in the present study was a simple but time-consuming one. For each thesis or dissertation submitted between 1975 and 1980—provided it was on the shelf by February 1981 (there were sixty-seven in all)—the following information was recorded, using the documents' bibliographies as a source: 1) journal title and date for each periodical citation; 2) the number of citations to book materials, including encyclopedia articles; 3) the number of citations to other materials, such as dissertations, newspapers, ERIC files, etc.; and 4) the major field of the degree candidate, the four choices being musicology, music theory, music education, and applied music. These general statistics are summarized in Table 1.

Periodical citations account for approximately thirty percent of the total number of citations—a proportion similar to that found in other citation studies in the humanities; both Wesley Clark Simonton's study in the fine arts and B. R. Tucker's in philology record twenty-nine percent.<sup>10</sup> The number of book citations per source document is almost twice that of periodical citations. With respect to theses and dissertations in musicology, 23.6 percent of the citations were to periodicals; this is comparable to the 25 percent found by D. L. Vaughan in his 1959 analysis of The Musical Quarterly and The Journal of the American Musicological Society. Music theorists tend to cite more periodical literature than music educators, who, in turn, cite more than musicologists. Since the number of documents from applied music majors is so small. separate observations could not be justified; the figures are here simply as a record, and no further analysis was devoted to the documents. For music theory, music education, and musicology documents, cited periodicals were ranked according to the number of citations to each (Tables 3-5),12 and the obsolescence rate within each subject area was mapped on bar graphs (Figures 2, 3, & 4).

A total of 265 periodical titles were cited in the sixty-seven theses and dissertations; of these, only seventy-nine were cited more than once. Table 2 lists the fifty most frequently cited periodicals. Six journals produced one quarter of the citations; twenty-nine, one-half; and all fifty satisfied three-fifths of the citations.

For the rankings according to subject area, any journal that was cited in no more than one document was omitted with the thought that the rankings should not be influenced by the specialized research needs of a single person. Table 3 shows that theorists restrict their use to a very small group of journals. More than half the total number of citations were satisfied by the first five journals; the entire list produced almost three-quarters of the total. Strong emphasis is placed on Perspectives of New Music and the Journal of Music Theory, with forty-one and thirty-seven citations, respectively. We can also see from Table 1 that theorists rely less on secondary sources in their work,

with an average of only 22.6 citations per document, compared to the overall average of 56.6.

Alan Singleton notes that citation analyses are valuable in determining which journals outside a field of study have been of use to researchers working within that field—information that cannot easily be obtained by other methods.<sup>13</sup> Such is the case with the ranking of music-education journals. One might guess that researchers in music education would make moderate use of periodicals in the social sciences, but the ranking in Table 4 shows a strong dependence on non-music research; three psychology journals appear among the ten most frequently cited titles. Considerable emphasis is placed on the *Music Educators Journal*, while the remainder of the citations are dispersed among a large number of diverse journals, ranging from *Art Education* to the *Journal of Personality*. This diversity is undoubtedly a product of the diversity within the field itself.

Musicology majors extend their periodical use over a large number of titles (Table 5). Ten journals are required to satisfy one-third of the citations, whereas it took fewer than five journals to produce the same results for the theory and music-education documents. Of the twenty-three journals listed here, only seven publish exclusively in English; the theory and education rankings include few foreign periodicals.

As was mentioned above, it is generally assumed that journal literature in the humanities does not become dated as quickly as that of the sciences and social sciences. Figure 2 shows that the musicology documents analyzed in the present study reenforce these findings. Although there is a decline in use with age, a fairly large percentage (43%) pre-date World War II. In fact, the rate of obsolescence is not nearly as great as that of Longyear's study, in which only thirty-five percent of the citations antedated 1945.<sup>14</sup>

Previous citation studies of musicology journals, such as Longyear's and Vaughan's, offer a point of reference and help place the findings of the present study in perspective. So far as I know, similar studies have not been applied to music-theory or music-education journals. There has been one study, however, that ranks selected fields in the sciences, social sciences, and humanities according to the obsolescence rates of scholarly literature found in previously published research. The results are surprising. After the sciences and social sciences, philosophy and music were found to be the subject areas most reliant on current literature. Judging from the statistics on musicology, this would seem unlikely, but when taking all three areas into account, we are faced with a different situation. Figure 1 shows that the rate of obsolescence in the literature as a whole is very high: almost three-quarters of the total number of periodical citations date from 1955 to 1978. The reason for the marked difference between musicology and the entire field of

music is the extremely high rate of obsolescence in the periodical literature cited by music educators and theorists (Figures 3 & 4). More than three-quarters of the music-education citations and seven-eighths of the theory citations date from the past twenty-five years. These two fields, therefore, behave more like the sciences and social sciences than like the humanities, as might be expected. There could be a number of explanations for this. Periodical indexing in music was sporadic and far from thorough before the establishment of *Music Index* in 1940; music history was the only area that enjoyed respectable coverage during the first half of the century. Another possible reason is the simple fact that music theory is, in essence, the scientific study of music (in contrast to musicology, which is more closely related to the humanities), and music education, being a subfield of education, is a social science; therefore, the literature of the two fields behave accordingly.

In summary, a total of 265 periodical titles were cited in the source documents; of these, a little under thirty percent were cited more than once. When taken as a whole, the periodical literature of music has a high rate of obsolescence. Musicologists extend their use over a large number of journals having a fairly low rate of obsolescence. Music theorists cite a very small group of journals, the majority of which become obsolete in a little over ten years. Music educators use a large variety of periodicals, which become dated almost as rapidly as those of theory; many of the journals concern topics other than music, such as general education and psychology.

How can these findings be applied to serials management in music libraries? I am not convinced that the specifics of the present study would have any relevance outside the Indiana University Music Library, but I believe the general findings of this study—that researchers in music rely on a relatively small group of journals that do indeed become obsolescent with age—would be reaffirmed were the study to be repeated at other institutions.

Librarians must now set about determining which periodicals in their own collection are likely candidates for cancellation, and negotiate within regional networks to decide which library—if any—should retain a subscription. Of course, a deluge of subscription cancellations will no doubt drive prices even higher, but, being faced with shrinking budgets and the exigencies of serial publishers, librarians have no other choice.

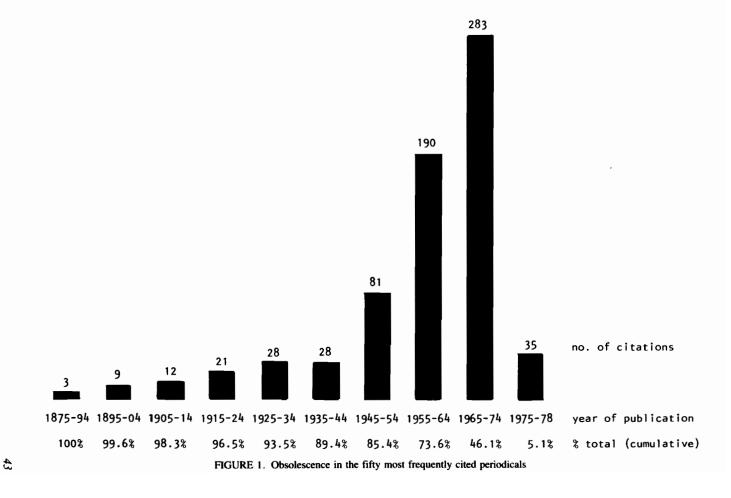
### **NOTES**

<sup>1.</sup> Michael R. Kronenfeld and James A. Thompson, "The Impact of Inflation on Journal Costs," *Library Journal* 106, no. 2 (1 April 1981):714-717.

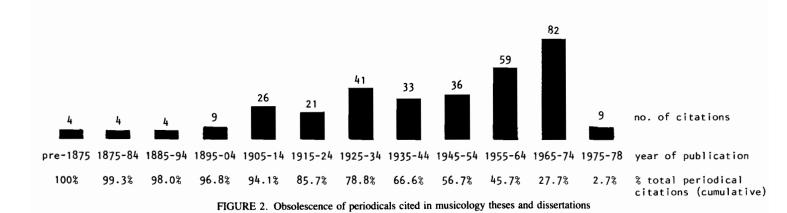
<sup>2.</sup> See Richard DeGennaro, "Escalating Journal Prices: Time to Fight Back," American Libraries 8, no. 2 (February 1977):69-74.

- 3. For an example of Trueswell's work see "User Circulation Satisfaction vs. Size of Holdings at Three Academic Libraries," College & Research Libraries 30, no. 3 (May 1969):204-213.
- 4. For reviews of the Arts & Humanities Citation Index as a tool in music research, see Michael A. Keller and Carol A. Lawrence, "Music Literature Indexes in Review," Notes: The Quarterly Journal of the Music Library Association 36, no. 3 (March 1980):576-588, and Thomas Heck, "The Relevance of the 'Arts & Humanities' Data Base to Musicological Research," Fontes Artis Musicae 28, no. 1-2 (January-June 1981):81-87.
- 5. Wesley Clark Simonton, "Characteristics of the Research Literature of the Fine Arts During the Period 1948-1957" (Ph.D. dissertation, University of Illinois at Urbana-Champaign, 1960); D. L. Vaughan, "Characteristics of Literature Cited by Authors in Articles in the Musical Quarterly, 1955-58 and The American Musicological Society Journal, 1953-56" (M.L.S. thesis, University of North Carolina 1959).
- 6. R. M. Longyear, "Article Citations and 'Obsolescence' in Musicological Journals," Notes: The Quarterly Journal of the Music Library Association 33, no. 3 (March 1977):563-571.
- 7. Alan Singleton, "Journal Ranking and Selection: A Review in Physics," Journal of Documentation 32, no. 4 (December 1976):272.
- 8. A list of other citation studies based on dissertations would include: Katherine W. McCain and James E. Bobick, "Patterns of Journal Use in a Departmental Library: A Citation Analysis," Journal of the American Society for Information Science [JASIS] 32, no. 4 (July 1981):257-267; William Bruce, "A Citation Analysis of Doctoral Dissertations in Library and Information Science, 1961-1970" (Ph.D. dissertation, Case Western Reserve University, 1975); and George R. Chambers and James S. Healey, "Journal Citations in Master's Theses: One Measurement of a Journal Collection," JASIS 24, no. 5 (September-October 1973):397-401.
- 9. Alan Pritchard, "Letters to the Editor: Citation Analysis vs. Use Data," Journal of Documentation 36, no. 3 (September 1980):268-269.
- 10. Louis Bebout, Donald Davis, Jr., and Donald Oehlerts, "User Studies in the Humanities: A Survey and a Proposal," RQ 15, no. 1 (Fall 1975):41.
  - 11. Vaughn, "Characteristics of Literature," p. 17.
- 12. In these tables, periodicals with an identical number of citations are subranked by the number of citing documents (e.g., a periodical cited ten times in six documents receives a higher ranking than a periodical cited ten times in two documents). If both the number of citations and the number of citing documents are identical, the titles receive equal ranking and are arranged in alphabetical order.

  - 13. Singleton, "Journal Ranking," p. 271.14. Longyear, "Article Citations," p., 569 (Table III).
- 15. Clyve Jones, Michael Chapman and Pamela Carr Woods, "The Characteristics of the Literature Used by Historians," Journal of Librarianship, 4, no. 3 (July 1972):137-159.







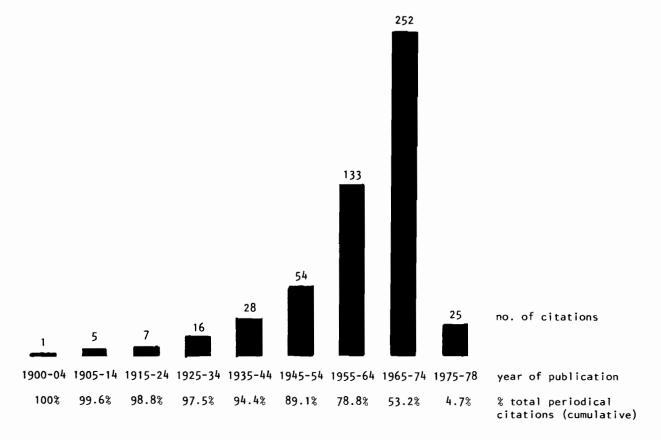


FIGURE 3. Obsolescence of periodicals cited in music education theses and dissertations

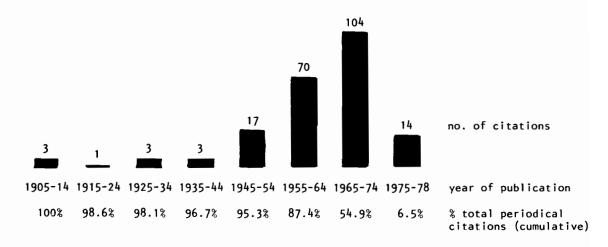


FIGURE 4. Obsolescence of periodicals cited in music theory theses and dissertations

TABLE | GENERAL STATISTICS

	# of	total	average # of	PERIODICALS			BOOKS (excluding scores)		
area of concentration	source docs.	# of citations	citations per source doc.	# of citations	% total	average per source doc.	# of citations	% total	average per source doc.
MUSIC THEORY	25	566	22.6	215	40.0%	8.6	300	53.0%	12.0
MUSIC EDUCATION	20	1618	80.9	521	32.2%	26.1	861	53.2%	43.1
MUSICOLOGY	17	1388	81.6	328	23.6%	19.3	886	63.8%	52.1
APPLIED MUSIC	5	217	43.4	65	30.0%	13.0	146	67.3%	29.2
TOTAL	67	3789	56.6	1129	29.8%	16.9	2194	58.0%	32.8

# TABLE 2 THE FIFTY MOST FREQUENTLY CITED PERIODICALS ACCORDING TO THE NUMBER OF CITATIONS

Rank	# citations	% total periodical citations (cum.)
1 Music Educators Journal	100	8.9
2 Journal of Music Theory	43	12.7
3 The Musical Quarterly	42	16.4
3 Perspectives of New Music	42	20.1
5 Journal of Research in Music Education.	30	22.7
6 Etude	28	25.2
7 The Music Review	23	27.3
7 Journal of the American Musicological		
Society	2 3	29.1
9 Music Journal	2 1	31.2
9 Clavier	21	33.0
11 Music δ Letters	20	34.8
12 American Music Teacher	14	36.0
12 Tempo	14	37.3
14 Musical Times	13	38.4
15 The Score	12	39.5
16 Journal of Educational Psychology	11	40.5
17 The American Journal of Psychology	10	41.7
17 Musik und Kirche	10	42.2
17 Melos	10	43.1
17 School Musician	10	44.0
21 Die Musikforschung	9	44.8
21 Journal of Experimental Psychology	9	45.6
21 Zeitschrift für Musikwissenschaft	9	46.4
24 Acta musicologica	8	47.1
24 Musical Courier	8	47.8
24 instrumentalist	8	48.5
24 Recherches sur la musique française		•
classique	8	49.2
28 Archiv für Musikwissenschaft	7	49.9
28 Diapason ,	7	50.5

# TABLE 2 (cont.)

28	Neue Zeitschrift für Musik	7	51.1
28	Phi Delta Kappan	7	51.7
28	Sammelbände der internationalen Musik-		
	gesellschaft	7	52.3
28	Monatshefte für Musik-Geschichte	7	53.0
34	Schweizerische Musikzeitung	6	53.5
34	Musical America	6	54.0
34	Musical Opinion	6	54.6
34	The Psychological Review	6	55.1
34	The Journal of Aesthetic Education	6	55.6
34	Tijdschrift der Vereniging voor Nederlandse		
	Muziekgeschiedenis	6	56.2
40	Notes	5	56.6
40	Art Education	5	57.0
40	Musica disciplina	5	57.5
40	Revue de musicologie	5	57.9
40	The Saturday Review	5	58.4
45	Modern Music	4	58.
45	The Piano Quarterly	4	59.1
45	The Journal of Aesthetics and Art Criticism	4	59.4
45	The Journal of General Education	4	59.8
45	Psychonomic Science	4	60.1
50	College Music Symposium	3	60.
50	Journal of the Acoustical Society of America	3	60.
50	The Monthly Musical Record	3	60.9
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### TABLE 3

### PERIODICALS CITED IN THEORY THESES AND DISSERTATIONS periodical Rank # citations citations (cum.) 1 Perspectives of New Music. . . . 41 19.1 2 Journal of Music Theory. . . . . . . . 36.3 37 42.3 13 4 The Musical Quarterly. . . . . 47.4 11 5 The Score. . . . . . . . 11 52.6 6 The Music Review . . . . . . . 57.2 10 7 Melos. . . . . . . . . . . . . . . . . . 8 60.9 8 Musical Times. . . . 64.1 7 9 Music & Letters. . . . 5 66.5 10 Journal of Research in Music Education . 68.8 5 4 70.7 12 The Music Forum. . . . . . . . . 72.1 13 Modern Music . . . . . . . . 73.5 14 College Music Symposium. . . . 74.4

TABLE 4
PERIODICALS CITED IN MUSIC EDUCATION THESES AND DISSERTATIONS

Rank		#	citations	<pre>% total periodical citations (cum.)</pre>
1	Music Educators Journal		. 99	19.0
2	Etude		. 27	24.2
3	Journal of Research in Music Education	n.	. 22	28.4
4	Music Journal		. 21	32.4
5	Clavier		. 19	36.1
6	American Music Teacher		. 13	38.6
7	Journal of Educational Psychology		. 11	40.7
8	School Musician		. 10	42.6
9	The American Journal of Psychology		. 9	44.3
10	Journal of Experimental Psychology		. 9	46.1
11	Instrumentalist		. 8	47.6
12	Phi Delta Kappan		. 7	48.9

# TABLE 4 (cont.)

1 3	The Journal of Aesthetic Education	6	50.
1 4	Art Education	5	51.
15	The Psychological Review	5	52.0
16	The Musical Quarterly	4	52.8
17	The Journal of General Education	4	53.6
8 1	The Elementary School Journal	3	54.1
8	Diapason	3	54.7
8	The Harvard Educational Review	3	55.3
8	Music & Letters	3	55.9
8 8	Musical Courier	3	56.4
8 8	The Piano Quarterly	3	57.0
18	Social Education	3	57.6
25	American String Teacher	2	58.0
25	Archives of Psychology	2	58.3
25	The Journal of General Psychology	2	58.7
25	The Journal of Musicology	2	59.1
25	Journal of Personality	2	59.5
25	The Journal of Psychology	2	59.9
25	Journal of the Acoustical Society of America	2	60.3
25	Music Teacher	2	60.7
25	Musical America	2	61.0
25	The National Elementary Principal	2	61.4
25	Psychological Monographs	2	61.8

TABLE 5

PERIODICALS CITED IN MUSICOLOGY THESES AND DISSERTATIONS

				% total periodical
Rank		#	citations	citations (cum.)
1	The Musical Quarterly	•	. 25	7.6
2	Journal of the American Musicological	1		
	Society		. 20	13.7
3	Music & Letters		. 10	16.8
4	The Music Review		. 9	19.5
5	Zeitschrift für Musikwissenschaft		. 9	22.3
6	Acta musicologica		. 8	24.7
7	Die Musikforschung		. 8	27.1
8	Recherches sur la musique française			
	classique		. 8	29.6
9	Archiv für Musikwissenschaft		. 7	31.7
10	Monatshefte für Musik-Geschichte		. 7	33.8
11	Sammelbände der internationalen			
	Musikgesellschaft		. 6	35.7
12	Tijdschrift der Vereeniging voor Noor	d-	-	
	Nederlands muziekgeschiedenis		. 6	37.5
13	Notes		. 5	39.0
14	Musical Courier		. 5	40.5
15	Revue de musicologie		. 5	42.1
16	Musica disciplina		. 4	43.3
17	Musik und Kirche		. 3	44.2
18	Haydn Yearbook		. 2	44.8
18	Kirchenmusikalisches Jahrbuch		. 2	45.4
18	Musica		. 2	46.0
18	Musical Times		. 2	46.6
18	Schweizerische Musikzeitung		. 2	47.3
18	Studia musicologica		. 2	47.9