

Literature Loss in International Relations

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Literature loss has two levels of meaning. In the research process, it refers to the difference between what is "out there" in some published form and what is likely to be found in a literature search. On an institutional level, it refers to the declining ability of research libraries to maintain comprehensive collections in the wake of the extraordinary growth and price inflation of scholarly literature since the 1970s.

Recent technological innovations in the library field provide the means not only to measure literature loss on an institutional level, but also to alleviate it in one's own research work. An application of this technology to the area of international relations is presented here. Part one of the paper is a brief history of the commentary on literature loss in the social sciences. Part two provides an analysis of the growing gap in the international relations area between book publication output and the aggregate holdings of 70 institutions in the Association of Research Libraries (ARL).¹ Part three describes the relevance of the new technology in greater detail, with an illustration for peace and conflict studies. Finally, part four draws some conclusions on the problem of literature loss at both the research and institutional levels, as well as on the closely related question of information retrieval.

Commentary on Literature Loss

The problem of literature loss first came to the fore 20 years ago when Robert Lane observed, in his presidential address to the American Political Science Association, that publication of political science articles in general journals was hindering development of a cumulative body of research in the political science field itself (1972, 181). During the 1970s, a few scholars prodded the association

to sponsor the organization of a more comprehensive bibliographic database. However, as Carl Beck reported toward the end of the decade, such efforts had to be abandoned for lack of colleague support:

The need for information retrieval systems in the social sciences is both real and apparent but, given the ability of many researchers to gather idiosyncratic research support, the need is not perceived as acute. For most of us, our information search behaviors were shaped by payoffs in the random walk that we undertook as students in college and graduate schools. Although little has been done to analyze the nature of this walk in the social sciences, it seems a tenable hypothesis that our information behavior was shaped by "authorities": the authority of either a journal or a publisher who had attained high status in the profession. The authority-conscious nature of our information usage is reinforced by the information explosion; to undertake that walk again with all the many information sources available is a traumatic experience. . . . The information milieu in the social sciences gets further compounded by the changing nature of the social sciences. Under these conditions we have a serious problem of information loss (1977, 428-29).

A similar effort to organize a comprehensive database for peace research under the auspices of the United Nations also failed, although the *UNESCO Yearbook of Peace and Conflict Studies* was launched as a compromise measure in 1980 (Hoivik 1980; Beck 1980; Chatfield 1980).

Discussion of the problem of information loss lapsed in the 1980s.² However, a large-scale survey in 1986 of scholars' views on libraries and databases tends to corroborate Beck's concern about the relatively narrow, authority-conscious nature of literature-searching behavior. This survey found that, among 3,835 social scientists, 77% rely primarily on personal libraries for doing

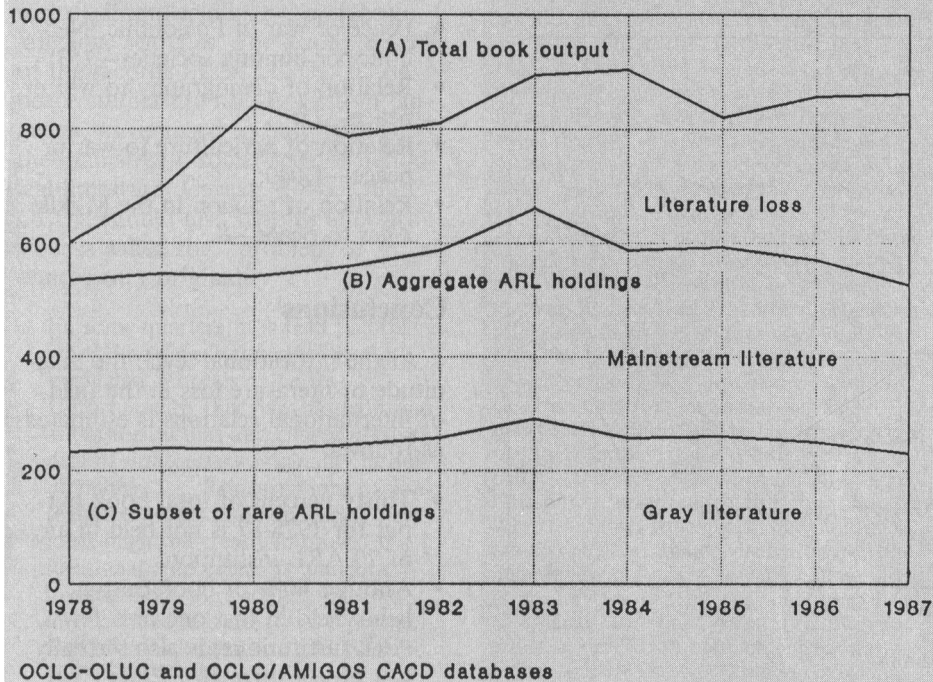
research; only 18% attach much importance to computerized card catalogs; and just 6% use online databases of periodical literature with any regularity (Morton and Price 1989). Evidently, social scientists tend to confront the expanding information environment by limiting their searches to relatively small, familiar parts of it.

Measurement of Literature Loss Among Research Libraries

Underlying any analysis of literature loss is the problem of assessing the size of the universal stock of academic books in a given field. That problem has no definitive solution, nor any prospect of one. Moreover, even if accurate book publication figures could be compiled, it would hardly make sense to consider them as realistic or worthy goals for research library collection development. The ancient ideal of the Library of Alexandria—to hold everything that was ever published—has been considered impossible and undesirable since the early part of the twentieth century.

For the purpose of the analysis presented here—to assess the financial performance of the nation's research libraries within reasonable bounds—book publication output is derived from the Online Computer Library Center, Inc. (OCLC) Union Catalog (OLUC) bibliographic database. The decision to use this database recognized the utter infeasibility of attempting to locate the publication lists of hundreds of university and trade publishers, scholarly societies, and the like (in peace studies alone, UNESCO lists 313 research bodies); and involved the simplifying assumption that just about any book that appeared over the past decade in the Americas or in Europe would have shown up in the OCLC-OLUC system, which contains the shared

FIGURE 1
Book Output on International Relations



cataloging of over 4,800 libraries, including the Library of Congress, in 26 countries.

Figure 1 compares the aggregate holdings of 70 ARL institutions with total book output on international relations for the period 1978-87.³ Line A shows that output fluctuated from a low of 601 titles in 1978 to a high of 904 titles in 1984, with 867 titles in 1987. On average, 808 titles were published annually, with a standard deviation of 89.

Line B—covering that part of book publication output that is held in at least one of 70 ARL institutions—is derived from a different database, OCLC/AMIGOS Collection Analysis CD (CACD). It shows aggregate ARL holdings by year of publication (not by year of acquisition). Such holdings in international relations fluctuated from a low of 525 for titles published in 1987 to a high of 662 for titles published in 1983. On average, 570 titles were acquired per year of publication, with a standard deviation of 38. Overall, ARL holdings dropped from 75% of book output in the late 1970s to 65% in the late 1980s.

Line C demarcates the mainstream literature from the gray literature. The former includes books held by at

least 10% of ARL institutions and comprises 55% of ARL aggregate holdings. The gray literature is held in less than seven institutions and mainly consists of small press publications, foreign-language materials, conference proceedings, and legal texts.

Table 1 clarifies the breakdown between the mainstream and gray literatures on international relations by showing their relative distribution within ranges of ARL holdings. The distribution of mainstream literature is covered in the top nine ranges, starting with the 115 titles held in 90%-100% of ARL institutions and descending to the 10%-19% range with holdings of 838 titles. Strikingly different is the distribution of the gray literature; as many as 1,817 titles are held in only a few of the ARL institutions, with another 1,216 titles being in a "unique" category. Thus, the main point brought out by the table is that the holdings of books on international relations among ARL institutions are highly skewed, or disparate.

Among the largest ARL institutions, the average collection holds 60% of the mainstream literature and 18% of total output. Among smaller academic libraries (with

about 1 million volumes), the average collection holds 23% of the mainstream literature and 12% of total output.

Research Applications of the New Technology

The prospect of finding a relatively small and diminishing part of the book literature in a major research library reflects a substantial literature loss and presumably arouses interest in the OCLC-OLUC database and its scope for information retrieval. OCLC was established in 1967 to facilitate shared cataloging operations. Books could be searched by author and/or title, but not by subject. The OLUC subsystem, incorporating subject and keyword retrieval capabilities, began in 1990. By then, the OCLC database contained over 20 million records, with 2 million being added each year.

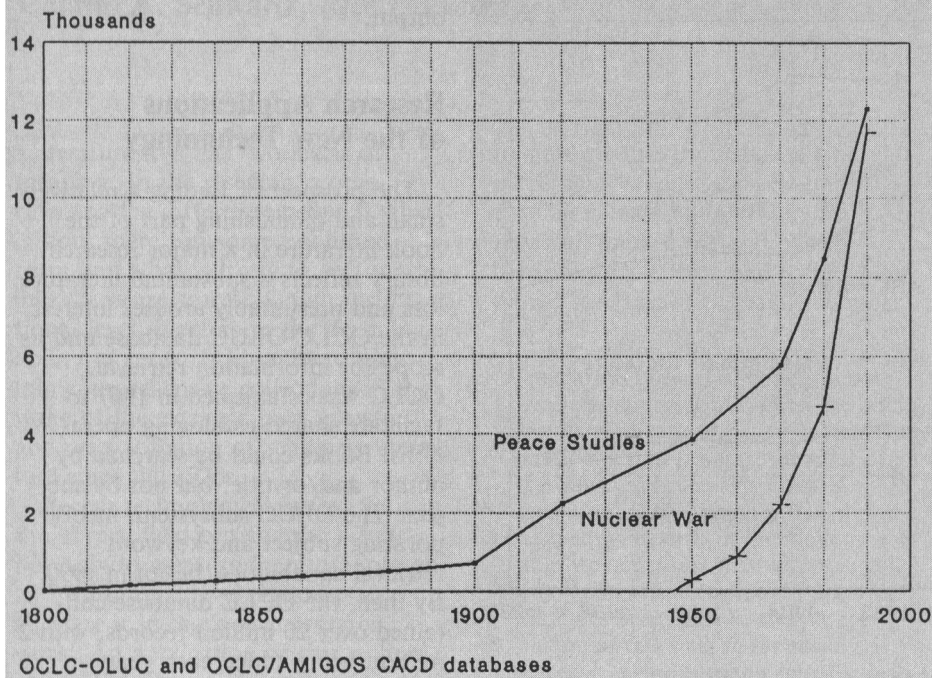
Searches can be directed to records in one or more of 365 languages, and to particular formats—books, serials, musical scores, sound recordings, machine-readable files, maps, and media (films, videos). Retrieval can be formatted to show which libraries own an item. Online charges are \$24.00 per hour with an additional telecommunications charge of \$8.40 per hour, but most searches can be

TABLE 1
Distribution of Holdings
Association of Research Libraries
Books* Published 1978-87
on International Relations

Percentage of 70 ARL Institutions	Number of Titles per Range
90-100	115
80-89	191
70-79	184
60-69	154
50-59	143
40-48	182
30-39	225
20-29	364
10-19	838
3-9	1,817
Unique	1,216
Total 1-100	5,429

*Excluding dissertations and U.S. government reports.

FIGURE 2
Book Output: Nuclear War, Peace Studies



done by a trained librarian in a few minutes.

OCLC-OLUC is particularly useful for interdisciplinary and historical research. Figure 2, for example, compares the growth of two book literatures: nuclear war and peace studies. The number of titles on nuclear war has roughly doubled every five years since 1945, with the greatest growth in the early 1980s. The number of titles on peace studies, by contrast, displayed no pronounced trend during the nineteenth century, doubled in size during the first 40 years of this century, doubled again during the next 30 years, and nearly again in the 1980s.

Proliferation of peace studies reflects a broadening of the research agenda from "negative peace"—an absence of warfare—to "positive peace"—the presence of social and economic justice, with all that implies for radical transformation of national and international arrangements. There is strong debate whether this expanding agenda is leading to a loss of focus and coherence in the field:

[As Hylke Tromp has said], "peace research has become what a black hole is in astronomy. There seems to be no social problem which in the final

analysis does not have its legitimate place within peace research, and therefore is absorbed by the definitional processes in peace research." In peace research, as elsewhere, rapid growth causes its own problems, e.g., in terms of integration. Extremely few, if any, of those who define themselves as peace researchers today have an overview of the entire field, and hardly any peace research institute has more than some parts of it represented. To many peace researchers, it is a source of embarrassment that a field which prides itself on its transdisciplinarity should become so compartmentalized (Wiberg 1988, 45; Tromp 1980, xxvii).

Some scholars have urged a return in peace research to its traditional focus on international security issues (Boulding 1989; Quester 1989; Soroos 1990). However, no such trend is evident; the amount of peace research that is cross-referenced in OCLC-OLUC with such "negative peace" descriptors as arms control or nuclear weapons has not changed much over the past decade, hovering around 10%.

OCLC-OLUC is also useful for checking perceived gaps in the literature. For example, Kenneth Boulding proposed a number of topics for peace historians (1989). Below are a few of these topics, along with the

number of probably relevant records retrieved in a quick search for purposes of this paper:

- Peace or war in Paleolithic, Neolithic, or hunting societies—153;
- Relation of demography to war or peace—21;
- Relation of agriculture to war or peace—1,040;
- Relation of religion in the Middle Ages to peace—8.

Conclusions

At the institutional level, the magnitude of literature loss in the field of international relations is estimated as follows:

- Thirty percent of total book output for 1978-87 is not held in any of 70 ARL institutions.
- Another 40% of book output, being held in just one or a few ARL institutions, is also virtually lost except through EPIC.
- Of the remaining 30% that comprises the mainstream literature, the average ARL institution holds about a third of it, or roughly 13% of the books published on international relations during the period under review.
- In the largest ARL institutions, a researcher will find about 60% of the mainstream literature and up to 18% of total book output for the period.

As Figure 1 shows, literature loss grows rather steadily. Underlying the deteriorating position of the nation's research libraries are certain inflationary tendencies built into the scholarly communications system. During the 1978-87 period, the average price of a hardbound book on political science increased 180% (Bentley 1991, 404); and the cumulative inflation rate for institutional subscriptions to political and social science journals increased 270%, rising to 356% by 1991 (Carpenter and Alexander 1991, 59). In any particular field, new journals (13 in political science since 1978) also tend to "crowd out" book acquisitions.

However, with the advent of OCLC-OLUC, researchers are no longer tied to their institutional card catalog systems. The importance of comprehensive retrieval, of course,

depends on the nature of the research problem at hand. OCLC-OLUC is especially useful for historical, interdisciplinary, or foreign-language searches. For example, 29% of the records in OCLC-OLUC on peace studies are non-English in language, as opposed to only 10% of the mainstream social-science periodical literature (Gareau 1984). OCLC-OLUC should also help to alleviate what is called the "problem of unnecessary originality":

[In some quarters, it is held,] all that is worth knowing is contained in the very latest journals or books. . . . Unfortunately, this view has led to an antihistorical bias and caused a great deal of unnecessary originality in our discipline. . . . Reincarnations of contemporary ideas and supposedly new ideas might be greatly improved if ideational antecedents or previous investigations were sought out and incorporated into the "new" production of knowledge (Ault and Ekelund 1987, 652).

More directly, an OCLC-OLUC search may have value in demonstrating to editors that a research proposal does indeed fill a gap in the literature.

As a final note, while the OCLC-OLUC system for comprehensive book retrieval now extends online to some 4,500 institutions, the CACD system for collection analysis has only been acquired by 44 institutions. Combining the two systems to measure literature loss in a given field has not been done before, so there are no other studies against which to compare the results of the analysis presented here.

Notes

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1. ARL currently comprises 117 institutions. For the period 1978-87 under review, 70 institutions are included in the OCLC/AMIGOS Collection Analysis CD. The particular holdings of two research libraries not included—Stanford University and the New York Public Library—may be of interest to peace historians, since those institutions collect comprehensively in the area of international relations. Such holdings, however, would not materially affect the results of this

study, which is based on the contemporary literature.

2. A few tangential studies were done in the library field. Two citation analyses of political science journals—one for the period 1910-60 (Robinson 1973), the other for 1968-70 (Stewart 1970)—showed the same distribution of sources used in research: 30% from within the discipline, 40% from other social sciences, and 30% from outside the social sciences. Drawing on those studies, Elliot Palais (1976) assessed the coverage of various periodical indexes for 179 journals commonly cited in political science. He found the range of coverage to vary between 40% and 70% of the journals. Thus, reliance on any one index to search a broad topic means information loss in the range of 30%-60%.

3. The literature on international relations comprises the "JX" range of the Library of Congress classification scheme and falls under three primary subject headings: international relations, world politics, and national security. In this hierarchical scheme, titles falling under the scores of more specific subject headings (e.g., peace, nuclear arms) are also retrieved and counted. However, the numbers are not precise owing to inevitable inconsistencies, duplications, and errors in any shared-cataloging system as OCLC. (For example, the "first" book on nuclear warfare in the database is the 1932 edition of Aldous Huxley's *Brave New World*, which actually dealt with chemical warfare; this record was created, apparently on the basis of a cataloger's faulty recollection of the novel's theme, sometime in the 1970s.) Also, while researchers in the area of international relations are obviously interested in far more of the literature than is classified in the "JX" range, inclusion of non-"JX" titles in any general analysis would be an arbitrary and endless process. For the analysis presented here, it was necessary to structure and bound the literature on international relations. The set of 5,500 titles, together with the set of 70 ARL research collections, are adequate to draw reasonably accurate patterns of literature loss over the past decade.

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