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ACADEMIC JOURNAL EMBARGOES AND FULL TEXT DATABASES

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The number of journals with embargo periods in aggregated databases designed for academic libraries has increased for the simple reason that the number of available full text journals in these collections has also increased. Misconceptions surrounding embargo periods deduce that embargoes diminish access to information by withholding the current full text from journals, when in fact, embargoes increase access to information for journals that otherwise would not be available in aggregated databases. Embargoes exist for the purpose of preserving a publisher's traditional print and electronic journal subscriptions. Full text databases and e-journals are distinctly different resources. The use of embargoes may be valid in one electronic resource, but not the other. Linking capabilities provide seamless access from embargoed journals with current indexing in databases to the corresponding current full text found in a library's e-journal collection. Embargoed information from a given journal is far superior to no full text information at all from that source.

As full text databases make their way into more and more universities worldwide and competition among database vendors heightens, it is only natural that the scrutiny under which these databases fall increases proportionately. As libraries evaluate their options, many aspects of full text databases need to be considered by these prospective subscribers. Evaluation items include searching capabilities, indexing, linking, stability of access and administrative functionality, but it is often the con-

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tent itself that is deemed the “core” or key component of these resources. When analyzing this content in scholarly databases, the quality and quantity of full text journals, and particularly peer-reviewed full text journals, available in these collections is of significant interest. In the midst of this evaluation, questions and concerns surrounding full text embargo periods inevitably surface.

Embargoes exist in certain circumstances within aggregated databases for specific reasons. This article will document these reasons and provide insight regarding common misconceptions surrounding the topic of embargoes. This topic has largely gone unresearched, as a lack of substantive literature on the topic clearly depicts.²

What Is an Embargo?

An embargo, as it relates to aggregated databases, is a publisher-imposed delay on the availability of full text content. Scholarly publications, rather than general interest periodicals, are most susceptible to embargoes. Embargoes exist when a full text database aggregator has the rights to provide full text coverage for a particular journal, but the publisher of that journal restricts the vendor from offering the most current issue(s). Embargoes range in length but typically fall somewhere between one week and one year. Although the availability of full text is delayed in such instances, indexing and abstracting can remain current depending upon the practices of the individual database vendor. Publishers do not have the right to restrict aggregators from offering current indexing and abstracts.

Why Do Embargoes Exist?

Embargoes are imposed by publishers (not by database aggregators) in an effort to preserve their core business (individual journal subscrip-

2. In addition to an interest in this topic, the author chose to write an article on the subject of embargoes in full text databases due, in large part, to a lack of current, relevant literature on this subject. In-depth research revealed limited available information and a lack of meaningful research conducted on applicable embargo periods and adjacent issues. In fact, an inordinately small number of sources even briefly provide exposure for such a widely discussed topic among library and information professionals. Little to no information was located in such prominent sources as *Library Quarterly*, *Journal of Academic Librarianship*, *Library Journal*, *Journal of Scholarly Publishing*, *Learned Publishing*, and other sources. Though the author offers various references to relevant literature throughout this article, it is experience and direct involvement with this issue that support many of the points that appear herein.

tions) whether these subscriptions come in traditional print form or the increasingly popular electronic journal. As stated in the April 2001 issue of *Library Journal*, "embargoes have the potential to offset concerns about lost sales and may be a way to restore the delicate balance between publishers and aggregators" [1, p. 56]. Although this practice of imposing embargoes is sometimes thought of by librarians as restricting the flow of information to end users, a basic understanding of the pricing models of aggregated databases will reveal the reasoning for this policy. In reality, without journal embargoes, databases would not have seen the huge influx of new full text sources that are now available. Instead, many preexisting full text sources would have been halted or removed completely from databases.

As outlined in the July 2001 issue of the *Journal of Academic Librarianship*, "a publisher may charge \$2,000 per year for a paper subscription to a journal. Yet that same journal may be available through a full-text database containing a total of a thousand journals. If the library pays \$20,000 for that database, its cost per journal is only \$20. If academic libraries used these databases as a substitute for the print versions, even if the journal aggregator shared every penny collected with the publishers, it would be nearly impossible for any publisher to stay in business. This would mean that the publisher would collect 1% of their actual subscription price (an infeasible 99 percent discount)" [2, p. 317]. This reasoning is echoed in *Information Services & Use* where, on the topic of aggregated full text databases, Diane Miles states, "since the bundled discounts are sometimes arguably viewed as a threat to subscription income, publishers are increasingly embargoing the most recent material in order to avoid this" [3, p. 37]. Hence, embargoes provide a layer of protection for publishers, while still allowing researchers to access the long-runs of PDF back files made available via some aggregated databases.

Making the distinction between e-journals and aggregated full text databases is necessary in order to decipher why there might be an embargo for one access type and not another. Subscriptions to e-journals are purchased individually (or through a publisher package), and such licenses are established directly with the journal publisher. This means that the publisher sets the price of the e-journal subscription. Journal publishers almost always establish rates that allow them to preserve and expand their previous core business (print subscriptions). Therefore, embargoes on e-journals are rare and generally unnecessary.

One of the leading e-journals in the world (*Nature*) was initially introduced as having a three-month embargo for institutional subscribers. However, on April 23, 2001, it was announced that *Nature* had changed their policy, removing the embargo completely [4]. There are no

longer any major publishers that impose embargo periods on e-journal subscriptions.

How Do Halted Titles Differ from Embargoed Titles?

When a journal ceases publication, and consequently is not available in an aggregated database, we refer to this as a title that has been “naturally ceased” in the full text collection. On the other hand, a particular journal is “unnaturally halted” when a publisher decides that it will no longer be made available in a particular full text database, even though that journal has not ceased publication. These titles may have a stop in coverage in these databases or, on some occasions, may be removed completely (including back files). Full text is made available in aggregated databases in one of four ways: (1) current, ongoing full text, (2) embargoed, ongoing full text, (3) halted full text, (4) no full text whatsoever.

Thus, libraries must consider not only “embargoed, ongoing full text titles” upon evaluation but also the existence of unnaturally halted titles and the absence of full text for specific, quality journals. Strangely, the problem of halted titles has seemingly been ignored, while there has been much discussion regarding embargoes. Halted coverage is, in effect, the most extreme and severe form of embargo that any publisher can impose.

Unnaturally halted titles often appear as part of the total full text title counts on database title lists. This may cause a database to appear to have more full text (without embargoes), when actually the full text is no longer being added to the database. These titles can be easily detected in most cases because the full text will have an end date (that is, coverage from 7/1/89 to 1/1/00), while the indexing coverage likely continues (with no end date). Table 1 contains data depicting

TABLE 1
HALTED FULL TEXT COVERAGE IN MULTIDISCIPLINARY, ACADEMIC FULL TEXT DATABASES

Database	Total # of Full Text Titles (A)	Unnaturally Halted Full Text Titles (B)	Ceased Naturally or Changed Names (C)	Total Active Full Text Titles A - (B + C) (D)
Academic Search Elite	1,530	5	143	1,382
Academic Search Premier	3,170	10	210	2,955
Expanded Academic ASAP	1,741	169	173	1,399
Periodical Abstracts Research II	1,277	147	73	1,057
ProQuest Research Library	1,700	197	104	1,399

halted full text coverage that appeared in the January issue of the Johns Hopkins University Press publication, *portal: Libraries & the Academy* [5, p. 49].

Why Has the Topic of Embargoes Been Prevalent in Recent Months?

Embargoes have existed for quite some time but have become more of a topic of conversation in recent months. Many publishers that, in the past, had never worked with a full text aggregator are now working with at least one vendor and doing so only under the “protection” of an embargo period on their journals. Thus, as the number of peer-reviewed journals contained in databases sharply increased due to participation by these new publishers, the total number of journals with embargoes also increased. That is not to say that all new journals in databases will have embargo periods, as many do not.

Does One Full Text Database Vendor Have More Embargoes than the Others Do?

Ongoing discussions on public listservs have raised the concern that EBSCO (Elton B. Stephens Company) has more embargoed journals in total than any other database provider. This is true, but for good reason: EBSCO offers more full text, peer-reviewed journals than any other full text aggregator. Hence, the number of journals with full text embargo periods is consequently larger. The total number of active, full text peer-reviewed journals without embargo periods is also larger in EBSCO databases. Since these recent discussions, research has also shown clearly that if a journal included in one database contains an embargo, in all known cases, that journal will have the same publisher-imposed embargo if it appears in more than one company’s databases. Though many of the points offered in the Larry Krumenaker article, “A Tempest in a Librarian’s Teapot: EBSCO, ProQuest, Gale Exclusive, and Unique Titles,” are, in the opinion of this author, unsubstantiated, Krumenaker does offer an affirmation of the aforementioned point stating that he “asked each representative of the three aggregator services (GALE, ProQuest and EBSCO) if they embargo. All said they do” [6, p. 43].

Mentioned earlier, EBSCO has been proactive in establishing relationships with publishers that never before participated in aggregated full text databases. The company’s approach clearly raises the question of whether embargoed full text is superior to the complete absence of

full text. Table 2 analyzes and compares several journals embargoed in EBSCO databases and their availability in other databases. These journals were selected at random, with the only criterion being that each had to include an embargo period in *Academic Search Premier*. Information in this table was extracted on July 9, 2002, from the appropriate database title coverage lists made available on www.epnet.com, www.proquest.com, and www.gale.com.

How Does an Aggregator Select Titles (Including Those with Full Text Embargo Periods) to Include in Specific Databases?

In an author interview conducted with David Mangione, EBSCO Publishing's vice president of product management, Mangione explained that journals sought for inclusion (indexing/abstracts) in specific collections are those identified as important in specific subject areas. This importance is ascertained through various journal ranking studies, journal prestige in a given subject area, academic library subscription analysis, customer feedback, and so on. Once identified, EBSCO seeks to license as many of these journals as possible, so that PDF files can be provided directly to end users. Further, the company analyzes which journals should include extensive back files and then decides the length of that back file (as far back as 1965 in many cases).

If, for example, the only full text license made available from a publisher requires an embargo period on the *XYZ journal*, and EBSCO has plans to provide or already provides indexing and abstracts for this title anyway, then the company accepts the full text embargo. The rationale for this is that, if the company's initial research considers the indexing and abstracts of said journal to be a valuable asset to a particular database, then ongoing, but delayed full text coverage only enhances access to this important source. This situation is especially true given that the other option is to offer no full text at all in the database [7].

EBSCO *host* usage statistics show that the period of the most recent six to twelve months is heavily used for journals without embargoes, but these statistics also show that these journals (as well as those with embargoes) display substantial usage in the most current five years. Further, while information greater than five years old is certainly used less than more current articles, it is still used frequently, and this historical perspective is critical in particular areas of research (especially the social sciences and humanities). EBSCO has expanded PDF back files for its most-used journals back to 1965 or 1975. While some of these journals include full text embargo periods, the underlying principle is

TABLE 2
 VARIOUS SELECTED JOURNALS COVERING A CROSS-SECTION OF SUBJECTS AND PUBLISHERS, ALL EMBARGOED IN ACADEMIC SEARCH PREMIER

Journal	Academic Search Premier Coverage	Gale Expanded Academic ASAP Coverage	ProQuest Research Library Coverage
<i>Acta Sociologica:</i>			
A&I	3/75 to present	3/89 to present	3/89 to present
FT	3/75 to present ($\Sigma = 12$)	None	None
FT years	25.33	.00	.00
<i>American Historical Review:</i>			
A&I	2/75 to present	2/85 to present	2/86 to present
FT	2/75 to present ($\Sigma = 1$)	None	2/88 to 12/97 (halted)
FT years	26.34	.00	8.83
<i>American Journal of Family Therapy:</i>			
A&I	1/92 to present	3/89 to present	1/89 to present
FT	3/93 to present ($\Sigma = 12$)	None	1/97 to 12/00 (halted)
FT years	7.33	.00	3.92
<i>American Journal of Political Science:</i>			
A&I	2/75 to present	2/89 to present	2/89 to present
FT	2/75 to present ($\Sigma = 12$)	None	11/95 to 12/98 (halted)
FT years	25.42	.00	3.08
<i>American Sociologist:</i>			
A&I	2/75 to present	12/99 to present	None
FT	2/75 to present ($\Sigma = 6$)	12/99 to 12/00 (halted)	None
FT years	25.92	1.00	.00
<i>Annual Review of Physical Chemistry:</i>			
A&I	1/96 to present	1/98 to present	None
FT	1/96 to present ($\Sigma = 12$)	None	None
FT years	4.5	.00	.00

TABLE 2 (continued)

Journal	Academic Search Premier Coverage	Gale Expanded Academic ASAP Coverage	ProQuest Research Library Coverage
<i>Art History:</i>			
A&I	7/93 to present	3/89 to present	3/89 to present
FT	9/93 to present ($\Sigma = 12$)	None	None
FT years	6.83	.00	.00
<i>British Journal of Sociology:</i>			
A&I	3/75 to present	3/89 to present	3/91 to present
FT	3/75 to present ($\Sigma = 12$)	None	None
FT years	25.33	.00	.00
<i>Chronicle of Higher Education:</i>			
A&I	7/90 to present	12/87 to present	1/86 to present
FT	1/99 to present ($\Sigma = 1$)	None	1/88 to present ($\Sigma = 1$)
FT years	7.42	.00	13.42
<i>Contemporary Music Review:</i>			
A&I	3/99 to present	1/96 to present	None
FT	3/99 to present ($\Sigma = 6$)	None	None
FT years	1.83	.00	.00
<i>Contemporary Physics:</i>			
A&I	1/75 to present	1/89 to present	1/89 to present
FT	1/75 to present ($\Sigma = 12$)	None	None
FT years	25.5	.00	.00

English Language Notes:

A&I 9/74 to present 9/89 to present 3/91 to present
 FT 9/74 to present ($\Sigma = 6$) None
 FT years 26.33 .00

English Studies:

A&I 2/90 to present 2/87 to present 2/89 to present
 FT 2/90 to present ($\Sigma = 6$) None
 FT years 10.92 .00

Geology Today:

A&I 1/98 to present 1/98 to present None
 FT 1/98 to present ($\Sigma = 12$) None
 FT years 2.5 .00

History & Theory:

A&I 2/75 to present 2/89 to present 5/91 to present
 FT 2/75 to present ($\Sigma = 12$) None
 FT years 25.42 .00

Journal for the Scientific Study of Religion:

A&I 3/75 to present 3/89 to present 3/89
 FT 3/75 to present ($\Sigma = 12$) None
 FT years 25.33 .00

Journal of Advanced Nursing:

A&I 1/97 to present None
 FT 1/97 to present ($\Sigma = 12$) None
 FT years 3.5 .00

Journal of Applied Physics:

A&I 1/97 to present 1/92 to present None
 FT 1/97 to present ($\Sigma = 12$) None
 FT years 3.5 .00

Journal of Chemical Physics:

A&I 1/97 to present None
 FT 1/97 to present ($\Sigma = 12$) None
 FT years 3.5 .00

TABLE 2 (continued)

Journal	Academic Search Premier Coverage	Gale Expanded Academic ASAP Coverage	ProQuest Research Library Coverage
<i>Journal of Gender Studies:</i>			
A&I	5/91 to present	3/99 to present	7/97 to present
FT	11/93 to present ($\Sigma = 3$)	None	7/97 to 11/00 (halted)
FT years	7.42	.00	3.33
<i>Journal of Geometry:</i>			
A&I	1/99 to present	None	None
FT	1/99 to present ($\Sigma = 12$)	None	None
FT years	1.5	.00	.00
<i>Journal of Interdisciplinary History:</i>			
A&I	7/90 to present	1/87 to present	1/89 to present
FT	1/98 to present ($\Sigma = 12$)	1/94 to 3/01 (halted)	None
FT years	2.5	6.17	.00
<i>Journal of Musicological Research:</i>			
A&I	11/98 to present	1/96 to present	None
FT	11/98 to present ($\Sigma = 6$)	None	None
FT years	2.17	.00	.00
<i>Journal of Politics:</i>			
A&I	2/75 to present	2/87 to present	2/89 to present
FT	2/75 to present ($\Sigma = 12$)	None	None
FT years	25.42	.00	.00

that online back files are superior to microfilm or print archives. Online back files are searchable, damage proof, and more widely distributable. Large print archives take up valuable space in a library and grow endlessly if not replaced by electronic access.

How Prevalent Are Embargoes and How Do They Affect the Researcher?

An analysis of EBSCO-host usage statistics indicates that a clear majority of searches are conducted on particular topics. However, many researchers are inclined to browse the latest issue of a particular journal. Thus, current full text availability for the most heavily used journals is also important. According to a journal ranking study by Robert Coe and Irwin Weinstock in the *Academy of Management Journal*, the top eight management journals are as follows: (1) *Administrative Science Quarterly*, (2) *Academy of Management Journal*, (3) *Harvard Business Review*, (4) *Management Science*, (5) *Operations Research*, (6) *Academy of Management Review*, (7) *Industrial & Labor Relations Review*, and (8) *California Management Review* [8].

Though there have been other studies conducted regarding management journals, the Coe and Weinstock study bases its findings on an author achievement system and evaluation of journal prestige. This predates other studies as listed by Carol Saunders on the "Journal Information" section of the ISWorld Web site and continues to be a vital reference source for librarians selecting journals in the field of management. Despite the availability of more current, though less cited, management journal ranking studies, the order of management journals appearing on Saunders' site lists these journals in the order ranked by the Coe and Weinstock findings [9]. Coverage of the previously listed journals in the two top full text business databases as of July 9, 2002 is shown in table 3.

Should Embargoes Be Analyzed Based on the Percentage of Total Journals in a Database?

The percentage of titles with embargo can be a misleading statistic. A more important fact to analyze would be the total number of peer-reviewed full text journals, further broken down by those with embargoes versus those with no embargo. For example, a database offering

Mathematical Intelligence:

A&I 1/89 to present 1/89 to present 1/89 to present
 FT 6/93 to present (Σ = 12) None
 FT years 7.08 .00

Psychological Science:

A&I 7/96 to present 1/98 to present 1/92 to present
 FT 1/98 to present (Σ = 12) None
 FT years 2.5 .00

Science:

A&I 1/84 to present 1/84 to present 1/86 to present
 FT 1/97 to present (Σ = 12) 1/84 to present 1/88 to present (Σ = 12)
 FT years 3.5 16.5 12.5

University of Toronto Quarterly:

A&I 9/74 to present 9/89 to present 1/90 to present
 FT 9/74 to present (Σ = 6) None
 FT years 26.33 .00

Women's Studies:

A&I 12/72 to present 2/86 to present None
 FT 12/72 to present 2/91 to 2/98 (halted) None
 FT years 27.58 .00

NOTE.—Information in this chart was extracted on July 9, 2002, from the appropriate database title coverage lists made available on www.eprint.com, www.proquest.com, and www.gale.com (last accessed January 21, 2003). A&I = abstract and indexing coverage, FT = full text, Σ = full text embargo period in months, Halted = the most severe possible embargo, since no new content is being added (but technically, the market does not consider these journals to be embargoed), and FT years = years of full text coverage through 06/30/02 (minus any period not available due to embargo).

TABLE 3
 EMBARGO COMPARISON—FULL TEXT BUSINESS DATABASES (Business Source Premier [EBSCO] and ABI/INFORM GLOBAL [ProQuest])

Journal Name	Business Source Premier			ABI/Inform Global		
	A&I Coverage	PDF Coverage	Embargo Period	A&I Coverage	PDF Coverage	Embargo Period
<i>Administrative Science Quarterly</i>	June 1956–present	June 1956–present	No embargo	June 1971–present	March 1987–December 2001	N.A.
<i>Academy of Management Journal</i>	January 1958–present	January 1958–present	No embargo	September 1971–present	March 1987–December 2001	N.A.
<i>Harvard Business Review</i>	October 1922–present	October 1922–present	No embargo	September 1971–present	No full text	N.A.
<i>Management Science</i>	January 1954–present	January 1954–present	12-month delay on full text	December 1971–present	No full text	N.A.
<i>Operations Research (formerly Journal of the Operations Research Society of America)</i>	January 1952–present	January 1952–present	12-month delay on full text	October 1971–present	No full text	N.A.
<i>Academy of Management Review</i>	January 1976–present	January 1976–present	No embargo	January 1976–present	January 1987–October 2001	N.A.
<i>Industrial & Labor Relations Review</i>	October 1947–present	October 1947–present	No embargo	October 1971–present	January 1988–October 2001	N.A.
<i>California Management Review</i>	September 1958–present	September 1958–present	No embargo	January 1971–present	October 1987–October 2001	N.A.

NOTE.—N.A. = not applicable.

600 peer-reviewed full text journals, with 100 of those having embargoes, has only seventeen percent embargoed peer-reviewed full text content. However, a database with 2,200 peer-reviewed full text journals, with 1,100 of those having embargoes, has a fifty percent embargo rate on peer-reviewed full text content. If we break this down based on total numbers, the first example contains 500 peer-reviewed journals without an embargo, while the second instance (with a higher percentage of embargoed journals) actually offers 1,000 peer-reviewed full text journals without an embargo. Does that make the database with a smaller percentage of embargoed titles superior, even though the larger database has both more nonembargoed and more embargoed full text peer reviewed journals? Clearly it does not. Furthermore, close attention to title lists of particular databases reveals the inclusion of hundreds of inappropriate full text titles such as *Radio Control Car Action* and *Humpty Dumpty's Magazine* in databases marketed as "academic" collections. Inclusion of these "journals" generates an artificially high percentage of sources without embargoes in these databases. However, if peer-reviewed-only title lists are viewed, these hobby-oriented and children's magazines are eliminated, enabling proper comparisons between databases for librarians.

How Do Librarians Know Which Journals in Databases Have Embargoes?

Vendors sometimes make claims about their databases that do not stand up to careful scrutiny. For example, on May 18, 2001, ProQuest announced that it had only twenty-five journals with embargoes in their multidisciplinary, academic full text database [10]. The message implied that the database offered current full text for more than 100 journals that are embargoed in competing databases. Based on this listserv message, many librarians were left to assume that another vendor was unilaterally applying embargoes without direction from publishers. However, within a matter of months (August 7, 2001) a second, less public, communication was made by this vendor which provided a new, much larger list of journals that would be affected by a full-year embargo period. The list of nearly 100 titles was a correspondence from ProQuest to a group of its customers marked "effective January 2001," a date well before the original claim was made that only twenty-five journals were embargoed in the database [11]. The journals announced as having embargoes effective January 1, 2001, showed no embargo on this vendor's online title lists when viewed over six months

later (February 12, 2002). However, a search of the company's databases well prior to that date (October 11, 2001) revealed that these journals were, in fact, embargoed. It is worth noting that as of research conducted in July 2002, these titles were accurately listed on the online title lists, depicting embargoes.

Libraries should be able to look to one resource for all information pertaining to journals included in full text databases: database title lists. At a minimum, information that should be offered in every full text database title list includes not only embargo information but also ISSN, publication name, publisher, dates of indexing and abstract coverage, dates of full text coverage, peer-reviewed status, and (whether a publication is available in) PDF.

As mentioned, some vendors make finding embargo information quite difficult and certainly not readily available on their database title lists. As stated in an *EContent* article, "one nice feature of ProQuest Direct is the ability to easily print a list of titles included, as well as the years the title is indexed and if, and for what years, it is available full-text. Embargo information is not necessarily included in this list" [12, p. 59]. Some vendors, however, make this information obvious on the title lists for all appropriate databases because it is crucial for libraries to gather all the facts regarding a particular database. "Hiding" this type of information is not only burdensome to libraries but may also be considered misleading on the part of the vendor. In addition, publishers impose embargo periods for various reasons as described. If these publishers believe an aggregator is trying to "cover up" the existence of the embargo, the publishers may decide to halt their content in that aggregator's database(s) due to improper representation of their available content.

How Do E-journals and Full Text Databases Coexist and Complement Each Other?

As mentioned previously, the fact that a particular journal is available in a full text database should not be the reason for a library to cancel the print or e-journal version of that publication. As an example, in a recent *Computers in Libraries* interview, Carol Hansen Montgomery, the dean of libraries at Drexel University, was asked if she was canceling current print subscriptions and replacing them with electronic versions from aggregators. Her response indicated that if the library subscribes to a journal, and feels that it is a key journal, then it would not be canceled just because it is part of an aggregator collection [13]. Much

of the value that full text databases bring to a library lies heavily in not only the searching capabilities and deep back files of these collections, but also, importantly, in the many new, high-quality journals that these databases bring into a library that were never before available in that library. "The number of unique periodical titles that the Drexel library offers has grown from 1,500 to about 6,300, with approximately 50 percent of these titles coming from aggregator collections" [13, p. 22].

Additionally, the power of sophisticated linking can integrate much of a library's electronic reference collection, thus forming a cohesive, one-stop search environment. This integration is evident in the relationship between full text databases and e-journals. Offering insight from Clifford Lynch in a 1999 *Serials Review* article, Susan Davis alluded to Lynch's view of a "Library of the Twentieth Century," in that he would like to see bibliographic databases that offer links to the full text for libraries that subscribe to the appropriate service. Davis adds that "such a system would involve enormous cooperation between publishers and libraries" [14, issue 4, p. 71]. Only a few years later, several vendors and services, such as CrossRef, are seeing this vision come to fruition.

Further, "ICOLC (International Coalition of Library Consortia) recommends that all publishers work to adopt inter-operable techniques for linking, rather than proprietary, vertical solutions" [15 p. 1]. Thus, libraries can now link directly from a citation in a database to the corresponding full text article in another database or e-journal. Therefore, if the assumption is made that many of the journals containing embargoes in databases are the same journals that libraries currently hold as part of their print or e-journal collections, it is simple to retrieve current full text articles from a journal, regardless of whether or not that journal has an embargo period in the full text database. In a review of an EBSCO *host* database in *Library Journal*, the reviewer offers that "some titles have embargo periods such that only the citation and abstract are included. When available, links to places where the full text of embargoed articles are located online are provided" [16, p. 137]. Therefore, access to current full text may be immediately accessible to a user, even if (unbeknownst to that researcher) the full text is retrieved from a source other than the database on which the initial search was conducted. When analyzed in this fashion, it is evident that titles containing embargoes add great value to these full text resources by virtue of larger PDF back files (than are offered by the e-journal subscription) as well as current indexing with links to the current full text e-journal. Thus, an appropriate combination of secondary (citation-only) databases, aggregated full text databases, and current print

and/or e-journals is generally the most advantageous solution for an academic library.

Conclusion

As academic librarians examine full text databases and scrutinize these resources for the benefit of their end users, their overall value to the research process must be determined. Although each library has different needs and concerns, all benefit from the many quality, current full text journals, deep back files, and software functionality of these databases. Until recently, many of the journals that are now included in aggregated collections were never available in full text at all, and would not be today, if not for publisher-imposed embargoes. Instead, these journals would continue to be indexing/abstract-only titles, a more limited form of access.

While current full text is preferred in databases, it is still clear that embargoed coverage is an asset to a full text database for two important reasons: (1) if the library previously did not have access to a particular journal, access to information from valuable (new) sources is increased; and (2) if the library's e-journal subscription has a small backfile despite embargoed coverage in the full text database, the database is likely to offer more coverage in total than does the e-journal. Since some databases contain links to e-journal subscriptions, end users can access the current issues through the e-journal and the extensive back issues available through the aggregated collection, which may appear seamless to the end user.

Individual journal subscriptions and aggregated databases can naturally coexist insofar as one is not viewed as a replacement for the other. Librarians have the ability to decide to continue existing journal subscriptions despite the fact that these journals are available in full text in aggregated databases. Individual journal cancellations may occur but should be based on journal usage in a given library and prestige of the journal, not on its availability in a full text database. Proceeding in this fashion would undoubtedly keep costs in check, while also providing the most advantageous research environment for end users. But, until this ideal becomes reality, some publishers will impose embargoes, and libraries must make educated purchasing decisions (about databases) based on current facts.

As this situation relates to databases and embargoes as they currently stand, the question remains, Would libraries prefer to have current indexing/abstracts and cumulative PDF back files with a delay in the

availability of the full text content or would libraries prefer no full text at all for these sources?

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