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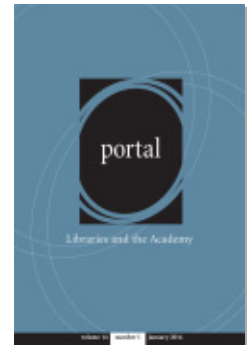
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## Analyzing Current Serials in Virginia: An Application of the Ulrich's Serials Analysis System

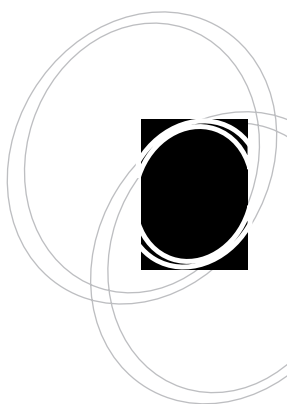
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# Analyzing Current Serials in Virginia: An Application of the Ulrich's Serials Analysis System

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Paul Metz and Sharon Gasser

**abstract:** VIVA (the Virtual Library of Virginia) was one of the first subscribers to R. R. Bowker's Ulrich's Serials Analysis System (USAS). Creating a database that combined a union report of current serial subscriptions within most academic libraries in the state with the data elements present in Ulrich's made possible a comprehensive analysis designed to inform collective decision-making about serials. The results of this analysis, especially as they pertain to possible efforts to preserve subscriptions within the state or to add subscriptions to targeted new titles, are presented. Problems with using the resource and anticipated product enhancements are also discussed.

## Introduction

R. R. Bowker announced the availability of the Ulrich's Serials Analysis System (USAS) in January 2003. The steering committee of the Virginia Virtual Library (VIVA) determined that the new product had the potential to create a union list of current subscriptions within the state and to support analyses that could inform critical decisions about the collective serial resources within its academic libraries. Accordingly, VIVA became the first American consortium to acquire the USAS. A subcommittee of VIVA's Resources for Users Committee was charged to conduct the analysis.

Ulrich's Serials Analysis System is an analytical tool to provide library professionals with detailed information about their current serial subscriptions. It may be used by an individual library or, after record uploading by the members, groups of libraries. Once institutional subscription records have been loaded, the system makes possible comparisons of library subscriptions with a continuously updated, relatively comprehensive inventory of the 189,000+ titles in the known universe of serials. In addition to

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ISSN, publisher, price, and other familiar data elements, Bowker adds value by indicating whether a title is considered a "core" title for academic institutions, is refereed, is covered by an indexing and abstracting service, is among the 7,500 titles included in ISI's *Journal Citation Reports (JCR)*, or is among the nearly 7,000 titles recommended by Bill Katz's *Magazines for Libraries*. Further information about the USAS is available at [http://www.ulrichsweb.com/ulrichsweb/analysis/help/USAS\\_FAQ.asp](http://www.ulrichsweb.com/ulrichsweb/analysis/help/USAS_FAQ.asp).

VIVA purchased the USAS with specific goals. The Resources for Users Committee (a special subcommittee of which was tasked to complete the actual work) was charged to:

1. assemble the data as accurately as possible;
2. work toward identifying "at risk" titles with only one or two subscribing libraries so that we might consider a "last copy" strategy; and
3. use the data to "identify commonly held titles that may be candidates for electronic purchase."<sup>1</sup>

## Loading the Data

Because the USAS was a brand new and somewhat complex product, staff from R. R. Bowker offered workshops at which they explained the system and the mechanics for loading local serial data. As indicated in the instructions reproduced in appendix 1, staff were asked to report to Bowker all titles to which the library had complete current, unembargoed coverage. Each library was asked to report all local, current subscriptions of individual titles as well as full-text titles contained in publisher collections such as Springer LINK or full-text, multi-publisher aggregations like Education Full Text. Titles from selective article aggregators like InfoTrac or embargoed collections like JSTOR were not to be reported, unless also held in a way that did meet the criteria. Data loading proceeded through the spring of 2004 and was considered complete in May.

Local loading was supplemented by central data loads intended to ensure that all titles to which institutions enjoyed current, full-text access by virtue of centralized VIVA subscriptions or package deals negotiated by ad hoc consortia of cooperating libraries were attributed to each participant, even if not reported by their holding institutions. All titles to which VIVA currently subscribes were attributed to each VIVA library. ScienceDirect and Wiley Interscience titles held by the participants in ad hoc (non-VIVA) consortial arrangements that two separate groupings of Virginia libraries have with Elsevier and Wiley were similarly attributed to all libraries participating in these arrangements.

Nearly every VIVA institution was able to load records for its current subscriptions, as were 16 private institutions. Records could not be loaded at all for the Virginia Community College System's current subscriptions. The resulting database contained 21,096 title lines, with columns for ISSN, title, publisher, subject, list price, Dewey number, refereed (yes/no), abstracted and indexed (yes/no), in ISI's *JCR* (yes/no), in Katz's *Magazines for Libraries* (yes/no), and holdings symbols and columns for 32 Virginia academic libraries (the 15 comprehensive institutions plus Richard Bland College and 16 private institutions). A total of 91,975 current subscriptions were reported across the titles.

As we expected from the beginning, there were some inconsistencies and errors. The USAS was designed to analyze the active titles in a library's collection so there were titles in the institutions' data loads that were not included in the analytical reports. Titles that had ceased publication or that had merged into another publication were output in a USAS "non-match" report. The report included a number of different types of titles: those with invalid ISSNs, a publication status other than active, an ISSN that was not found in Ulrich's, or a "title history" ISSN. Some titles reported as inactive in Ulrich's were actually active titles as verified by several institutions and have since been corrected in Ulrich's. Institutions reporting the alternate edition ISSN for electronic journals initially received an error of ISSN non-match, but this was corrected in a subsequent release of the USAS so that all formats could be analyzed. Other titles did not find a match in Ulrich's because they were for local periodicals published by agencies below the state level and outside the scope of the Ulrich's database.

The greatest percentage of upload errors occurred, however, as title history ISSN. Ulrich's does not maintain a separate bibliographic record for title changes. The previous title and ISSN are stored within a single record associated with the new title and current ISSN. The USAS non-match report contained a list of the old ISSNs that the institutions had attempted to upload and provided the new ISSN so that this information could be updated in a library's catalog, if desired. Because of the USAS feature that allows for adding titles to an ISSN list, those titles could later be included in the analytical reports if the record in the catalog were found to actually be for the new title, but still noting the old ISSN.

Problems and omissions in institutional data inevitably accounted for another source of error. For example, an institution reporting out from its catalog, as most did, would omit electronic titles they had not cataloged yet or were in any category the library did not catalog by policy. Institutions reporting from payment records might miss some of the individual titles within packages. Virginia Tech mistakenly did not report any JSTOR titles, even if it had a current subscription. A private university with under 10,000 resident enrollment and limited graduate programs reported 7,530 active subscriptions titles (ranking third in the state in reported titles), including many from Warren Communications Inc. and Thomson Financial Media that were reported by very few others. It is likely that this institution included titles most libraries would have considered as within aggregators and therefore not have reported.

Bowker reported back to VIVA those errors that it could detect as such, based on comparisons between reported titles and the Ulrich's database. Obviously, this excludes errors relating to institutional omissions. Those errors that occurred 100 times or more are reported and explained below.

Bowker was able to provide each institution with a detailed report on errors found in the records it had loaded. Local institutional correction of these errors will allow a cleaner and more informative analysis of any data loaded in the future. There may have been other errors inherent in the Ulrich's data or consequent to unrecognized problems in data extraction or loading. Those of which we were aware were addressed as reported in the analyses to follow.

Table 1

Common Errors in Virginia Subscription Reports

Type	Number	Percentage of Total Load	Notes
Invalid ISSN	243	.3%	Check digit error in ISSN
ISSN non-match	1492	1.6%	Reported ISSN not in Ulrich's
Not active	1445	1.5%	Title has ceased
Title history	3863	4.1%	Former, not current, ISSN reported

### Data Analysis: At Risk Titles

Virginia librarians have periodically discussed the need for a state union list of serials and the idea of attempting to avoid cancellation of the last extant subscription to any journal. A VIVA committee experimented in the late 1990s with cooperative retention of journals in nursing and allied health. Similar efforts to maximize the number of consortial subscriptions by constraining local cancellations have been attempted by science librarians in Illinois (an effort to maintain one print subscription for journals now held electronically), the University of California libraries (via agreements relating to journals in history and women's studies in 1992–94), and, in recent years, the NorthEast Research Libraries consortium (for Elsevier journals).<sup>2</sup>

In analyzing the distribution of holdings over titles so as to conduct this part of the analysis, it became apparent that there were many duplicate records and also that the number of titles with very few subscribers was so large that it would be necessary to identify and focus on a critical subset. To identify important titles in a way somewhat more stringent than Ulrich's fairly liberal designation of "core," the senior author devised a more rigorous definition, "enhanced core," which required that a title be refereed, in an abstracting and indexing service, and in either Katz or in ISI. "Super core" was used to designate titles that were in both Katz and ISI and therefore likely to be considered most beneficial to our users. Even though not all journals in Katz are equally meritorious, just as journals included in the *Journal Citation Reports* vary widely in their impact factors and other measures, we take inclusion in either as a presumed indicator of quality. The two sets of journals are complementary in that the Katz list partially redresses ISI's over-sampling of journals in the sciences.

A fairly straightforward analysis of the USAS data, without regard to subscription information, indicates that the number of titles in even these more stringently defined populations of core titles is quite large. At the time of the analysis there were 11,214 titles that met the criteria for enhanced core, including the 2,689 titles in the subset, super core. The means by which this was determined are described in appendix 2. It seemed reasonable to concentrate our efforts on titles in this fairly elite population, at least for our first analysis.

Table 2  
Frequency Distribution of Enhanced Core Subscriptions

Number of Subscribing Libraries	Number of Titles	Cumulative Total, Subscribed Titles
>20	629	7621
10–19	934	6992
5–9	2341	6058
4	466	3717
3	645	3251
2	971	2606
1	1635	1635 ( <i>but actually 1,065 after analysis</i> )
0	3593	( <i>Actually fewer</i> )

As a next step toward identifying key titles at risk within Virginia libraries, a frequency distribution of current subscriptions across enhanced core titles was derived. The initial results from this analysis are shown below in table 2.

The data appeared to indicate that 1,635 titles have current subscriptions from one library (certainly giving credence to the thought that single-subscriber titles would be more than enough to worry about as at risk!). It was only after the problem had been narrowed to this point by focusing only on enhanced core titles and seeking specifically those currently held by a single institution that it became efficient to study the single-subscriber titles more closely.

Each title attributed to a single subscribing library was searched in the entire file to determine if there were another record listing the same title. Hundreds of pairs of title listings (same title but different ISSN) were found, reducing the number of titles appearing to have only one in-state subscriber to 1,065. It should be noted that this much analysis based on visual inspection is bound to have a small degree of error, even with double-checking, and also that the database is dynamic and underwent small changes during the analysis. Based on a 76-title sample of these pairs (never triplets or higher), it was almost invariably the case that duplicative titles had all their reports tied to one title except for a single subscriber reporting on the ISSN of the electronic edition. This does not indicate that Virginia libraries have few electronic subscriptions but rather that most online catalogs still point primarily to the record matching the library's original subscription. Among the 1,065 enhanced core titles with only one subscriber, the title field was absent for 123. Further examination of a small sample of these revealed that very few had a title duplicating a single-subscriber journal whose title was listed. Some titles with one reported holder are open access titles, obviating the need for institutional subscriptions.



The same duplicate title problem that complicated the identification of single-subscriber titles would inevitably be found if one were to analyze other parts of the frequency distribution. Thus, some of the 971 titles appearing to have two subscribing libraries turn out, upon examination, to have a larger number. For example, *Anatomy and Embryology*, which appears in the database as two entries—one with a single subscriber and one with two subscribing libraries—should really be collated into a single record with three current Virginia subscriptions libraries. It is likely that some titles listed as being subscribed to by three libraries are actually received by four, and so on.

Since the root problem is the existence of multiple ISSNs for the same journal, with no automatic means of recognizing or removing duplicate titles, it is also likely that the number of enhanced core titles without a single subscribing library in Virginia is also lower than 3,593. Because the population of titles with no Virginia subscriber could only be inferred logically but not specifically identified, we can only speculate about the extent of duplication either within this group or between it and subscribed titles. Even if closer analysis were to reduce significantly this number, however, it is apparent that there would remain many more enhanced core titles already held by no one at all than held by a single institution.

One might rhetorically ask, if there are already thousands of apparently important titles not received anywhere in the state, how concerned should Virginia librarians be about incremental growth in this number over time? In discussing this issue, the VIVA Resources for Users Committee concluded that the large number of core titles already not held in the state and the community's apparent ability to cope with this situation argued against any significant investment in efforts to retain last copy subscriptions. It was noted that out-of-state article delivery is often very fast and also that, as one member wryly observed, "Sometimes there's a good reason there's only one subscription to a title." In short, the analysis of last copy holdings, especially in relationship to other titles of interest not held by any library in the state, led to the conclusion that the entire issue of last copy preservation may be relatively immaterial.

While the USAS data had in fact made it possible for VIVA to identify journals with

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only a single current subscriber, the analysis had also challenged the salience of this consideration. Ultimately the committee recommended that VIVA post the list of single-subscriber titles on its Web site and ask that local collection managers consult the list so that they would, at least, be aware when they cancel the only surviving Virginia subscription. The

committee did not establish any bans or other formal mechanisms to protect last copy subscriptions.

In order to give readers some feel for the single-subscriber titles, 25 are reproduced below in table 3.



# Table 3

## Examples of Single-Subscriber Enhanced Core Titles

Title
A N Z I A M Journal
A O A C International. Journal
A Q Balmain
Abdominal Imaging
Academic Emergency Medicine
Acta Applicandae Mathematicae: an international survey journal on applying mathematics and mathematical applications
Acta Botanica Gallica
Acta Cardiologica: international journal of cardiology
Acta Cytologica: the journal of clinical cytology and cytopathology
Acta Haematologica
Acta Palaeontologica Polonica
Acta Parasitologica
Acta Applicandae Mathematicae: an international survey journal on applying mathematics and mathematical applications
Acta Astronomica: an international quarterly journal
Acta Cardiologica: international journal of cardiology
Advances in Applied Mechanics
Advances in Chromatography
Advances in Genetics
Advances in Nutritional Research
Advances in Polymer Science
Adsorption
Adsorption Science and Technology
Advanced Robotics - Liberty
Aesthetic Plastic Surgery
Africa Insight

### Data Analysis: Potential for New Partnerships

In looking for possible ways to fulfill the committee’s charge to “identify commonly held titles that may be candidates for electronic purchase deals,” we decided to focus on large and seemingly important publishers. The somewhat subjective criteria used emphasized key societies, university presses, and the larger trade publishers. Our selections did not rely on the top publisher link provided within the USAS, though this is a potentially useful feature. Publishers not identified as particularly large or important were eliminated from this part of the analysis.





It quickly became obvious that the variant names and multiple levels of corporate subordination among publishers would make it impossible to identify potential partners unless titles were grouped according to the publishing houses as business enterprises, those corporate identities actually controlling title lists over which they had the authority to negotiate. The merger of publishing companies also added to the problem of grouping titles under one corporate identity. To solve this problem, a column called "publisher as business entity" was added. This allowed the collocation of all publishers, such as Birkhaeuser, Blackwell, CMP, and Haworth, whose names in the bibliographic record showed minor variations. All variations of Elsevier were consolidated as a single business entity together with Academic Press, North-Holland, Pergamon, Mosby, WB Saunders, and Churchill Livingston (Reed Business Information was not consolidated with this grouping). Variations on Springer-Verlag were joined with Kluwer Academic / Plenum, Kluwer Academic Press, and Brill Academic Publishers. Taylor and Francis variations were joined by Routledge, Carfax, Marcel Dekker, and Brunner-Routledge under Taylor and Francis as "business entity."

Forty-nine publishers were identified as possible partners. For each, titles were sorted alphabetically and duplicates removed, and missing titles were provided when possible based on WorldCat records with the given ISSN. Whenever a duplicate bibliographic record was removed, the number of reported subscriptions (usually one) associated with it was added to the number of subscriptions for the surviving record. Table 4 represents the number of titles, the number and percentage in both enhanced core and super core, and the mean number of Virginia libraries subscribing to the typical title of each publisher (total subscriptions divided by titles).

Because it was not clear whether Kluwer and Springer were yet conducting business as a truly merged entity and because of the significance of an existing ad hoc consortium with Kluwer, an analysis of the titles for which Kluwer is listed as the bibliographic publisher was conducted, in addition to the larger Springer/Kluwer analysis.

One might possibly debate whether it is better for a consortium to focus on publishers with a small number of subscribing libraries (because it would be adding more holdings) or on publishers with a large number of subscribing libraries (as an indicator of quality and for cost avoidance). In its discussion of this topic, the VIVA Resources for Users Committee strongly supported the idea of focusing on widely held publishers, those with whom we already place our scarce dollars, in the interest of making their offerings universally available.

It was further decided that we should focus our efforts on publishers whose offering are both widely held and disproportionately likely to meet our criteria for enhanced core. As shown in the table, eight publishers (American Institute of Physics, American Society for Microbiology, American Sociological Association, Blackwell, Cell Press, Human Kinetics, SIAM, and the University of Chicago Press) were identified as meeting these criteria. Individual members of the committee have since contacted these publishers about possible consortial subscriptions to either all, or important subsets of, their titles.

We see this analysis and our subsequent overtures to publishers as two of the best outcomes of the USAS project. It allows VIVA to make data-driven decisions that define us as an active agent, proposing arrangements with prospective partners rather than



Table 4  
Virginia Subscriptions with Key Publishers

Publisher (business entity)	Number of Titles	Number In Super	Number in Enhanced	% age in Super	% age in Enhanced	Sub- scriptions	Mean subs per title	RUC will investigate
A S M E International	21	6	19	28.6%	90.5%	96	4.6	
A S M International	5	3	5	60.0%	100.0%	16	3.2	
Allen Press Inc.	10	3	5	30.0%	50.0%	52	5.2	
American Accounting Association	10	1	4	10.0%	40.0%	92	9.2	
American Anthropological Association	1	6	7	54.5%	63.6%	74	6.7	
American Counseling Association	11	4	6	36.4%	54.5%	106	9.6	
American Geophysical Union	9	5	3	55.6%	33.3%	43	4.8	
American Institute of Physics	18	8	14	44.4%	77.8%	136	7.6	Yes
American Medical Association	12	2	9	16.7%	75.0%	59	4.9	
American Physical Society	11	7	7	63.6%	63.6%	74	6.7	
American Physiological Society	17	11	16	64.7%	94.1%	91	5.4	
American Society for Microbiology	11	5	10	45.5%	90.9%	109	9.9	Yes
American Society of Civil Engineers	31	5	20	16.1%	64.5%	180	5.8	
American Sociological Association	7	6	6	85.7%	85.7%	103	14.7	Yes
American Statistical Association	12	3	6	25.0%	50.0%	66	5.5	
Baywood Publishing Co., Inc.	20	3	12	15.0%	60.0%	103	5.2	
Blackwell Publishing, Inc.	680	132	451	19.4%	66.3%	3306	4.9	Yes
British Psychological Society	11	3	10	27.3%	90.9%	63	5.7	
Cell Press	9	2	7	22.2%	77.8%	85	9.4	Yes
Congressional Quarterly Inc.	11	0	0	0.0%	0.0%	53	4.8	



Table 4 cont.

Publisher (business entity)	Number of Titles	Number In Super	% age in Super	Number in Enhanced	% age in Enhanced	Sub- scriptions	Mean subs per title	RUC will investigate
Duke University Press	30	9	30.0%	17	56.7%	737	24.6	
Elsevier	1606	324	20.2%	1288	80.2%	13254	8.3	
Emerald Group Publishing Ltd.	121	10	8.3%	36	29.8%	946	7.8	
Guilford Publications, Inc.	16	5	31.3%	10	62.5%	90	5.6	
Haworth Press	85	11	12.9%	47	55.3%	295	3.5	
Human Kinetics Publishers, Inc.	18	15	83.3%	18	100.0%	158	8.8	Yes
IEEE	127	33	26.0%	87	68.5%	611	4.8	
INFORMS	18	9	50.0%	15	83.3%	107	5.9	
Institution of Electrical Engineers	20	3	15.0%	15	75.0%	71	3.6	
Institute of Physics	38	12	31.6%	34	89.5%	250	6.6	
JAI Press Inc.	46	0	0.0%	1	2.2%	244	5.3	
Jossey-Bass Inc., Publishers	18	0	0.0%	2	11.1%	163	9.1	
Kluwer (subset of Springer)	343	76	22.2%	253	73.8%	1032	3.0	
Lawrence Erlbaum Associates, Inc.	72	8	11.1%	45	62.5%	325	4.5	
MIT Press	38	9	23.7%	18	47.4%	483	12.7	
NRC Research Press	16	9	56.3%	14	87.5%	84	5.3	
National Council of Teachers of English	14	1	7.1%	5	35.7%	166	11.9	
National Council of Teachers of Mathematics	10	1	10.0%		7	70.0%	166	16.6
Ohio State University Press	6	3	50.0%	4	66.7%	136	22.7	
Royal Society of Chemistry	25	5	20.0%	12	48.0%	93	3.7	
Sage	274	73	26.6%	179	65.3%	1474	5.4	
Society for Industrial and Applied Mathematics	13	11	84.6%	11	84.6%	102	7.8	Yes



Springer	820	121	14.8%	534	65.1%	2214	2.7
Taylor & Francis	741	86	11.6%	404	54.5%	2111	2.8
Transaction Publishers	25	4	16.0%	13	52.0%	140	5.6
University of California Press, Journals Division	31	7	22.6%	24	77.4%	292	9.4
University of Chicago Press, Journals Division	46	30	65.2%	44	95.7%	700	15.2
University of Toronto Press, Journals Division	21	6	28.6%	14	66.7%	174	8.3
University of Wisconsin Press, Journal Division	10	3	30.0%	7	70.0%	120	12.0
Wiley	260	40	15.4%	222	85.4%	1886	7.3



reacting to a predefined marketplace, and potentially giving each VIVA institution additional journal titles of value, local cost-avoidance, or both.

While in general we choose to pursue the possibility of VIVA deals for titles already held fairly widely in the state, the discovery that so many high quality titles have no current subscriber suggested that it may also be fruitful to put some effort into securing subscriptions somewhere in the state to the most critical titles not presently taken by any library in Virginia. With the assistance of Bowker staff, we were able to match the 2,874 super core titles against current Virginia subscriptions. After extensive removal of duplicates, it appears that 68 of these elite titles have no current Virginia subscriber. Table 5 displays 25 of these titles.

Even if one accepts the logic of "last copy" arguments, it may be a more cost-effective group strategy to pursue new subscriptions to truly elite titles with no current

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subscriber than to concern ourselves with the preservation of surviving subscriptions to less highly regarded titles.

In order to test this idea, a supplemental analysis was done based on a random selection of 40 enhanced

core titles that appeared to have one holder and 40 super core titles appearing to have no current Virginia subscription. These lists were culled to remove any titles that duplicated other records with holdings, non-journal serials, or titles actually held by Virginia Tech. As a means of assessing demand, the number of times Virginia Tech libraries had borrowed post-1995 content for each of these titles was examined. Although Tech had borrowed one or more articles from a larger percentage of the surviving enhanced core titles (65 percent versus 46 percent), the mean number of articles borrowed was higher for the latter group (4.5 articles/title versus 2.9). The four most heavily borrowed titles came from the super core group with no live Virginia subscriptions. Though not tested for statistical significance, the data from this small sample seem to support the notion that there may be at least as much value in adding subscriptions to elite journals as there is in trying to preserve the last subscription of other core titles

## **Summary and a Look to the Future**

The Ulrich's Serials Analysis System is an informative and powerful resource whose value is multiplied ever further when the source data are combined with subscription reports from a consortium wanting to analyze its collective serial collections. The system made it possible for VIVA to begin to answer important questions Virginia librarians have been asking for decades, allowing VIVA to see both gaps and opportunities. For these reasons, the VIVA Resources for Users Committee recommended renewal of its subscription so that a more refined analysis, based on a more successful load in-



# Table 5

## Examples of Super Core Titles with No Current Subscriber

Title
Alternatives to Laboratory Animals
American Journal of Geriatric Psychiatry: official journal of the American Association for Geriatric Psychiatry
Animal Welfare
Archives Europeennes de Sociologie
Atmosfera
Autonomous Robots
B J S M Online
Cereal Foods World
Chemistry World
Combustion Science and Technology
Communications Engineer
Computational Statistics
Discovery and Innovation
Ecology of Food and Nutrition
Electronic Transactions
F E B S Journal
Fusion Science and Technology
Geoarchaeology: an international journal
Geographische Zeitschrift
Indoor and Built Environment
Intelligent Transportation Systems Journal: computing, communication and transportation
International Journal of Earth Sciences
International Journal of General Systems: a comprehensive periodical devoted to general systems methodology, applications and education
International Journal of Technology Management
Israeli Journal of Aquaculture - Bamidgeh: international journal on aquaculture

formed by Bowker’s error reports and our own learning experience, could be conducted in 2005.

Besides the subscription fee, the chief expenditure was the very large time commitment required for the analysis. A cleaner database would have allowed more efficient work with this resource. In particular, time spent in analysis would have been vastly reduced if the system had had an automatic way to identify, and potentially de-duplicate, identical titles with variant ISSNs. The results reported in this study, while they show clear general directions, would be more definitive and certain if the duplicate record problem had not arisen.



It would benefit the profession generally, and certainly improve future iterations of the Virginia analysis, if Bowker could devise a means of collocating subscriptions to a title across variant ISSNs, grouping publishers by their corporate identities, or making the online interface less dependent on subject-based approaches. Bowker has recently communicated to us that they will offer a title-level report by request, which will concatenate all holdings, regardless of format, to a single record for a journal. If successful, this enhancement will dramatically reduce the time required to analyze consortia results, with attendant improvements in accuracy.

Bowker will also be introducing additional navigation enhancements throughout 2005, which are designed to promote greater fluidity from one reporting module to another and provide additional "views" of reports beyond subject-based views (for example, publisher-based views). Early in 2005, they plan to add a feature for aggregator / database comparison reports so that institutions can conduct in-depth analyses of their e-journal packages and database subscriptions. Questions about these or other aspects of the Ulrich's Serials Analysis System may be directed to Bowker at 800-526-9537 or [info@bowker.com](mailto:info@bowker.com).

Virginia's experience with building and analyzing these data should be instructive for the profession, generally, both as an early indicator of the potential of the USAS and for the substantive conclusions the analysis suggests.

The Virginia experience with the Ulrichs Serials Analysis System supports the following conclusions as they relate to the analytical tool itself:

- The USAS is a powerful analytical tool whose value derives from its ability to combine a wealth of bibliographic with current subscription information for any actual or potential group of cooperating libraries.
- Data elements already present in the system can be used to identify subsets of the Ulrich's academic "core" that more stringently define titles of greatest value to scholarly and scientific research.
- The potential of this approach will be more fully realized when a variety of system enhancements become available.

The Virginia experience also supports the following conclusions as they relate to shared collections. How well these conclusions would generalize to other consortia will be known only after others have conducted similar analyses.

- The concern for the preservation of "last subscription" sometimes expressed in discussions of collective serial holdings may be misplaced since consortia may find that they have operated for years without current subscriptions to a number of critical titles, which is considerably larger than the number of significant subscribed titles deemed to be at risk.
- Even in states and regions with relatively well-funded official library consortia and a variety of ad hoc arrangements for the shared acquisition of serial resources, important opportunities to increase the coverage of journals from significant publishers may still be untapped. Comprehensive data on the current serial subscriptions within the consortium may help to identify these opportunities.

## Acknowledgement

The authors wish to thank Margot Cronin of R. R. Bowker for her invaluable assistance in loading the VIVA data and reviewing this report.

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## Appendix 1: Memorandum re loading local data

### Memorandum

To: VIVA Collection Development Contacts  
From: XXXX  
Subject: Ulrich's Serials Analysis System  
Date: February 16, 2004

One of VIVA's most important priorities this year is to analyze the serials collections held by academic libraries within the Commonwealth. To assist us in this work, VIVA licensed Ulrich's Periodical Directory and its accompanying package called the Serials Analysis System in August 2003.

Ulrich's Serials Analysis System allows individual libraries to evaluate their serials holdings by subject against a core collection of academic titles found in the Ulrich's database as well as Ulrich's entire universe of serials. It was developed as a collection analysis tool specifically for serials. The consortial module of the Serials Analysis System is now available, and allows VIVA to compile current journal subscriptions held at each participating institution and to identify commonly held titles that may be candidates for electronic purchase. A task force under the direction of the VIVA Resources for Users Committee will be analyzing the consortial data from the Serials Analysis System later this spring.

**Loading Serials Holdings.** In order to fully utilize Ulrich's Serials Analysis System, we need your help. The Quick Guide (<http://www.ulrichsweb.com/ulrichsweb/analysis/help/USASQuickGuide.pdf>) provides information on loading and editing your list. The person (or library unit) most familiar with your library's journal collection should load the file. The file must contain only your 2004 *current* subscriptions, not any previously cancelled subscriptions and not titles available in aggregator resources, such as InfoTrac or Factiva. The attachment describes in more detail what should be included or excluded from the file. The file must be in plain text tab-delimited format and comprise ISSNs only. Bowker will match the ISSN to titles in Ulrich's Periodical Directory.





**Account information.** Your library's username and password for loading the file will be sent in a separate message.

**Technical questions.** Please direct all technical questions regarding Bowker's database services to: techsupport@bowker.com or 1-800-323-3288 (choose option 3 for tech support).

**Producing Reports.** The Quick Guide offers instructions on using the reports generated by the System to evaluate your institution's journal collection. Reports can be downloaded into spreadsheet format. The summer 2003 issue of *Issues in Science Technology Librarianship* has a database review by Chew Chiat Naun and Michael Norman (<http://www.istl.org/03-summer/databases.html>).

**Training.** Bowker will conduct training sessions on the Ulrich's Serials Analysis System for VIVA. These sessions will be scheduled this spring, and will be limited to collection or serials librarians. The intention will be to "train the trainer." Librarians will return to respective institutions to train other librarians responsible for collection development and assessment of serials.

Thank you.

## ATTACHMENT A

On Ulrich's Serial Analysis System lists—

An electronic file containing only ISSNs for all of your current subscriptions will need to be loaded onto the Serials Analysis database. These should be numbers for current subscriptions only and should not contain titles that are accessed through aggregator resources. Journal collections and publisher packages are appropriate to load. Examples of what should and should not be included are:

Publisher collections (include in list):

- Cambridge University Press
- Oxford University Press
- American Chemical Society
- IEEE Library (IEL)
- Springer LINK
- Science Direct (Elsevier)
- Emerald Insight (MCB Press)

Journal Collections (include in list):

- Project Muse
- BioOne
- Highwire Press
- Education Full Text
- Art Full Text

Aggregator resources (DO NOT include in list)

- Factiva
- InfoTrac
- Lexis-Nexis
- ABI Inform

Titles available in these resources should be considered along with all other current subscriptions, either print or electronic.

## Appendix 2: Defining the Enhanced Core Population

Although the relevant data have changed a bit because of the dynamic nature of the Ulrichs file, when we ran this part of the analysis in the summer of 2004 there were 9,253 Ulrich's core titles that were refereed, indexed/abstracted, and covered by ISI, and 4,650 Ulrich's core titles that were refereed, indexed/abstracted, and in Katz. After deduping this apparent total of 13,903 titles by subtracting the 2,689 titles that a final search showed were refereed, indexed/abstracted, and covered by both ISI and Katz, 11,214 titles remained.

### Notes

1. The Virtual Library of Virginia (VIVA), "Resources for Users Committee—Minutes" (May 23, 2003), <http://library.cc.va.us/vivaruc/rucmin0503.htm> (accessed October 3, 2005).
2. Flora G. Shrode, "Science and Technology Librarianship" 19 (Summer 1998), <http://www.istl.org/98-summer/conf5.html> (accessed September 23, 2005); UCSD Libraries Journals Project, University of California, <http://gort.ucsd.edu/ek/ushist/consort/journals/> (accessed September 23, 2005); and personal correspondence from Ann Okerson, June 10, 2005.