

By the Numbers: Bibliometrics and Altmetrics as Measures of Faculty Impact in the Field of Religion

by Beth M. Sheppard

Abstract

Citation analysis is a staple in the sciences for measuring the impact of faculty members' output, but heavy reliance on monographs as a vehicle for scholarly communication has diminished the value of bibliometrics in the theological disciplines. The digital revolution, however, has created a seismic shift for citation analyses and has given rise to altmetrics. Overviews of bibliometrics and altmetrics are provided and a series of questions is posed to encourage ongoing discussions about the value of these tools within theological contexts.

Introduction

At the June 2015 meeting of the American Theological Library Association (ATLA) in Denver, Colorado, Kathryn Reklis, an Assistant Professor in the Department of Theology at Fordham University, delivered an opening plenary talk entitled "Tweet If You Want Tenure? New Media and the 'New Academy.'" The title of the presentation is certain to pique the interest of any junior faculty member in the throes of preparing a promotion portfolio, yet the audience at this conference was one comprised of librarians, many of whom, by virtue of serving in a library setting rather than as full-time teaching and research faculty, may never have the dubious pleasure of baring their research souls before a committee of peers, let alone experiencing the angst that is virtually inevitable in any school that has an "up or out" system of faculty promotion. Nevertheless, two points about the choice of topic and the venue in which the address was delivered are instructive. First, there is a dialogue occurring in institutions of higher education about what exactly constitutes scholarship and how it should be measured. The question mark in the title of Reklis's address is a clear sign that the discussions relating to new media and, by extension, measures like bibliometrics and altmetrics as they impact scholarly communication, are in their infancy. No firm consensus has emerged. Second, the fact that the presentation occurred at ATLA implies that theological librarians should be actively engaged in the conversation. After all, librarians are a vital component in providing research support for faculty.

This particular article, then, is one in which the invitation to join in the dialogue is gratefully accepted. In what follows, some of the pros and cons of the new citation metrics, which are in a few instances even being promulgated in higher education settings by librarians, are highlighted.¹ Then, some questions are posed with the intention of promoting further reflection on the role of algorithmic-based citation analysis tools within scholarly communication in theological schools.

First, however, before defining the term bibliometrics and describing its newer sub-discipline altmetrics, before touching on some of the extant literature in the field of theological librarianship that has focused on citation analysis, and before getting to the nitty gritty of suggesting further points for exploration, it is important to stress that urging faculty

¹ Duke University has recently engaged a trial of Altmetrics for Institutions (<http://www.altmetric.com/institutions.php>) which was authorized by the office of the Provost, yet is being administered by the central Duke University Library. By virtue of the fact that Duke Divinity School is a graduate school within the wider Duke system, the publications produced by its faculty members will be run through this new tool. Results of this metric will be available to the Duke internal community.

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members and schools providing higher education in religion to adopt citation analytics, particularly those that attempt to quantify the reception of scholarly communication beyond traditional publishing, is a major sea change in a field that has favored print culture, and particularly the monograph. To that end some brief points relating to the value of published discourse in the tenure review processes in Religion will set the stage for understanding the magnitude of the paradigm shift that is occurring.

Traditional Book Culture and Tenure in the Field of Religion

The nineteenth-century historian Thomas Carlyle wrote, “The true University of these days is a Collection of Books.”² He followed this with a second observation — that those who published research were in some way privileged over those who did not within the educational endeavor at large. This sentiment still echoes in the academy today. In Carlyle’s opinion, original, sincere, and genius-level material was promulgated in monographs produced by “men of letters,” whom he identified as the heroes of the academy.³ By contrast, those who did not write served only in a secondary capacity that involved teaching students to read and encouraging them to do so. Nowhere is this clearer than with his statement “the place where we are to get knowledge, even theoretic knowledge, is the Books themselves.”⁴ Further, he asserted that those who wrote books, who spoke forth their inspired thoughts upon the page, and who benefited from the protection of copyright had a particular advantage because they were able to rule from the grave.⁵

A view like Carlyle’s that places such a high importance on the written word in the form of scholarly monographs still persists in corners of the academy. Furthermore, it is a concept not difficult for many practitioners within the field of theological education to grasp. After all, many religious traditions themselves are book-based and have specific sacred or well-known texts — from the Tanakh of Judaism to the Qur’an of Islam; from the Bhagavad Gita of Hinduism to the Al Kitab Alaqqdas of Baha’i; from the Bible of Christianity to the L. Ron Hubbard works that are central to the Church of Scientology. Thus it is no surprise that many schools of theology rely heavily on formal publication as a mode of scholarly communication. The important role played by printed books, and now e-books, is clearly demonstrated by the fact that schools fund theological libraries and hire librarians who collect monographs with alacrity. In fact, theological libraries together own more than fifty-eight million volumes.⁶

Handsomely stocked libraries notwithstanding, another natural outcome of the appeal of traditionally published, text-based scholarly communication in religious discourse is a desire to foster scholarly output by faculty members at theological schools. One place where this value plays out is in the tenure and review process. At some institutions, for instance, candidates for promotion must prepare dossiers that demonstrate evidence not only of teaching excellence but also of scholarly achievement.⁷ Moreover, sometimes the mere act of publishing may not be sufficient to warrant promotion to particular ranks. Rather, a candidate might also be required to provide evidence that his or her scholarly output is sound or that he or she qualifies as a leader in the academy — in the words of the committee that compiled

² Thomas Carlyle, *On Heroes, Hero-Worship, and the Heroic in History*, ed. Archibald MacMechan (Boston: Ginn and Company, 1901), 186.

³ *Ibid.*, 179.

⁴ *Ibid.*, 186.

⁵ *Ibid.*, 177-178.

⁶ Each year the library-related ATS annual survey data are collected by ATLA and are made available to ATLA members on the secure portion of the website at <http://atla.com>. The actual sum of volumes reported for the 2012-13 reporting cycle in the column “current holdings—books” (column CV on the spreadsheet) was 58,739,196. Not all of these volumes may be theological monographs. There appears inconsistency of reporting amongst those universities that do not have stand-alone seminaries, with some reporting just their religion subject holdings while others provide numbers for the full range of call letters. In an age of interdisciplinary study, however, the ancillary fields that theologians may consult are wide ranging.

⁷ For example, the publically accessible online handbook of St Patrick’s Seminary and University, http://www.stpatricksseminary.org/images/stories/PDFs/faculty_handbook_final_spring_2014_edition_v2.pdf, p. 35.

the Pittsburgh Theological Seminary handbook, the scholar who desires promotion to professor should be "...a widely recognized force in his or her discipline."⁸

So, how does the candidate for promotion prove widespread acceptance of one's articles and books? The Seattle Pacific School of Theology offered this advice to its faculty: "Citations and reviews of one's work by other scholars, along with awards and other recognition, sometimes provides valuable evidence that confirms the quality and contribution of one's scholarly work."⁹ Finding all of the relevant reviews, however, and understanding the ups and downs of citation analysis can often be challenging. As a consequence, theological librarians are often consulted to assist in gathering the necessary references and data for the promotion portfolio.¹⁰ In the absence of any comprehensive article citation indexes in our field, and long lag times between when academic works in our discipline are published and when they are cited, this generally means assisting the junior faculty member, who may have just eked out their first book a few months prior to their initial tenure review, to find a scarce book review or two that might have been published before the window for submitting their portfolios to their committee closes. Although slow and ponderous, scholarly communication via the monograph is still a staple for those who would be, to borrow Carlyle's word, heroes in the academic discipline of religion.

Nevertheless, theological librarians cannot afford to remain cut off from discussions related to citation analysis, which is often primarily associated with articles and characteristic of disciplines other than our own, simply because monographs have always been central to our field, weigh down the floors of our library buildings, and are the mainstay of the tenure process. It may be the case that as discussions related to scholarly communication in Religion continue, the monograph may give way to, or at least share the stage in tenure dossiers with, other types of academic output. These may include grant funded projects and research centers that benefit the general populace directly rather than the scholarly community or even, as Rekle's title suggests, tweets.¹¹ On that note, we will now turn to a brief introduction of bibliometrics as a field of study and its use in a few representative discussions about scholarly discourse in religion.

Bibliometrics and the Field of Religion: A Short Overview

When it comes to collecting and analyzing data to demonstrate scholarly impact, one finds oneself venturing cautiously into a discipline that is known within the realm of library science as bibliometrics. It is also variously called scientometrics (when applied to scientific works) and informetrics (in relation to the field of information science). In essence, though, "biblio/sciento/informetrics is about the application of mathematics and statistics tools" to a set of objects within published literature.¹² There are, as Richard Thiessen pointed out in a 1992 study of the Mennonite journal *Direction*,

⁸ Pittsburgh Theological Seminary *Faculty Handbook*. 2010. <http://www.pts.edu/UserFiles/File/faculty/Current%20Faculty%20Handbook.pdf> p. 13.

⁹ Seattle Pacific School of Theology, "Standards of Scholarship: School of Theology," 2005, p. 1. http://www.spu.edu/depts/oaa/documents/scholarship-standards/SOTScholarshipStandards_000.pdf

¹⁰ Janet Dagenais Brown, "Citation Searching for Tenure and Promotion: An Overview of Issues and Tools," *Reference Services Review* 42 (2014): 70.

¹¹ For instance, Cardiff University in Wales proudly announces on its religious studies website, "Cardiff is a leading centre for religious studies & theology research and impact." (Cardiff University "School of History, Archaeology and Religion: Religious Studies and Theology," <http://www.cardiff.ac.uk/history-archaeology-religion/research/themes/religious-studies-and-theology>). In all likelihood these two institutions are responding to the United Kingdom's 2014 REF or Research Excellence Framework evaluation rubric. REF is a process not dissimilar to accreditation in that it makes use of a peer review process, though it diverges from some United States based accrediting processes in that the REF ratings are used by funding bodies in the UK to award research subsidies and backing to schools for the next several years. Since in the rubric used by REF, twenty percent of an institution's score is based on demonstrating "the impact of research beyond academia," (REF2014, "Introduction." <http://www.ref.ac.uk/results/intro/>).

¹² Nicola De Bellis, "History and Evolution of (Biblio) Metrics," in *Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact*, ed. Blaise Cronin and Cassidy R. Sugimoto (Cambridge, MA: MIT Press, 2014), 23.

two forms that bibliometric investigations take. The first form taken is a descriptive study in which researchers focus on teasing out patterns within a given body of literature, monographic series, or periodical. The second approach involves detailed analysis of citations to determine relationships between authors, bodies of literature, and other disciplines.¹³ Thiessen's own work was of the first type, and he concentrated on exploring author demographics for articles, sermons, and poetry featured in *Direction* from 1972-1991. Thiessen discovered, amongst other findings, for instance, that 90.5 percent of the sermons that appeared in the publication had been authored by academics with the remaining 9.5 percent written by ministers. In addition, 100 percent of the sermons had been contributed by men. Although women were represented amongst the authors in the journal at large, they had written 83.3 percent of its poetry.¹⁴ Given that *Direction* is still in print and includes poetic offerings, if not sermons, from time to time, it is rather bewildering that no librarian has undertaken a follow-up study to determine whether or not changes have occurred in the demographics of the authors represented in *Direction* over the past twenty-plus years.

The lack of a follow-up on Thiessen's findings is reflective of a larger situation within theological librarianship: a distinct paucity of bibliometric studies in the field of religion as a whole. A few quick keyword searches in the ATLA database clearly demonstrate this point. For instance, a search for the term "bibliometrics" returns only three articles in addition to Thiessen's. Astonishingly, only one of the three was authored in the last 20 years.¹⁵ In addition, there are no results for searches related to "altmetrics," "informetrics," or "scientometrics." Finally, inputting "citation analysis" into the ATLA database returns works focused not on the use of citations in modern scholarly literature, but rather text-critical studies centered on key variants in sources used by ancient authors.¹⁶ Of course, this is being remedied, and there is a lag between when articles are produced and when they ultimately appear in indexes. For instance, within the last few months, an article authored by Steven Engler entitled "Bibliometrics and the Study of Religion" appeared in *Religion*.¹⁷ Some of the particulars of Engler's work will be mentioned below and in the notes. Coincidentally, Engler is not himself a librarian, but a Professor of Religion at Mount Royal University in Calgary, Canada, and the North American editor of the journal in which this article appeared. There may be something instructive in those details for theological librarians as well.

The scarcity of bibliometric studies in modern religious scholarly communication, in comparison with other disciplines like the sciences or social sciences, might be attributed to three factors:

1. Theological librarians, by and large, have historically centered their efforts on the tasks of preserving materials and bibliography (indexing materials in order to promote ease of discoverability) rather than bibliometrics and citation analysis which focus on uncovering patterns in scholarly dialogue. In fact, the former set of activities is codified in the ATLA mission statement, while the latter is not mentioned.¹⁸
2. Data sets for author citations related to materials generated in the field of religion are extraordinarily difficult to create and access. This is due, on the one hand, to the fact that religion monographs (preferred in our discipline to serials as a means of communicating)¹⁹ are under copyright and often not available for the digitization necessary to support computer-generated algorithmic analysis. On the other hand, existing

¹³ Richard Thiessen, "A Bibliometric Study of *Direction*," *Direction* 21 (Spring 1992): 84.

¹⁴ *Ibid.*, 92-93.

¹⁵ T. Patrick Milas, "Patterns of Information Behavior in Theological Research: A Bibliometric Analysis of Acknowledgements in Theological Dissertations," *ATLA Proceedings* (2008): 292-299. This study focused on Th.D. and Ph.D. theses at Harvard.

¹⁶ For example, Robert F. Shedinger, *Tatian and the Jewish Scriptures: A Textual and Philological Analysis of the Old Testament Citations in Tatian's Diatessaron* (Leuven: Peeters, 2001).

¹⁷ Steven Engler, "Bibliometrics and the Study of Religion," *Religion* 44 (2014): 193-219.

¹⁸ ATLA "Mission Statement and Organizational Ends," 2013 <https://www.atla.com/about/who/Pages/MissionStatement.aspx>

¹⁹ Julie H. Hurd, "A Citation Study of Periodical Articles in Religion," *American Theological Library Association Summary of Proceedings* 37 (1983): 177. Also, Jennifer E. Knieval and Charlene Kellsey, "Citation Analysis for Collection Development: A Comparative Study of Eight Humanities Fields," *Library Quarterly* 75 (2005): 164.

digital data sets like the ATLA full text serials collection have not been licensed by the third-party companies that harvest data.²⁰ Thus even when digital data sets in religion do exist, they may be “dark” or undiscoverable.

3. Portions of the publishing industry in the sciences function with an author subsidy model in which article processing charges are assessed on those who submit manuscripts. Because grant funding is often used to pay these fees, there is a drive to provide publication metrics to satisfy funders that money was well spent. This situation has no equivalent in the field of religious publication.²¹

In any event, the almost complete absence of any sustained discussion related to the pros and cons of modern-day citation techniques amongst either theological librarians or researchers in religion until most recently is a situation that is extraordinarily troublesome, especially given the fact that consideration of citations may factor into tenure and review processes for theological faculty at some institutions. Indeed, there are very real problems related to citation analysis that review committees must take into account.

For instance, Janet Brown points out the *argumentum ad populum* fallacy of using the Journal Impact Factor (JIF), or the average number of citations that articles in a selected publication receive during the course of a set period of time, as an indication of the quality of the journals in which faculty members’ articles appear.²² Likewise, there are weaknesses with the Hirsh Index (H-Index). Named after Jorge Hirsch, who promulgated it in 2005, this index is calculated such that h is the average of an author’s works that have been cited h times each. So, an author with twenty papers with ten cited at least five times, and ten cited less than that, would have an h index of 5. Bibliometricians have long cautioned that such statistics may not be useful in a discipline such as religion. Let’s look at a specific issue: time to citation. Papers published in 1984 in our field had a non-citation average of 98.20 percent four years later.²³ The fact that the vast majority of research published in religion journals is still not cited several years after publication is a disadvantage for young scholars in religion who are seeking tenure or promotion early in their careers. Not only have entry-rank faculty members not yet authored many papers, but what they have written may take years to be reflected in the broader dialogue or to be a source of conversation with other publics, like clergy or laity. Of course, since book reviews appear more rapidly in print than do citations of articles, this contributes to the previously mentioned preference for writing monographs in the hope of generating at least a positive comment or two from reviewers to demonstrate the requisite endorsement of one’s work by colleagues in the academy. Be that as it may, for its part, the H-index might actually and ironically work in favor of those who have written prolifically in the far past, “even if intellectually retired in the present, (and) simply resting on their laurels.”²⁴

Citation statistics alone also do not tell the full story relative to the context in which the citation appears. Obviously, the fact that a citation exists does not imply that the individual making the reference actually had a positive interaction with the material. On the contrary, an author may be offering criticism or disagreement with the work that is being referenced. Brown notes that citations may also be gratuitous, referencing friends or colleagues, or even take the form of

²⁰ For instance, a British company called Symplectic has a product named *Elements* which may be used by institutions of higher education to harvest some citation information from indexes like *Web of Science*, *Scopus*, and *PubMed* amongst others. Symplectic is not licensed to access the ATLA data set. Symplectic Elements does not, at this time, market a spider that crawls through individual articles to report on references cited by authors. It does attempt to discover and list all scholarly output associated with an individual scholar or author. <http://symplectic.co.uk/products/elements/>.

²¹ For instance, *Advances in Bioscience and Technology* assesses a fee of \$999 for the first 10 pages and a surcharge of \$50 for each additional page, <http://www.scirp.org/journal/abb/>.

²² Brown, “Citation Searching,” 71.

²³ Rong Tang, “Citation Characteristics and Intellectual Acceptance of Scholarly Monographs,” *College and Research Libraries* 69 (2008): 358. Tang is summarizing work by David P. Hamilton, “Research Papers: Who’s Uncited Now?” *Science* 251 (1991): 2-5.

²⁴ Nicola De Bellis, *Bibliometrics and Citation Analysis: From the Science Citation Index to Cybermetrics* (Lanham, MD: Scarecrow Press, 2009), 203.

excessive self-citations in order to artificially inflate one's personal citation counts.²⁵ In other words, not every citation is a favorable one.

In addition to problems related to the quantitative nature of citation reports, the gatekeeping function of the journal editing and publication process itself can skew results in the scholarly communication eco-structure and adversely affect faculty careers. Cassidy R. Sugimoto and Blaise Cronin describe several types of publisher bias that may hamper faculty members' chances of publication:²⁶

1. Articles from those representing prestigious institutions are accepted at higher rates than those from lesser-known schools.
2. Journals tend to publish submissions from authors in their own country.
3. Women peer reviewers apply review criteria to articles more stringently than do men.
4. Reviewers tend to prefer articles with epistemological frameworks similar to their own.
5. Cronyism is a feature of the publishing industry since journal editors are more likely to publish papers from colleagues and co-authors than others.

While the last point may reflect the practice of editors soliciting content from proven authors²⁷ in order to have sufficient content to make deadlines, or to put together themed journal issues rather than malicious or insidious motives, nevertheless, the picture that emerges of the publishing industry is one that is extraordinarily conservative, making room for new ideas only with great caution. Yet, aren't new faculty encouraged to be innovative and cutting edge in their scholarship? Sadly, as Steven Engler observes, academia is not immune to economic, political, and administrative ideologies.²⁸

It may be possible that altmetrics, a brand new subfield of bibliometrics, may provide a wider perspective on what is happening in the discipline of scholarly communication while avoiding some of the pitfalls of traditional citation metrics and publishing venues.²⁹

Altmetrics: The Triumph of the World Wide Web over the Printing Press

While the discipline of bibliometrics customarily is applied to citations and references in works that have undergone a formal publication process, the science of altmetrics, which is a brand new offshoot, is used in the realm in which scholarly dialogue bypasses the editor's desk and the publisher's distribution warehouse, and escapes into the wild of the Internet.

In the early days, the potential of the World Wide Web to revolutionize communication patterns was touted by those working in Information Sciences. It was clear that the unique properties of hyperlinks and how they were constructed, maintained, and modified reflected the "interests, objectives, and communicative commitments" of their owners.³⁰ As a result, studies were spawned in what was called cybermetrics or webometrics. Commercial search engines are the backbone of webometrics and have the potential to generate data not only on the number of views of and subsequent

²⁵ Brown, "Citation Searching," 72.

²⁶ Cassidy R. Sugimoto and Blaise Cronin, "Citation Gamesmanship: Testing for Evidence of Ego Bias in Peer Review," *Scientometrics* 95 (2013): 851-52.

²⁷ The subject "implicit religion," for example, was dominated by a small number of authors. Christopher Alan Lewis, "A Citation Analysis of Research in Implicit Religion Published Outside the Journal *Implicit Religion*: For Whom the Citations Toll," *Implicit Religion* 9 (2006): 222, 224.

²⁸ Engler, "Bibliometrics," 194.

²⁹ To be fair, despite Engler's assertion, "...bibliometrics are inherently biased against work in the study of religion's," nonetheless he does concede that there are instances where they provide useful information; see *ibid.*, 206-208.

³⁰ De Bellis, *Bibliometrics*, 313.

links to a particular piece of information, but also to derive statistics on the regions, countries, and even towns in which a query for a piece of information originated.³¹ In short, the web is capable of mitigating the location bias inherent in traditional publishing venues.

Furthermore, it quickly became apparent to those studying the Web that rather than merely viewing an article that is posted on the Internet, users might download it, bookmark it, provide a link in a Course Management Software (CMS) platform like Blackboard, or even forward it to a colleague. All of these actions can be measured using logfiles and click rates, and are *alternative* methods, as opposed to citation analysis, for estimating the impact and readership of a piece of information.³² Hence the use of web-based analytics and reports to study patterns of scholarly communication now goes by the name altmetrics.

The term “altmetrics” was coined in 2010³³ and interest in this new field exploded across the scholarly community in 2013 when Jennifer Howard, a staff writer for *The Chronicle of Higher Education*, introduced the possibility that faculty members might add hit numbers garnered from blog posts, views of online copies of slide presentations, and other web-based activity to their promotion dossiers.³⁴ She rightly observed that a key advantage that altmetrics might provide for scholarly communication is the relative immediacy of its results. Given the excruciatingly slow pace of scholarly communication in religion that was highlighted earlier in this essay, the fact that altmetric data can be generated at the instant a piece of scholarly communication on the web is “touched” may eventually prove to be of great value, not only for understanding the scholarly information exchange process at large but for predicting emerging trends in the discipline.

The advent of altmetrics also has broadened our awareness of the various genres and venues presently in use by scholars for sharing their ideas with one another. To be sure, researchers in religion never really completely restricted themselves to consulting only published materials. Even the citations in traditionally published monographs document interaction with a variety of artifacts such as conference papers, doctoral dissertations, inscriptions, archival materials, and even occasional personal correspondence. The rise of altmetrics simply reminds us that faculty are also blogging, tweeting, producing multimedia, and uploading papers into their schools’ institutional repositories.³⁵

Regardless of the fact that we have been talking about new measures of impact, researchers are not really doing anything fundamentally different. Rather, the web is a publication medium that is amplifying, making public, and to some degree preserving the sorts of exchanges that have always taken place. In other words, a tweet is just another version of the informal hallway conversation — it just takes place without the boundary of walls. What schools of theology must consider if altmetrics are to be analyzed during the tenure review is the relative merit of a tweet to, say, a record of steady downloads and views of a conference paper uploaded into a research-sharing platform like Academia.edu, Impactstory.org,³⁶ or CiteULike.

It is still the hour of dawn for altmetrics, and, unfortunately, the relative youth of the field means that there is much to be done before proponents of these measures can think of going mainstream and using them as reliable criteria in

³¹ See the extended discussion by Kayvan Kousha and Mike Thelwall, “Web Impact Metrics for Research Assessment,” in *Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact*, ed. Blaise Cronin and Cassidy R. Sugimata (Cambridge, MA: MIT Press, 2014), 291-293.

³² Stephanie Haustein, “Readership Metrics,” in *Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact*, ed. Blaise Cronin and Cassidy R. Sugimata (Cambridge, MA: MIT Press, 2014), 330, reminds her readers that counts do not imply that an artifact is actually read or used.

³³ J. Priem, D. Taraborelli, P. Groth, and C. Neylon (2010), “[Altmetrics: a Manifesto](http://altmetrics.org/manifesto),” 26 October 2010. <http://altmetrics.org/manifesto>.

³⁴ Jennifer Howard, “Rise of ‘Altmetrics’ Revives Questions about How to Measure Impact of Research” *The Chronicle of Higher Education* (June 3, 2013). <http://chronicle.com/article/Rise-of-Altmetrics-Revives/139557/>.

³⁵ See table 1 in Mike Buschman and Andrea Michalek, “Are Alternative Metrics Still Alternative?” *Bulletin of the Association for Information Science and Technology* 39 (2013): 36.

³⁶ At the time this article was being written, Impactstory announced that it was shifting from a free platform to a subscription fee model (e-mailed letter to users 8/15/2014).

assessing academic performance and impact in religion. One significant weakness in relation to our field is that the tools, apps, and platforms for citation analysis and altmetrics to date have been geared toward the scientific disciplines.³⁷ Religion is late to the party.³⁸ For instance, owners of research blogs in the sciences learned early and quickly that the web crawlers developed to scour the web for scholarly exchanges and generating altmetric data are not yet sweeping everywhere, but are concentrating on the sites of aggregators. Thus, scientists register their blogs with academic content at Researchblogging.org. Although there are no restrictions concerning the range of subject matter that might be indexed in that aggregator, religion blogs are largely absent. Further, there does not appear to be an equivalent service that highlights academic religion blogs.

There are, of course, implications of the slow rollout of altmetrics in some quarters of the field of religion when issues of faculty performance are at stake. Specifically, rather than fearing that candidates for promotion may be gaming the system by artificially driving up clicks on the various paper sharing sites, promotion and tenure committees at theological schools should be more concerned that altmetrics may underrepresent a theological scholar's impact. After all, it is very well for an early career theologian to create a profile on a platform like Academia.edu or Impactstory.org to begin generating raw data on the papers that he or she has uploaded. If third-party citation report services, however, are science oriented and mine data from completely different sites like the ISI's Web of Science (which does include the Arts and Humanities Index) or the Mendeley (www.mendeley.com) research sharing and citation management platform instead, the value of the research impact reports such services generate would be dubious.³⁹

Despite the weaknesses related to altmetrics at this point, one thing is clear: The Internet is here to stay. And where there is the Internet, there are data; and where there are data, the possibility of crunching numbers exists. Will the field of religion be able to make use of the data in constructive, productive ways? Since published literature in our field related to citation analysis is scant, clearly librarians, administrators, and faculty members have much to explore about the potentiality and pitfalls of both bibliometrics and its offspring — altmetrics.

By the Numbers: Altmetrics/Bibliometrics and the Theological Project

Any conversation about citation analysis, however, must first come to grips with the fact that Theological Schools are a specialty subset within the academy at large. Their missions, the unique aspects of their educational project, and the various publics they serve give rise to unique questions and perspectives they might bring concerning bibliometrics and citation analysis. These are just some questions that might be considered:

1. Numeric analyses are generally employed in an attempt to avoid bias. Yet, isn't denominational bias to some extent desirable in studies related to theological education? Is it possible to create datasets and algorithms that weight denomination-related "hits"?
2. Is it possible to use altmetrics to measure spiritual formation? Do faculty members impact the spiritual journeys of their students or the members of congregations?
3. Might altmetrics provide data on creative religious scholarly output like poetry, hymns, sermons, artwork, and multimedia that heretofore has sometimes been difficult to assess?
4. Are there justice issues solved or conversely raised by altmetrics in relation to globalization, shifting demographics for various religious traditions, access to technology, and even required levels of technical knowledge necessary to use and include altmetrics in promotion portfolios?

³⁷ This is true for the humanities in general, and some limits are briefly mentioned by Björn Hammarfelt, "Using Altmetrics for Assessing Research Impact in the Humanities," *Scientometrics* 101 (2014): 1428-1429.

³⁸ Within the Academia.edu platform, for instance, the New Testament research interest group includes 11,454 people. Biology, by contrast, has a following of 195,945 (Statistics accessed 8/15/14 at <http://academia.edu>.)

³⁹ Engler, "Bibliometrics," 205 makes this same point when he observes *Web of Science* does not include the categories "religion" or "religious studies."

5. In evaluating faculty, should scholarly communication and impact within the academy, as may be tracked by bibliometrics and citation analysis, be privileged over communication with other populations such as laity and clergy?
6. There are many reasons for a theological faculty member to write beyond a compulsion to advance new ideas. Sometimes a faculty member writes to learn, to demonstrate currency in a field, or to educate non-scholarly audiences. Is it therefore appropriate to expect uniform citation numbers or productivity outputs amongst faculty within an institution or even between institutions that value different genres and types of scholarship?
7. Unlike traditional publishing where publishing houses and their publicists promoted a scholar's work, with the advent of altmetrics there may be an underlying assumption that individual scholars will be proactive in getting the word out about their research. How does this align with religious traditions that place a high value on humility?
8. Religious groups (and indeed many seminaries and theological schools) are communities with pastoral care concerns for their members. How do such institutions carefully interpret and respond to the easily accessible and often graphically represented quantitative data of altmetrics and bibliometrics that on a surface level lends well at first glance to comparing, contrasting, and ranking faculty members in relation to one another? Should discussions be taking place about sensitivity to interpersonal dynamics, fragility with regard to sense of self-worth, and the dangers of excessive competition communities may face when taking the "numbers game" of these tools for measuring scholarly impact to extremes?

There may be many other questions than these, but one thing is clear — the Internet is as big of a game-changer for the academy in our own era as was the fifteenth-century printing press that four centuries after its invention was the catalyst for Thomas Carlyle's enthusiasm for mass-produced monographs. And there is no doubt the way tenure and promotion portfolios are evaluated likely will change as algorithms are perfected and weighting systems are developed. Before just blindly jumping on the bandwagon, however, it makes sense for theological librarians and educators in the field of religion to think theologically and strategically before adopting new standards for evaluating faculty within their individual institutional contexts.