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# Mitigating Citation Errors in the Interlibrary Loan System

**Scott Dewey** 

David Zopfi-Jordan

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# Mitigating Citation Errors in the Interlibrary Loan System\*

Scott Hamilton Dewey\*\* and David Zopfi-Jordan\*\*\*

Journal articles from most academic disciplines have long shown high rates of citation errors. American law reviews, with their careful cite-checking, are a rare exception to the overall rule. Incorrect citations are especially costly and problematic for interlibrary loan librarians. This article offers practical suggestions to address the problem.

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<sup>\*\*</sup> Faculty Research Librarian, University of Minnesota Law Library, Minneapolis, Minnesota.

<sup>\*\*\*</sup> Interlibrary Loan Librarian, University of Minnesota Law Library, Minneapolis, Minnesota.

#### Introduction

11 Citation errors have long been a serious, all-too-frequent problem in scholarly literature across nearly all disciplines. Legal academia's "peculiar institution" of student-edited law reviews forms a rare exception to the overall rule, policing and guarding against citation errors by having teams of staff members meticulously cite-check to assure citation accuracy. As discussed below in greater detail, in a wide range of other disciplines, citation error rates frequently run at more than 10 percent, 20 percent, or even above 30 percent, even in prominent, respected journals.

¶2 While citation errors potentially pose problems for all researchers and librarians, they can present a particularly vexing problem to interlibrary loan (ILL) librarians, whose work requires the cooperation of library staff members at multiple institutions who all rely on receiving correct bibliographic information. For ILL librarians, citation errors can be particularly costly and time-consuming.

¶3 This article traces the history and current state of citation errors and their recognition as a problem, as well as the history of ILL librarianship and its special concern with citation errors. Notwithstanding many marked improvements in library and information technology and techniques during recent decades, the problem of citation errors unfortunately remains alive and well, and it promises to remain well into the foreseeable future. This article suggests several tested techniques that ILL librarians and others can use to mitigate the problem.

# **Ongoing Problems in Scholarly Literature Citations**

¶4 Few scholars would argue that citations do not matter all that much to scholarship or that flawed citations present only a trivial problem. Many scholars, in fact, emphasize the integral role that accurate citations play in scholarly literature and conclude that incorrect citations represent a potential threat to the whole scholarly project. To provide just a few examples: "Citations are a basic part of the system of scholarly communication and are the standard way of acknowledging credit in science. . . . They connect the current work to the framework of research that has gone before." "Academic research is a cooperative and cumulative enterprise that relies on the accuracy of documented information to ensure the proliferation of research fidelity. . . . [R]esearch that perpetuates erroneous information not only impedes scholarly advancement, but also may take years to eradicate[.]" "Citations and bibliographies ensure that research results can be properly reproduced and credited[.]" "Within all areas of research, the use of previously

<sup>1.</sup> Robert Lopresti, Citation Accuracy in Environmental Science Journals, 85 Scientometrics 647, 647 (2010), https://doi.org/10.1007/s11192-010-0293-6.

<sup>2.</sup> Vicki L. Waytowich, Anthony J. Onwuegbuzie & Qun G. Jiao, *Characteristics of Doctoral Students Who Commit Citation Errors*, 55 Libr. Rev. 195, 196 (2006), https://doi.org/10.1108/00242530610655993.

<sup>3.</sup> Caroline Nyvang, Thomas Hvid Kromann & Eld Zierau, Capturing the Web at Large: A Critique of Current Web Referencing Practices, Researchers, Practitioners and Their Use of the Archived Web 1, 1 (June 22, 2017), https://sas-space.sas.ac.uk/9674/ [https://perma.cc/N5CF-U5TE].

published material is an essential building block of knowledge-production. . . . However, research results are sometimes used sloppily and cited inaccurately." "Even 'trivial' mistakes . . . have consequences [that can] inconvenience (and subsequently frustrate) colleagues on a personal level." <sup>5</sup>

¶5 Citation errors come in many different shapes and sizes. Broadly, they fall into two categories: (1) errors regarding the content or message of the cited source, sometimes labeled "quotation errors"; and (2) errors in reporting of bibliographic information or metadata, possibly including incorrect or misspelled authors or editors names, book or article titles, journal or publishers names (or locations), hyperlinks or web addresses, or page, chapter, volume, or section numbers, among others. Some authors use the label "citation error" only to describe the second variety, bibliographic information errors, while other scholars refer to such bibliographic errors as "reference errors." Scholars across the academic spectrum generally view content errors with greater seriousness and severity because they may indicate scholarly malpractice ranging anywhere from sloppy research to outright academic fraud. Bibliographic citation errors are

- 4. Mohammad Hosseini et al., MyCites: A Proposal to Mark and Report Inaccurate Citations in Scholarly Publications, 5 Rsch. Integrity & Peer Rev. 1, 1 (2020), https://doi.org/10.1186/s41073-020-00099-8.
- 5. Robert J. Spinner & Beverly D. Northouse, *Editorial: Taking the "In-" Out of Inaccuracy*, 17 Clinical Anatomy 531, 531 (2004), https://doi.org/10.1002/ca.20061.
- 6. Amedee Marchand Martella et al., Quotation Accuracy Matters: An Examination of How an Influential Meta-Analysis on Active Learning Has Been Cited, 91 REV. EDUC. RSCH. 272, 273 (2021), https://doi. org/10.3102/0034654321991228; Ard W. Lazonder & Noortje Janssen, Quotation Accuracy in Educational Research Articles, 35 EDUC. RSCH. REV. 1, 1, 8 (2022), https://doi.org/10.1016/j.edurev.2021.100430; Hosseini et al., *supra* note 4, at 1–2. We should note that we find "quotation errors" to be a somewhat problematic and perhaps inherently confusing term because it is currently used to cover any claim about the message or content of a cited source. This includes loose paraphrasings or brief assertions that may bear little or no relationship to the actual language used by cited authors, along with examples of exactly and specifically quoted language that many readers (such as the present authors) might normally associate with the term "quotation." Thus, we would perhaps propose the label "content errors" to cover that broader ground and use "quotation errors" only for the subcategory of actual quotations. Admittedly, "content errors," without more, may also be problematic in that citations include bibliographic/metadata information "content" along with factual, rhetorical, or general informational "content." At any rate, "citation errors" vary in kind and character—errors regarding substantive content are quite different from errors regarding bibliographic information, and errors regarding specific quotations arguably are different from errors regarding mere paraphrasings or loose assertions and allegations as to substantive content. For this reason, it would seem desirable for all scholars and disciplines to have a clear, common vocabulary for describing them. That, however, might be another of those obvious good ideas that is inevitably doomed from the outset.
- 7. Judith A. Harper, Citation Inaccuracy in a Scientific Journal: A Continuing Issue, 20 Sci. & Tech. Libr. 39, 41 (2001), https://doi.org/10.1300/J122v20n04\_05; Vishnu Kumar Gupta, Citation Errors in Scholarly Communication: A Critical Evaluation, 11 Indian J. Libr. & Info. Sci. 228, 229–30 (2017); Lopresti, supra note 1, at 650–51, 653–54; Nyvang et al., supra note 3.
- 8. See, e.g., Peter Genzinger & Deborah Wills, How Well Do Librarians Cite and Quote Their Sources?, 57 Reference & User Servs. Q. 30, 30 (Fall 2017).
- 9. See, e.g., Karen Davies, Reference Accuracy in Library and Information Science Journals, 64 ASLIB PROCEEDINGS: New Information Perspectives 373, 375 (2012), https://doi.org/10.1108/00012531211244734.
- 10. See, e.g., D.C. Drake et al., The Propagation and Dispersal of Misinformation in Ecology: Is There a Relationship Between Citation Accuracy and Journal Impact Factor?, 702 Hydrobiologia 1, 1–2 (2013), https://doi.org/10.1007/s10750-012-1392-6; Mariana C. Teixeira et al., Incorrect Citations Give Unfair

more likely to cause headaches for librarians when they are acting in their usual role of assisting other researchers to find information (not as scholars or editors themselves). <sup>11</sup> Yet both content errors and bibliographic errors can harm scholars, articles, and journals in various ways, including denial of deserved credit and reduced impact factors or other metrics used to measure scholarly productivity or significance. <sup>12</sup> Even something as minor as missing or incorrect middle initials in authors' names can make works more difficult to identify (or locate or rank) correctly. <sup>13</sup>

¶6 Presumably, citation errors in scholarship are as old as written scholarship itself. <sup>14</sup> In a now-classic 1989 article, though, James H. Sweetland offered, as "[p]erhaps the earliest complaint" about incorrect citations, the partly humorous 1859 comments of notable French surgeon and medical scholar Aristide Verneuil on how "it took him about six hours to trace one fact through a series of incorrect and incomplete citations"—time that could have been better spent. <sup>15</sup> What may have been the world's first systematic study of citation errors surfaced in 1911. Some 10,000 references for Jacob Wolff's Germanlanguage textbook on cancer were checked individually; 10 percent of them contained errors. <sup>16</sup> Such citation errors likely have arisen over decades or centuries from failures of hearing or handwriting (or more recently, typing, texting, or copy-pasting), as scholars

Credit to Review Authors in Ecology Journals, 8 PLoS ONE e81871 1, 3 (2013), https://doi.org/10.1371/journal.pone.0081871 ("Misinterpretation of a referenced paper can be considered one of the most damaging violations of academic referencing."); David P. Henige, Discouraging Verification: Citation Practices Across the Disciplines, 37 J. Scholarly Publ'g 99, 104 (2006) (noting the "incidence of fraud" in scholarship and citation). For an amusing (but regrettably common) example of questionable scholarly conduct (wholesale copying of other authors' citations without ever actually looking at any of the cited articles), see Robb Waltner, A Sardonic View of Interlibrary Loan, 3 J. Access Servs. 95, 96 (2005), https://doi.org/10.1300/J204v03n01\_10; see also, e.g., Martin Šigut et al., Avoiding Erroneous Citations in Ecological Research: Read Before You Apply, 126 Oikos 1523, 1523, 1528 (2017), https://doi.org/10.1111/oik.04400 (reporting results indicating that "almost 50% of authors have not actually read their cited sources"); Lisa G. O'Connor & Cindy Kristof, Verify Your Citations: Accuracy of Reference Citations in Twelve Business and Economics Journals, 6 J. Bus. & Fin. Librarianship 23, 24 (2001), https://doi.org/10.1300/J109v06n04\_03 ("authors do not always check primary documents before citing them, but sometimes lift citations directly from the bibliographies of others").

- 11. See, e.g., Frank Place Jr., Verify Your References: A Word to Medical Writers, N.Y. Med. J., Oct. 7, 1916, at 697–99.
- 12. Janne S. Kotiaho, Joseph L. Tomkins & Leigh W. Simmons, *Unfamiliar Citations Breed Mistakes*, 400 NATURE 307, 307 (1999), https://doi.org/10.1038/22405; Gupta, *supra* note 7, at 232; Teixeira et al., *supra* note 10, at 4.
  - 13. Lopresti, supra note 1, at 653-54.
- 14. As Indian LIS scholar Vishnu Kumar Gupta has observed, "Most probably, the errors in citations and bibliographical references have appeared since the authors have started citing other authors." Gupta, *supra* note 7, at 230.
- 15. James H. Sweetland, Errors in Bibliographic Citations: A Continuing Problem, 59 LIBR. Q. 291, 293 (1989); Aristide Auguste Stanislas Verneuil, WIKIPEDIA, https://en.wikipedia.org/wiki/Aristide\_Auguste\_Stanislas\_Verneuil [https://perma.cc/GZ8D-9YSA].
- 16. Sweetland, *supra* note 15, at 294; David A. Kronick, *Literature Citations, A Clinico-Pathological Study, with the Presentation of Three Cases*, 46 Bull. Med. Libr. Ass'n 219 (1958), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC200256/pdf/mlab00208-0055.pdf [https://perma.cc/74NJ-QDGL]. Sweetland notes that the book in question was Jacob Wolff's *Die Lehre von der Krebskrankheit*, part 2; Wolff apparently checked the citations of his many cited sources but did not specify the nature of the errors encountered.

guessed at names or titles heard during conference presentations or mistakenly transposed letters or numbers in their handwritten notes.<sup>17</sup>

¶7 Citation errors can also appear more frequently as cited sources migrate between different languages. In what has become a classic and often-cited example, the title of an 1887 medical journal article written in Czech (Bohemian), "O úplavici" ("On Dysentery"), was misread in other languages as an author's last name and first initial, producing numerous citations of an article by an alleged Professor/Doctor O. Uplavici.¹8 Medical librarian Frank Place offered a similar, if slightly less comical, example of international name- and title-garbling in 1916.¹9 A more recent study indicates that even today, scholars with non-English names are miscited more frequently, and thus are ranked lower for scholarly impact, in rankings based on citation analysis from Anglophone bibliometric databases.²0

¶8 The early examples of Verneuil, Wolff, and Place suggest that concern about citation errors may have arisen earlier and more strongly in medical scholarship than in other fields. Yet in 1958, medical librarian David A. Kronick observed, especially regarding medical literature, "There have been very few systematic studies of errors in literature citations." Three decades later, in reviewing then-existing citation error studies in biomedical and other fields, Sweetland echoed Kronick: "Surprisingly few citation studies discuss the potential for error in their data." From the 1970s to the 1990s, though, a good many studies sought to fill that void, and generally found substantial (or even alarming) citation error rates from around 10 percent to above 50 to 60 percent in scholarly literature across a wide range of medical and healthcare disciplines, including general and emergency medicine, surgery, and anesthesiology.<sup>23</sup>

¶9 Notwithstanding technological changes since the 1980s, including shifts toward digital technology and online access for research materials, medical journals still have

<sup>17.</sup> Kronick, supra note 16, at 220; Lopresti, supra note 1, at 654.

<sup>18.</sup> Kronick, *supra* note 16, at 220. The classic study that uncovered this mistaken identity is Clifford Dobell, *Dr O. Uplavici* (1887–1938), 30 Isis 268 (1939). As Dobell recounts, the article in question was written by leading Czech medical researcher Dr. Jaroslav Hlava (1855–1924). For more recent retellings, *see also, e.g.*, Sweetland, *supra* note 15, at 293; Cindy Kristof, *Accuracy of Reference Citations in Five Entomology Journals*, 43 Am. Entomol. 246, 246 (1997); Waytowich et al., *supra* note 2, at 196; Gupta, *supra* note 7, at 230.

<sup>19.</sup> Place, *supra* note 11, at 699.

<sup>20.</sup> Kotiaho, Tomkins & Simmons, *supra* note 8, at 307 (testing comparative citation error rates between Finnish and English names); *see also* Robert A. Buchanan, *Accuracy of Cited References: The Role of Citation Databases*, 67 Coll. & Rsch. Libr. 292, 297–98 (2006) (discussing problems associated with journal translations in research databases).

<sup>21.</sup> Kronick, *supra* note 16, at 219.

<sup>22.</sup> Sweetland, *supra* note 15, at 294. Sweetland added, "A substantial portion of [the] evidence on the accuracy of citations is in the biomedical literature." *Id.* at 292.

<sup>23.</sup> Candy K.W. Lok, Matthew T.V. Chan & Ida M. Martinson, *Methodological Issues in Nursing Research: Risk Factors for Citation Errors in Peer-Reviewed Nursing Journals*, 34 J. Advanced Nursing 223, 223–24, 226 (2001) (anesthesiology (error rates of 32%–56% from studies conducted in 1992 and 1995), dentistry (38%–49%, 1989), emergency medicine (10%–17%, 1993), general medicine (8%–46%, 1977, 1985), nursing (19%–66%, 1987, 1998, 2001), obstetrics (58%–67%, 1997), public health (28%–36%, 1987), radiology (27%–45%, 1985, 1994), rehabilitation (54%, 1977), and surgery (38%–60%, 1985, 1990, 1997)); *see also* Davies, *supra* note 9, at 375 (offering additional, more recent examples).

a significant problem with citation errors. A 2015 study of frequency of citation errors in medical journals found a quarter of all the citations studied to include major or minor quotation errors;<sup>24</sup> notably, this categorization of major or minor errors concerning incorrect interpretation of a cited author's meaning did not even include additional bibliographic errors of the sort that can cause headaches for librarians.<sup>25</sup> A 2022 study of nearly 6,000 citations in articles appearing in the top 10 highest-ranked surgical journals from 2015 to 2020 found an error rate of 15.2 percent—with 77.2 percent of those categorized as major errors. It concluded, "[C]itation inaccuracies continue to be prevalent throughout highly-ranked surgical literature."26 A 2021 study of citation errors regarding frequently cited biomedical research papers found errors in 11 to 15 percent of the sample, with 38.4 percent of those errors citing entirely nonexistent findings, while 15.4 percent clearly misinterpreted the cited author's findings and 19.3 percent resulted from "chains of inaccurate citations"—situations where authors apparently copied incorrect citations from earlier papers without reading the cited sources.<sup>27</sup> A 2016 study focused more closely on the sorts of bibliographic errors that especially concern librarians and found an error rate of 17.3 percent.<sup>28</sup> Such errors produced measurable detrimental impact on the target journal's impact factor in 2012 and 2013, and the study's author concluded, "[I]naccurate citations are a continuing problem with consequences for the validity of the study, the credibility of the authors, and the reputation of the journal."29 Other healthcare professions and journals are not immune. The editor of a nursing journal recently echoed those conclusions, noting the "disturbing problem known as citation errors" and stating, "Healthcare literature abounds with citation errors . . . and the problem is pervasive."<sup>30</sup> Along with potentially hurting authors in relative scholarly productivity rankings, "[i]naccurate or incomplete citations are also

<sup>24.</sup> Hannah Jergas & Christopher Baethge, Quotation Accuracy in Medical Journal Articles—A Systematic Review and Meta-Analysis, 3 PeerJ e1364, at 5/20 (2015), https://doi.org/10.7717/peerj.1364.

<sup>25.</sup> David B. Waisel, "That's Not What I Said": Seeking Fidelity in Citations, 126 Anesthesia & Analgesia 393, 393 (Feb. 2018), https://doi.org/10.1213/ANE.0000000000002685 (discussing Jergas & Baethge, supra note 24).

<sup>26.</sup> Matthew Sauder et al., Evaluation of Citation Inaccuracies in Surgical Literature by Journal Type, Study Design, and Level of Evidence: Towards Safeguarding the Peer-Review Process, 88 Am. Surgeon 1590, 1590, 1599 (2022), https://doi.org/10.1177/00031348211067993.

<sup>27.</sup> Vedrana Pavlovic et al., *How Accurate Are Citations of Frequently Cited Papers in Biomedical Literature*?, 135 CLINICAL SCI. 671, 674–75 (2021), https://doi.org/10.1042/CS20201573 (another 16.6% reported inaccurate numerical data from earlier studies).

<sup>28.</sup> Nevzat Karabulut, *Inaccurate Citations in Biomedical Journalism: Effect on the Impact Factor of the American Journal of Roentgenology*, 208 Am. J. ROENTGENOLOGY 472, 472–73 (2017), https://doi. org/10.2214/AJR.16.16984 (17.3% of the 1055 citable articles published in the *American Journal of Roentgenology* from 2011 to 2012 were miscited 423 times, with 44.8% of those errors involving incorrect page numbers, 20.2% including misspelling of authors' names, and 22.4% including errors in more than one such citation metadata category).

<sup>29.</sup> *Id.* (author names, title, year, volume, issue, and page numbers at 473–74).

<sup>30.</sup> Rodney W. Hicks, *How Accurate Are Your Citations?*, 33 J. Am. Ass'n Nurse Pracs. 667, 667 (2021), https://doi.org/10.1097/JXX.000000000000645 (citing Lok et al., *supra* note 23, at 223–24).

detrimental to the journal, the reviewers, and the truth. . . . The credibility of the journal suffers when articles include incorrect citations."<sup>31</sup>

¶10 Medical literature represents a comparatively high-value, highly trafficked body of literature in which citation errors might come closer to being actual matters of life or death than in some other disciplines. It also shows a relatively long history of complaints and concerns about citation errors. But other fields of research clearly are not immune either. For example, a 2010 study of citation accuracy in 33 marine biology journals found nearly a quarter of the sample citations questionable or misleading to support the claim made for which the citation was offered.<sup>32</sup> Other studies found rates of content errors as high as 37.9 percent in ecology journals.<sup>33</sup> Studies of life science or environmental science journals focused particularly on bibliographic errors found error rates up to 45.4 percent, with the problem getting worse over time.<sup>34</sup> These studies confirmed earlier research finding substantial error rates.<sup>35</sup> Significant citation error rates have also surfaced in studies of social science fields such as education, psychology, business, and social work, among others.<sup>36</sup> In 1989, after noting the citation error rates in the medical and life sciences, Sweetland observed, "The situation in the social

<sup>31.</sup> *Id*.

<sup>32.</sup> Peter A. Todd et al., One in Four Citations in Marine Biology Papers Is Inappropriate, 408 MARINE ECOLOGY PROGRESS SER. 299, 299, 300 (2010), https://doi.org/10.3354/meps08587 (based on a sample of one citation apiece from 198 papers from the 33 journals).

<sup>33.</sup> Drake et al., *supra* note 10, at 2 (37.9%); Teixeira et al., *supra* note 10, at 1–3 (15% of citations were clear misinterpretations of content; an additional 22% were "lazy citations" that improperly credited authors of review articles with findings that came from other original researchers).

<sup>34.</sup> Harper, *supra* note 7, at 39, 41, 43 (45.4%, and error rate markedly worse than in the same journal a decade earlier); Lopresti, *supra* note 1, at 648–51 (finding an overall bibliographic error rate of 24.4% and giving exact details regarding how many of these were author name errors (44%), title errors (29.7%), page number errors (11.4%), electronic link errors (5.4%), and other error categories).

<sup>35.</sup> Kristof, *supra* note 18, at 249 (finding an average of roughly 30% of citations in five entomology journals to include one or more error); *see also, e.g.*, Robert N. Broadus, *An Investigation of the Validity of Bibliographic Citations*, 34 J. Am. Soc'y Info. Sci. 132 (1983) (tracing the identical reproduction in later citing articles of title errors in citations originally appearing in a popular book on biology).

<sup>36.</sup> Anthony J. Onwuegbuzie et al., Editorial: Evidence-Based Guidelines for Avoiding Reference List Errors in Manuscripts Submitted to Journals for Review for Publication, 18 Rsch. Schs. i, iv-v (2011) (studying miscitation among doctoral students); Lazonder & Janssen, supra note 6, at 8 (finding a content/ quotation error rate of 15% in a sample of education scholarship); Christina A. Spivey & Scott E. Wilks, Reference List Accuracy in Social Work Journals, 14 RSCH. Soc. WORK PRAC. 281, 281, 284 (2004), https:// doi.org/10.1177/1049731503262131 (41.2% out of sample of 500 references in social work scholarship contained at least one error); Qun G. Jiao, Anthony J. Onwuegbuzie & Vicki L. Waytowich, The Relationship Between Citation Errors and Library Anxiety: An Empirical Study of Doctoral Students in Education, 44 Info. Processing & Mgmt. 948, 953-54 (2008), https://doi.org/10.1016/j.ipm.2007.05.007 (finding a citation error rate of 31.8% in research proposals from doctoral students in education); Arden White, Reference Inaccuracies in Two Counseling Journals, 26 Counseling Educ. & Supervision 286, 286, 288 (1987) (1,072 (44.9%) of 2,388 verified references contained at least one error); O'Connor & Kristof, supra note 10, at 23 (on average, 41.7% of citations from a large sample of business journal articles contained one or more errors); Dana F. Wyles, Citation Errors in Two Journals of Psychiatry, 22 BEHAV. & Soc. Sci. Libr. 27, 45-46 (2004) (in a study of two leading psychiatry journals, one saw its citation error rate improve from 44% to 17% between 1980 and 1999, while the second saw its citation error rate worsen from 26% to 31% over the same period).

sciences is no more encouraging";<sup>37</sup> nor has that changed in recent decades. Much of the scholarship on citation errors in many academic fields comes from the relatively long-developed Western nations of Europe, North America, and Australia, but similar studies from other countries, such as Iran and India, help to emphasize the worldwide nature of the problem.<sup>38</sup>

¶11 Perhaps, at least in theory, library and information science (LIS) journals and scholars should be particularly sensitive to, and on guard against, citation errors of all kinds. But the LIS community suffers from the same malady. In a relatively early (1992) study of citation errors in LIS scholarship, Nancy N. Pope asked, "Shouldn't our profession, which concentrates on providing information services to patrons, take greater care with citations than our fellow authors in other areas of study?"<sup>39</sup> Her results showing a roughly 30 percent error rate in a sample of LIS articles, however, led her to conclude that "citations are no more accurate in library science journals than they are in those of professional publications of other disciplines."<sup>40</sup> More recent studies of citation errors in LIS scholarship indicate that the problem remains. A 2012 study of four high-impact-factor information science journals found bibliographic error rates ranging between 41.3 percent and 49.1 percent.<sup>41</sup> Other recent studies of LIS literature also found significant error rates.<sup>42</sup>

¶12 There are various ways to detect, sample, and measure citation errors. Scholars may track error rates for a sample of articles from a particular journal, for a particular journal overall, or for batches of articles drawn from various journals. Statistics may be given for the number of citations in an article or a journal issue that contain at least one identifiable error; for the total number of errors that appear in all the citations within an article or journal volume; or for percentages of authors showing errors, with or without additional statistics regarding varying measures of average error rates. Sample sizes, of articles or journals, may be larger or smaller and focus only on prominent, high-impact-factor journals and articles or on broader samples of journal literature. One

<sup>37.</sup> Sweetland, *supra* note 15, at 295.

<sup>38.</sup> See, e.g., Mohammad Reza Ghane, How Accurate Are Cited References in Iranian Peer-Reviewed Journals?, 29 Learned Publ'g 77, 79–81 (2016) (finding an average error rate of 36.6% in a sample from Iranian science journals); Gupta, supra note 7; Vishnu Kumar Gupta, Citation Errors in "Libres: Library and Information Science Research e-Journal," 12 Indian J. Libr. & Info. Sci. 42 (2018); Vishnu Kumar Gupta, Accuracy of References in the Doctoral Theses in Library and Information Science Submitted to Banasthali Vidyapith, 67 Annals Libr. & Info. Stud. 183 (2020).

<sup>39.</sup> Nancy N. Pope, Accuracy of References in Ten Library Science Journals, 32 Reference Q. 240, 240 (1992).

<sup>40.</sup> Id. at 242.

<sup>41.</sup> Davies, supra note 9, at 379-80, 385.

<sup>42.</sup> Genzinger & Wills, *supra* note 8, at 33–34 (finding a cumulative bibliographic citation error rate of 25.8% across three prominent LIS journals together with a content/quotation error rate of 30.3%); Maria Elizabeth Clarke, *Citation Behaviour of Information Science Students II: Postgraduate Students*, 24 EDUC. INFO. 1, 2 (2006), https://doi.org/10.3233/EFI-2006-24101 (finding an overall bibliographic citation error rate of 24.9% in bibliographies compiled by LIS students); Gupta, *Citation Errors in "Libres," supra* note 38, at 45–46 (finding an error rate of 63%); Gupta, *Accuracy of References*, *supra* note 38, at 183, 188–93 (finding a citation error rate of 77.92% in LIS doctoral theses).

relatively early study tracked the propagation of particular known citation errors from an identifiable and widely circulated original source of the errors to all traceable citing sources, across all articles and journals.<sup>43</sup> Some studies may focus only on content/ quotation errors,44 others only on bibliographic errors,45 and others on both error categories. 46 Studies of bibliographic errors may provide statistics on the frequency of each sort of error (e.g., incorrect authors, incorrect titles); studies of content errors frequently report statistics for different levels of errors (e.g., cited source offers no support for the claim in the citing text whatsoever, versus ambiguous or shaky support).<sup>47</sup> Study results may vary based on differences in citation systems and style manuals—for instance, studies may track the mismatch between bibliographic information given in in-text citations and the fuller reference list at the end of an article in journals using an APA-type citation system. 48 Other studies may trace inaccurate bibliographic information appearing in online indexes, bibliographies, or databases.<sup>49</sup> Some citation systems do not require the use of page numbers, so missing page numbers do not constitute errors, even if they make life more difficult for readers who might wish to check such citations.<sup>50</sup> In short, there are many different ways to approach the problem and many different shapes the problem can take, which may help to account for varying average or cumulative statistics reported by different studies. Also, certain disciplines, or certain journals within a given discipline, may run a somewhat tighter ship regarding avoidance of citation errors than their peers. (Certainly, some individual authors may be more careful about their citations than others.) Yet all the studies point toward a significant problem with citation errors across a wide range of academic disciplines and journals, whether the statistical averages tend to hover around 15 percent, 25 percent, 30 to 40 percent, or higher.

<sup>43.</sup> Broadus, *supra* note 35 (tracking replication of identifiable citation errors appearing in noted biologist Edward O. Wilson's well-known book, *Sociobiology: The New Synthesis* (1975) and finding 23% of later sources that cite the same miscited sources repeating Wilson's errors); *see also* Martella et al., *supra* note 6, at 272 (tracking citations of the influential Freeman et al. meta-analysis on active learning and finding 26% of such citations to be unsupported assertions, while 35% of articles included at least one unsupported assertion).

<sup>44.</sup> See, e.g., Lazonder & Janssen, supra note 6, at 1; Jergas & Baethge, supra note 24; Sauder et al., supra note 26.

<sup>45.</sup> See, e.g., Harper, supra note 7; Susan P. Benning & Susan C. Speer, Incorrect Citations: A Comparison of Library Literature with Medical Literature, 81 Bull. Med. LIBR. Ass'n 56 (1993).

<sup>46.</sup> See, e.g., Genzinger & Wills, supra note 8.

<sup>47.</sup> *Id.* at 33–34 (both categories of errors); Lopresti, *supra* note 1, at 648–51 (only bibliographic errors).

<sup>48.</sup> Onwuegbuzie et al., *supra* note 36, at i (finding over 90% of authors committing such mismatch errors in manuscripts submitted to education journals); *see also* Nancy Van Note Chism & Shrinika Weerakoon, *APA, Meet Google: Graduate Students' Approaches to Learning Citation Style*, 12 J. SCHOLARSHIP TEACHING & LEARNING 27 (2012) (describing graduate students struggling with use of the APA citation system).

<sup>49.</sup> See, e.g., Buchanan, supra note 20.

<sup>50.</sup> Edward G. Voss, *Sloppy Citations*, 40 BioSci. 556, 556 (1990) (a former journal editor complains of authors omitting, and editors sometimes removing, precise page citations).

¶13 Together with reporting the existence of a significant or downright serious problem at the core of scholarship and bibliometric analysis of it, many scholars have offered suggestions for how to fix the problem of citation errors. The central, perhaps somewhat cruel, irony of this is that scholars have been making similar suggestions for more than a century, yet the problem apparently remains alive and well. Medical librarian Frank Place made impassioned pleas to medical researchers to "Verify Your Citations!"—and clean up their scholarly acts—back in 1915 and 1916, providing a detailed list of best practices to follow to ensure accurate bibliographic information and content in citations.<sup>51</sup> More recent studies of citation errors have sometimes sought to address the question of who to blame, including authors, journals, journal editors, and reviewers. Whose job is it to catch flawed citations before they appear in print or online?

¶14 Traditionally, the primary responsibility has fallen on authors of manuscripts submitted for publication. A fairly eloquent statement of this traditional view, from 1987, observed:

Everyone who writes for the archives of our discipline should live up to the highest standards of scholarly writing. Because journal editors are at the mercy of writers, the problem is one that must be recognized and then solved by writers themselves, who also are, for good or ill, the major models for writers-to-be.<sup>52</sup>

¶15 But other scholars studying the problem have noted that, unfortunately, leaving it up to the manuscript authors to get things correct, regarding both the content and bibliographic information in citations, is not good enough. "Instructing the author to verify citations or stating that the author is responsible for the accuracy of the citations does not ensure verification."<sup>53</sup> Thus, although most scholars still generally accept the premise that authors should have primary responsibility to get their citations right, some scholars have called for journals, editors, editorial staff, and/or reviewers to take a more aggressive role in monitoring and policing potentially faulty citations.

¶16 To address what is recognized as a widespread and serious problem, scholars have suggested various adjustments to the publication and citation verification process that seeks to impose a heightened duty of care and responsibility on authors, journal staff, or other participants in that process. These include clear and comprehensive style guides that carefully instruct authors on how to create and verify the full range of sources and citations that might appear in a manuscript (which remains an extension of the traditional "leave it to the author" approach);<sup>54</sup> emphasizing to researchers the importance of citation accuracy;<sup>55</sup> improved education and training of students and

<sup>51.</sup> Place, supra note 11; Frank Place Jr., Bibliographic Bones, 1 Med. Pickwick 82, 82-84 (1915).

<sup>52.</sup> White, *supra* note 36, at 291; *see also*, *e.g.*, Jergas & Baethge, *supra* note 24, at 15/20 (noting that it is "authors, who carry, it is widely agreed, the final responsibility for quotation accuracy"); Todd et al., *supra* note 32, at 302 ("Authors are undoubtedly in the best position to improve citation practices").

<sup>53.</sup> Benning & Speer, supra note 45, at 57.

<sup>54.</sup> Sauder et al., supra note 26, at 9; Todd et al., supra note 32, at 302; Davies, supra note 9, at 383.

<sup>55.</sup> Sweetland, supra note 15, at 301.

junior scholars in careful research and citation practices;<sup>56</sup> encouraging young scholars to read and cite original research, not secondary reviews or summaries of that research, and explaining why that matters;<sup>57</sup> requiring scholars to submit signed statements affirming that they have indeed checked and verified all their citations;<sup>58</sup> using pointspecific citations right next to claims made in the text (as is already the practice among legal scholars), rather than group citations at the ends of sentences or paragraphs;<sup>59</sup> requiring authors to submit title pages and perhaps additional documentation or even full copies of all their cited sources along with their manuscripts;60 capturing screenshots of cited websites to protect against later changes to or removal of such websites (as with the Perma.cc process now in use by many journals);<sup>61</sup> urging co-authors to take more responsibility to monitor their fellow authors' citations;<sup>62</sup> having journal editors or staff test random citation samples for accuracy and return "citation-challenged" manuscripts to their authors for revision and verification before publication;<sup>63</sup> requiring manuscript reviewers to do more to police citation accuracy;<sup>64</sup> expanded use of research and citation management software, and even anti-plagiarism software, to help catch inaccurate citations;65 including systems and software to allow comments and corrections for articles posted online at publisher's websites;66 and curtailing unnecessary over-citation, as of established facts that need no support.<sup>67</sup> LIS scholars Susan Benning and Susan Speer, in 1993, suggested conducting a survey of practices and policies for assuring accurate citations in use at leading medical and LIS journals to determine which different approaches are used, and to test and measure which are most effective, with the implication that all journals not using the best methods should start using them.<sup>68</sup> It is uncertain whether such a comprehensive comparative study was ever undertaken, however.

- 59. Jergas & Baethge, supra note 24, at 15; Todd et al., supra note 32, at 302.
- 60. Lopresti, supra note 1, at 654; Jergas & Baethge, supra note 24, at 15; Davies, supra note 9, at 384.
- 61. Sauder et al., supra note 26, at 9.
- 62. Teixeira et al., supra note 10, at 4; Pavlovic et al., supra note 27, at 678-79.

- 65. Drake et al., supra note 10, at 4; Pavlovic et al., supra note 27, at 678; Sauder et al., supra note 26, at 9.
- 66. Lazonder & Janssen, supra note 6, at 7.

<sup>56.</sup> *Id.*; Teixeira et al., *supra* note 10, at 4; Lazonder & Janssen, *supra* note 6, at 7; Pavlovic et al., *supra* note 27, at 679.

<sup>57.</sup> Drake et al., *supra* note 10, at 4; Jergas & Baethge, *supra* note 24, at 15/20; Pavlovic et al., *supra* note 27, at 679.

<sup>58.</sup> Lazonder and Janssen, *supra* note 6 at 7; Jergas & Baethge, *supra* note 24, at 15; Todd et al., *supra* note 32, at 302; Davies, *supra* note 9, at 384.

<sup>63.</sup> C.A. Doms, A Survey of Reference Accuracy in Five National Dental Journals, 68 J. Dent. Res. 442, 444 (1989); Gupta, Citation Errors in Scholarly Communication, supra note 7, at 232; Drake et al., supra note 10, at 4; Lazonder and Janssen, supra note 6, at 7; Jergas & Baethge, supra note 24, at 15/20; Todd et al., supra note 34, at 302; Davies, supra note 9, at 384 (noting potential use of librarians specifically in this role).

<sup>64.</sup> Lazonder & Janssen, *supra* note 6, at 7; Sauder et al., *supra* note 26, at 9; Davies, *supra* note 9, at 384; Todd et al., *supra* note 32, at 302 (but noting that sufficiently qualified reviewers are "atypical").

<sup>67.</sup> Drake et al., *supra* note 10, at 4 (noting, e.g., that there's no real need for a citation to support a claim such as that water is essential to life on earth); Jergas & Baethge, *supra* note 24, at 15; Todd et al., *supra* note 32, at 302 ("do not provide long lists of citations if 1 or 2 will do").

<sup>68.</sup> Benning & Speer, supra note 45, at 58.

¶17 In recent years, reflecting the digital information revolution and the proliferation of new digital tools for finding and managing research resources, some authors have suggested how various new tools might help to rein in the ongoing problem with citation errors. <sup>69</sup> Yet other scholars point out how the digital revolution may prove to be a double-edged sword, with some digital technologies helping to find, fix, and control citation errors while others may help them to proliferate the problem even faster. <sup>70</sup> For instance, might the same special power of the internet to rapidly spread misinformation also perhaps spread incorrect citations widely and rapidly? <sup>71</sup> One medical journal editor was troubled to observe how, contrary to expectations, citation accuracy for his and similar journals had not improved after the introduction of the MEDLINE/PubMed digital information systems for biomedical literature. He noted that his staff had slightly relaxed their reference verification procedures in reliance on a new electronic manuscript submission system—reliance that proved somewhat misplaced. <sup>72</sup> Experiences like this suggest that although new and improved digital technologies may help substantially with the long-standing problem of citation errors, they, alone, may never entirely banish it.

¶18 Perhaps most troubling about the whole long story of citation errors is that, although appropriate citation practices have been known and available since before Place's time (1916), they have not always been reliably put into effect. Considering the various recent recommendations listed above, James Sweetland's comment from 1989 unfortunately still rings true today in many ways:

The situation 130 years after Verneuil's complaint has, if anything, worsened. The rate of errors in citations in respected scientific journals is high. While some complaints are routinely made, there is little consensus even as to who is responsible for correcting citations. Publishers seem to feel it is up to the author(s) to provide correct citations; the authors seem to feel it is up to referees to doublecheck them; no one, except perhaps librarians, seems to care very much about the problem. The quality of the texts for training new researchers in citation is poor, and there appears to be little training.<sup>73</sup>

<sup>69.</sup> Buchanan, *supra* note 20, at 294, 299, 301 (noting electronic databases' gradual correction of inaccurate bibliographic information); Hosseini et al., *supra* note 4, at 7, 9 (proposing a new electronic error reporting system); Lopresti, *supra* note 1, at 654, 655 (finding lower error rates with citations containing electronic links); Šigut et al., *supra* note 10, at 1528–29.

<sup>70.</sup> Nyvang et al., *supra* note 3, at 5 (finding, by 2016, 34.3% of the web references in an article published in 2011 to be already suffering from "link rot"); Lopresti, *supra* note 1, at 654 (warning of the excessive ease of copying and pasting citations, including erroneous ones, but finding this less of a problem than traditional inaccurate hand-copying of bibliographic information); Šigut et al., *supra* note 10, at 1529 (certain new technologies "could be a double-edged sword" for correcting and/or increasing citation errors).

<sup>71.</sup> For just a small sample of the growing literature on the power of the Internet to rapidly spread misinformation, see, e.g., Soroush Vosoughi, Deb Roy & Sinan Aral, *The Spread of True and False News Online*, Sci., Mar. 9, 2018, at 1146; Paul S. Piper, *Better Read That Again: Web Hoaxes & Misinformation* (Off. of Survey Rsch., no. 435, 2001), https://cedar.www.edu/surveyresearch\_docs/435 [https://perma.cc/8GB8-KUK2]; Julian De Freitas et al., *Vulnerabilities to Misinformation in Online Pharmaceutical Marketing*, 106 J. Royal Soc'y Med. 184 (2013); Ethan Porter, Thomas J. Wood & Babak Bahador, *Can Presidential Misinformation on Climate Change Be Corrected? Evidence from Internet and Phone Experiments*, Rsch. & Pols., July-Sept. 2019, at 1.

<sup>72.</sup> Spinner & Northouse, supra note 5, at 531-32.

<sup>73.</sup> Sweetland, supra note 15, at 301.

¶19 Meticulously accurate citation practices appear to be somewhat like washing our hands or brushing and flossing our teeth—we all know we should do them, regularly and reliably; we just all too often don't. Worse yet, the stubborn persistence of practices such as copying other authors' citations without ever actually reading the cited sources tends to suggest possibly perverse incentives at work—tacit incentives to avoid some of the hard, careful, time-consuming labor that is required both for sound scholarship and reliable citations, together with an awareness of the small chance of being penalized. In short, compared to other aspects of the academic research and publication process, citation accuracy remains a proverbial stepchild—overlooked and underloved.

120 Yet as those of us who work in law libraries already know, there is at least one academic discipline that is truly obsessive about checking and verifying citations: academic law. Although some scholars have raised doubts over the student-edited law journals that are so unlike the professionally edited journals in most other disciplines, 120

74. Medical doctors and nurses, even more than the rest of us, really should know to wash their hands frequently, yet their compliance with that protocol remains almost legendarily deficient. See, e.g., Ruth M. Sladek, Malcolm J. Bond & Paddy A. Phillips, Why Don't Doctors Wash Their Hands? A Correlational Study of Thinking Styles and Hand Hygiene, 36 Am. J. INFECTION CONTROL 399, 399 (2008) (quoting an editorial observing how, "after more than 150 years of prodding, cajoling, educating, observing, and surveying physicians, hand hygiene adherence rates remain disgracefully low"); Peter Heseltine, Why Don't Doctors and Nurses Wash Their Hands?, 22 INFECTION CONTROL & HOSP. EPIDEMIOLOGY 199, 199 (2001) (echoing Sladek et al. in noting that healthcare workers have known for 150 years that handwashing is the most effective way to prevent cross-infections, "But, they don't do it."); Howard Markel, Wash Your Hands!, 93 MILBANK Q. 447 (2015); A. Wuffle, Should You Brush Your Teeth on November 6, 1984: A Rational Choice Perspective, 17 PS 577 (1984).

75. Again, see, e.g., Waltner, supra note 10, at 96; Šigut et al., supra note 10, at 1523, 1528. Medical librarian Frank Place was already well aware of the problem in 1916. See Place, supra note 11, at 697 ("Some so far forget science as to quote articles that it is plain they have never seen, but have lifted bodily from some other list."). For a quick overview of the notorious, long-standing "publish or perish" culture of academia, further aggravated in recent decades by growing bibliometric obsessions used to rank and reward scholars and journals, and how this all can encourage academic sloppiness or outright academic fraud, see generally, e.g., David Robert Grimes, Chris T. Bauch & John P.A. Ioannidis, Modelling Science Trustworthiness under Publish or Perish Pressure, 5 ROYAL SOC'Y OPEN SCI. 1 (2017), https://doi.org/10.1098/ rsos.171511; Matt Field, How Can the Biden Administration Reduce Scientific Disinformation? Slow the High-Pressure Pace of Scientific Publishing, 77 Bull. Atomic Scientists 38 (2021), https://doi.org/10.1080 /00963402.2020.1860332; Lex M. Bouter, Commentary: Perverse Incentives or Rotten Apples?, 22 Account-ABILITY RSCH. 148 (2015), https://doi.org/10.1080/08989621.2014.950253; Marc A. Edwards & Siddartha Roy, Academic Research in the 21st Century: Maintaining Scientific Integrity in a Climate of Perverse Incentives and Hypercompetition, 34 Env't Eng'g Sci. 51 (2017), https://doi.org/10.1089/ees.2016.0223; Freny Rashmiraj Karjodkar, The Pressure to Publish for a Post, 33 J. INDIAN ACAD. ORAL MED. & RADIOLOGY 234 (2021); Graham Lawton, "We Should Expect Scientists to Be Much More Open, But Also More Boring," NEW Scientist, Aug. 22, 2020, at 36; Tomas Furst & Jan Strojil, A Patient Called Medical Research, 161 Biomed. Papers Med. Fac. Univ. Palacky Olomouc Czech 54 (Mar. 2017), https://doi.org/10.5507/bp.2017.005 [https://perma.cc/VXK6-MF2M] (offering a brief and unusually witty, sardonic overview of the situation).

76. One of the most towering figures in American legal academia, the much-published and much-cited Judge Richard A. Posner, called America's student-edited law reviews into question more than once, leading other scholars to defend the unusual institution. See, e.g., Richard A. Posner, The Future of the Student-Edited Law Review, 47 Stan. L. Rev. 1131 (1995); Richard A. Posner, Law Reviews, 46 Washburn L.J. 155 (2006); Barry Friedman, Fixing Law Reviews, 67 Duke L.J. 1297 (2018); Alfred L. Brophy, Law

the American student-edited law review system has elevated conscientious citation-checking to a high art.<sup>77</sup> Members of law journals certainly still encounter difficult, problematic, and/or incorrect citations in submitted manuscripts, and they may turn to librarians for help with them; but a huge number (hopefully nearly all!) of such citation errors should get dutifully caught and corrected.<sup>78</sup> This, in turn, should elevate the overall accuracy of citations in American legal journals above those of other disciplines. Although the conventional wisdom in other fields holds that "the technical editing required by journal staff to identify miscitations is too huge a burden,"<sup>79</sup> American law students, through the "peculiar institution" of law review, actually shoulder that huge burden, year in and year out. As such, certainly in this one area of journal management and regulation, law student journal members are doing something right where many other journals in other disciplines are doing little to police the situation.

¶21 Even if the law review cite-checking process improves the overall rate of citation accuracy in American legal scholarship, law students and law librarians must still

[Review]'s Empire: The Assessment of Law Reviews and Trends in Legal Scholarship, 39 Conn. L. Rev. 101 (2006); Cameron Stracher, Reading, Writing, and Citing: In Praise of Law Reviews, 52 N.Y.L. Sch. L. Rev. 349 (2007–2008); Nathan H. Saunders, Student-Edited Law Reviews: Reflections and Responses of an Inmate, 49 Duke L.J. 1663 (2000); Natalie C. Cotton, The Competence of Students as Editors of Law Reviews: A Response to Judge Posner, 154 U. Pa. L. Rev. 951 (2006); Joelle A. Moreno, 99 Problems and the Bitchin' Is One: A Pragmatist's Guide to Student-Edited Law Reviews, 33 Touro L. Rev. 407 (2017); Richard A. Wise et al., Do Law Reviews Need Reform? A Survey of Law Professors, Student Editors, Attorneys, and Judges, 59 Loy. L. Rev. 1 (2013).

77. The legendary obsessiveness of student editors of law reviews regarding meticulous cite-checking is an outgrowth of the wider culture of the legal profession, in which precise citations long have been recognized to have higher stakes, professionally and otherwise, compared to other professions. Unlike journal editors in other disciplines, conscientious judges and judicial attorneys or clerks routinely do carefully check citations in legal briefs filed in court, and inaccurate or misleading citations may be grounds for sanctions or other disciplinary actions. Though this may apply more to content/quotation errors than to purely bibliographic citation errors, court staff also may view the latter sort as indicative of sloppy, unprofessional lawyering that may tend to shift the overall presumption of credibility against the writer of such briefs. See, e.g., Steven K. Homer, Hierarchies of Elitism and Gender: The Bluebook and the ALWD Guide, 41 PACE L. Rev. 1, 8–9 (2020) ("A citation to an authority that does not actually support the proposition asserted misrepresents what the law is. Inadequate substantive citations can be a proper basis for sanctions."); K.K. DuVivier, Legal Citations for the Twenty-First Century, 29 Colo. Law. 45, 45 (May 2000) ("If your citations are sloppy, some readers may presume that your research and reasoning were done in a similarly uninformed and careless fashion.").

78. Although American law reviews engage in more thorough and systematic cite-checking than professional journals in almost any other field, they still can have problems with citation errors, both substantive and bibliographic—perhaps particularly when questionable facts from outside the law seep into legal journal articles through interdisciplinary sources and citations. See, e.g., Charles D. Bernholz, Citation Abuse and Legal Writing: A Note on the Treaty of Fort Laramie with Sioux, etc., 1851 and 11 Stat. 749, 29 Legal Reference Servs. Q. 133 (2010), https://doi.org/10.1080/02703191003751230; Robert C. Bird, Vaccinating Legal Scholarship from Distorted Science: Evidence from the Anti-GMO Movement, 90 UMKC L. Rev. 1 (2021); Walter R. Schumm et al., Assessing the History of Exaggerated Estimates of the Number of Children Being Raised by Same-Sex Parents as Reported in Both Legal and Social Science Sources, 30 BYU J. Pub. L. 277 (2016).

<sup>79.</sup> Todd et al., *supra* note 32, at 302.

confront vast numbers of sometimes suspect citations in assisting legal scholars, law students, and law faculty members with their research. Moreover, many such scholars are wide ranging and interdisciplinary in their scholarly interests,<sup>80</sup> which reopens the door to potentially shoddy citations from other disciplines. Although law librarians, like other librarians, mostly may not have to worry about content or quotation accuracy (outside of their own scholarship!), they do need to worry about bibliographic citation errors. These can be a problem for reference librarians, but they can pose bigger problems for ILL librarians.

# The Joys, Woes, and a Brief History of Interlibrary Loan Librarianship

¶22 ILL librarians have long recognized their special role in the information universe and their ability to transcend the limits of libraries' local holdings. As a 1991 ILL training manual enthused, "Interlibrary loan is ... one of the most difficult and yet one of the most enjoyable activities in which library staff members can participate. . . . Few greater joys in librarianship exist than that which comes from tracking down and then securing for a grateful customer a document ... unavailable locally."<sup>81</sup> Decades later, in 2014, on the other side of the digital information revolution, ILL librarian Beth Posner observed how the particular needs and demands of ILL librarianship give such librarians special insight into the processes of information sharing and scholarly communication that are central to the fundamental mission of scholarship. <sup>82</sup>

¶23 Contrary to the famous advice of Polonius to young Laertes in Shakespeare's Hamlet—"Neither a borrower nor a lender be"83—ILL imposes on libraries an obligation to be both a lender and a borrower. As the 1991 ILL training manual emphasized, "Reciprocity is the guiding principle in interlibrary loan. Each library that participates in interlibrary loan should get something out of the exchange. If your library is a borrower one day, it should be willing to be a lender the next."84 This ethos of reciprocity and sense of mission to assist other librarians and their patrons in remote places has led some observers to propose that there is an actual moral obligation to provide ILL services. 85

¶24 From an early date, librarians recognized that mutual sharing of resources through ILL could help libraries to economize as to their own local holdings. In fact,

<sup>80.</sup> The authors' home institution is justifiably proud of a recent study finding it to rank first among all American law schools for interdisciplinary scholarly impact. The rich mix of both legal and interdisciplinary scholarship keeps the library staff busy. See J.B. Ruhl, Michael P. Vandenbergh & Sarah E. Dunaway, Total Scholarly Impact: Law Professor Citations in Non-Law Journals, 69 J. Legal Educ. 782, 802–03 (2020).

<sup>81.</sup> Interlibrary Loan Training Manual, Pa. State Libr., Harrisburg (David Kaufman ed., Nov. 1991), at 47.

<sup>82.</sup> Beth Posner, *The View from Interlibrary Loan Services: Catalyst for a Better Research Process*, 75 Coll. Rsch. Libr. News 378, 378 (2014).

<sup>83.</sup> Shakespeare, Hamlet, act 1, sc. 3.

<sup>84.</sup> Interlibrary Loan Training Manual, *supra* note 81, at 14.

<sup>85.</sup> Marianne Bamkin, *The Moral Obligation for Interlibrary Lending*, 53 J. Librarianship & Info. Sci. 271 (2021) (noting other scholars' arguments to that effect).

"an editorial in *Library World* [in 1951] shows that "social financial austerity is not a recent occurrence." To cope with straitened acquisition budgets, "[a] library with more resources can help another with fewer resources. This can lead to a situation where some libraries lend more and are termed 'net lenders,' while other libraries borrow more and are termed 'net borrowers." \*\*\*

¶25 Although there was a longer tradition of lending books between libraries in Europe back to medieval times, "The idea of lending books between libraries in the United States was suggested in 1876 by Samuel S. Green." After tentative experiments in this direction, in 1917 the American Library Association (ALA) produced its first Code of Practice for Interlibrary Loans "for the guidance of cooperating libraries"; this was later revised in 1940 and 1952, "by which time the system of lending between libraries had become almost universal." Indeed, already at an early date, ILL was becoming to some extent a victim of its own success. By 1946, there was "renewed concern over the increased volume of interlibrary lending and the solution of some of the problems involved" and, by 1950, warnings of an outright "interlibrary loan crisis" that helped to trigger the 1952 code revision and focused attention on ILL costs and how to simplify and streamline ILL procedures. 90

¶26 Careful bibliographic verification of ILL requests was already an issue by the 1950s, if not earlier. In a 1954 survey of ILL services, 87 percent of libraries claimed to try to verify and complete all ILL requests (that is, check any request from a patron to ensure that it was correct); apparently, 13 percent did not. Most libraries could successfully verify the vast majority of ILL requests (90%–95%) before sending, though only 57 percent clearly identified the unverified remainder as "not verified." Perhaps inevitably, this created concerns and complaints from request-receiving, lending libraries. Although university libraries typically made greater efforts to verify than college and public libraries, university libraries were also unhappy with the citations they received from requesting libraries. 94

<sup>86.</sup> *Id.* at 273 (citing *Editorial*, 53 LIBR. WORLD 229 (1951)).

<sup>87.</sup> Id.

<sup>88.</sup> Carl H. Melinat, *Interlibrary Lending*, 2 LIBR. TRENDS 573, 573 (1954). Notably, interlibrary lending in medieval or early modern Europe typically would have been between institutions with selective, exclusive memberships (academic faculties, wealthy individuals, monasteries), whereas America was early in developing ILL relations between public libraries for a much wider range of patrons. Regarding the early history of ILL in Europe, *see* Teresa M. Miguel, *Exchanging Books in Western Europe: A Brief History of International Interlibrary Loan*, 35 INT'L J. LEGAL INFO. 499 (2007).

<sup>89.</sup> Melinat, supra note 88, at 573.

<sup>90.</sup> Id. at 574.

<sup>91.</sup> Id. at 577.

<sup>92.</sup> Id.

<sup>93.</sup> *Id.* Forty-one percent of libraries found that ILL requests they received were verified and complete; 47 percent were not satisfied with the references they received, and only 10 percent found unverified requests to be labeled as "not verified." Perhaps because of the construction of the poll questions, though, the poll produced the different figure of 45 percent of libraries reporting that requests did not indicate "not verified" even when that was the case.

<sup>94.</sup> Melinat, supra note 88, at 577.

¶27 Nearly half (46%) of borrowing libraries identified their major problem as finding out which other libraries had the materials sought;<sup>95</sup> over half (55%) of lending libraries pointed to unverified citations as their biggest problem.<sup>96</sup> In terms of borrowing libraries, 17 percent questioned the "amount of time and money spent on this service not being in proportion to the results obtained," while 15 percent of lending libraries complained of a "heavy drain of this type of service upon the library budget[.]" Only one-quarter of the lending libraries . . . indicated that they had no serious problems," and "university libraries reported more problems than the college and public libraries." Notably, the university libraries, with their more extensive and specialized holdings, were more likely to be "net lenders," while the other libraries were more likely to be "net borrowers."

¶28 From an early date, American libraries enlisted new technologies to help with their growing ILL demand (and problems). Already in the early 1950s, more than two-thirds of libraries provided "photostats," almost half could also provide microfilm copies, and only 28 percent reported no reprographic capabilities.<sup>99</sup> The 1954 poll on ILL services also noted the teletype communication system between the Racine, Wisconsin, and Milwaukee public libraries first introduced in 1950, as well as a wider system that connected teletype subscribers nationwide with the Library of Congress and with each other, while an "interlibrary network of facsimile communication" was being explored along with "mechanical devices such as Ultrafax (which is said to be able to transmit one million words per minute)" and "closed circuit television transmission" that "appear[ed] to be too expensive for extensive use in the near future." Yet the 1954 survey concluded optimistically (and presciently), "But the day will come when the delivery of a document from another library at some distance will take no more time than is now taken in getting a book from the stacks to the delivery desk." <sup>101</sup>

¶29 In 1970, as ILL processes and procedures continued to develop rapidly, a study by the New York statewide library ILL system noted that library schools remained largely unfamiliar with how to teach fledgling librarians to handle interlibrary loans, and that ILL training should be improved. ¹02 The year 1970 also saw the publication of Sarah Katharine Thomson's *Interlibrary Loan Procedure Manual*, which another librarian called the first "set of standard procedures to be followed by librarians in properly

<sup>95.</sup> *Id.* at 578 (another 12% complained of the reluctance of other libraries to lend materials, and 6% flagged "inability to verify references").

<sup>96.</sup> *Id.* (second most frequent complaint concerned some libraries requesting unreasonable amounts of material (29%)).

<sup>97.</sup> Id.

<sup>98.</sup> Id.

<sup>99.</sup> Id. at 576.

<sup>100.</sup> Id. at 579.

<sup>101.</sup> Id.

<sup>102.</sup> RICHARD A. ELLIS, SARAH KATHARINE THOMSON & JANET WEISS, NIL: A STUDY OF UNFILLED INTERLIBRARY LOAN REQUESTS IN THE NYSILL SYSTEM, A REPORT PREPARED FOR THE DIVISION OF LIBRARY DEVELOPMENT OF THE NEW YORK STATE LIBRARY 33 (1970).

processing interlibrary loan requests." <sup>103</sup> The Thomson manual encouraged careful verification of a range of bibliographic information before an ILL request was sent, to "reduce the number of blind citations receive[d] by [lending] libraries." <sup>104</sup> The New York State study emphasized that "the critical need for better citations cannot be overstated," noting the "terrific expenditure of time and effort" that librarians at receiving libraries had to devote to verification of "incomplete, inaccurate, and garbled requests" and calling on borrowing institutions to at least provide all the information they had where citation information was incomplete. <sup>105</sup>

¶30 Verification of ILL requests remained an issue two decades later at the dawn of the digital information revolution. As a 1991 ILL training manual observed, in urging careful attention to citation verification by requesting libraries, "The bibliographic citation should be as complete as possible. . . . Clairvoyance is not a responsibility of the lending library. Do not expect the staff at the lending library to spend time on an incomplete or incorrect citation." Addressing a long-standing, related problem already identified in 1954, the manual continued, "If you have not been able to completely verify the citation, note 'Cannot Verify' and/or indicate which parts are in doubt. Indicate which bibliographic tools you have checked unsuccessfully for verification. This can be a substantial timesaver for the staff at the lending library." <sup>107</sup>

¶31 From 1991 to 2004, as libraries and librarians confronted the digital information revolution, borrowing among academic research libraries grew by 148 percent, the "largest increase of any library service" in that period, while reference interactions shrank by 34 percent, showing a continuing shift toward resource-sharing between libraries—creating more work, and need, for ILL librarians. Since 2004, the digital revolution has continued to bring further rapid changes to libraries and to ILL services. This has raised questions about what is the precise nature of ILL librarianship and where it fits within wider library operations. Some scholars have called for integrating ILL librarians into the reference branch, 109 while others find a special relationship

<sup>103.</sup> Anna H. Perrault, *Dead End at the Shelves*, 12 RQ 65, 65 (1972); Sarah Katharine Thomson, Interlibrary Loan Procedure Manual (1970).

<sup>104.</sup> Perrault, *supra* note 103, at 65–66. Perrault, politely challenging the call for careful verification by borrowing libraries, noted the very small percentage (2.5%) of returned ILL requests at her own library (LSU) and questioned the utility of "an extremely costly and time-consuming procedure from which it would derive virtually no benefit" when "[t]he figures prove[d] that over 95 percent of the requests can be filled with the information supplied by the requestor." *Id.* at 66, 68.

<sup>105.</sup> Ellis et al., *supra* note 102, at 33-34.

<sup>106.</sup> Interlibrary Loan Training Manual, *supra* note 81, at 16.

<sup>107.</sup> Id.

<sup>108.</sup> Tess Gibson, Cancelled Requests: A Study of Interlibrary Lending, 5 J. Access Servs. 383, 384 (2008), https://doi.org/10.1080/15367960802170761.

<sup>109.</sup> See, e.g., Hong Ta-Moore & Kathleen S. Mannino, A Case for Integration of Interlibrary Loan and Reference, 22 J. Interlibr. Loan, Document Delivery & Elec. Reserve 197 (2012), https://doi.org/10.1080/1072303X.2012.723672; Margaret H. Bean & Miriam Rigby, Interlibrary Loan—Reference Collaboration: Filling Hard-to-Find Faculty Requests, 21 J. Interlibr. Loan, Document Delivery & Elec. Reserve 1 (2011), https://doi.org/10.1080/1072303X.2011.543369; Sherry Buchanan, Interlibrary Loan Is the New Reference: Reducing Barriers, Providing Access and Refining Services, 37 Interlending & Document Supply 168 (2009), https://doi.org/10.1108/02641610911006247; M. Kathleen Kern & Cherié

between ILL and library acquisitions.<sup>110</sup> The emergence of e-books and digital journals has created additional complications for ILL service providers.<sup>111</sup> Other matters beyond e-resources can also entangle ILL librarians in a variety of issues related to technology or copyright.<sup>112</sup> The rise of open access resources and search tools has opened new possibilities for ILL librarians and services,<sup>113</sup> and various scholars have noted the particular impact of Google on both reference and ILL librarianship.<sup>114</sup> The reach of ILL

L. Weible, Reference as an Access Service: Collaboration Between Reference and Interlibrary Loan Departments, 3 J. Access Servs. 17 (2005), https://doi.org/10.1300/J204v03n01\_02; Cristina Yu, Interlibrary Loan and Reference—Partners for Life? The Story at Wake Forest University, 7 J. Interlibr. Loan, Document Delivery & Info. Supply 13 (1997), https://doi.org/10.1300/J110V07N03\_03.

<sup>110.</sup> See, e.g., Suzanne M. Ward, Tanner Wray & Karl E. Debus-López, Collection Development Based on Patron Requests: Collaboration between Interlibrary Loan and Acquisitions, 27 LIBR. COLLECTIONS, ACQUISITIONS & TECH. Servs. 203 (2003), https://doi.org/10.1016/S1464-9055(03)00051-4.

<sup>111.</sup> See, e.g., Megan Lounsberry, Troubleshooting Electronic Resources from an Interlibrary Loan Perspective, 37 Tech. Servs. Q. 223 (2020), https://doi.org/10.1080/07317131.2020.1768699; Paul Doty, First Sale Farther Out: Is There a Future for Interlibrary Loan, 27 J. Interlibra. Loan, Document Delivery & Elec. Reserve 11 (2018), https://doi.org/10.1080/1072303X.2019.1578321; Xiaoai Ren, Ebook Interlibrary Loan in American Public Libraries, 26 J. Interlibra. Loan, Document Delivery & Elec. Reserve 91 (2017), https://doi.org/10.1080/1072303X.2017.1386603; Ryan Litsey & Kenny Ketner, Occam's Reader: The First Library-Developed Ebook Interlibrary Loan System, 7 Collaborative Librarianship 13 (2015), https://digitalcommons.du.edu/collaborativelibrarianship/vol7/iss1/4; Xiaohua Zhu & Lan Shen, A Survey of E-Book Interlibrary Loan Policy in US Academic Libraries, 42 Interlending & Document Supply 57 (2014), https://doi.org/10.1108/ILDS-05-2014-0025; Joanne Percy, E-Book Lending: The Challenges Facing Interlibrary Loan, 41 Interlending & Document Supply 43 (2013), https://doi.org/10.1108/ILDS-02-2013-0006; Harald Müller, Legal Aspects of E-Books and Interlibrary Loan, 40 Interlending & Document Supply 150 (2012), https://doi.org/10.1108/02641611211258226.

<sup>112.</sup> See, e.g., LeEtta Schmidt, Balancing Informed Evaluation with Efficiency: Applying Copyright and Licensing Evaluation to Reserves and Interlibrary Loan, 16 J. Access Servs. 151 (2019), https://doi.org/10.1080/15367967.2019.1659739; E.R. Prakash et al., License Agreements—A Barrier to Interlibrary Loan?, 5 J. Info. Mgmt. 41 (2018), https://doi.org/10.5958/2348-1773.2018.00007.3; LeEtta M. Schmidt, The Invisible Employee: Success and Fragility of Automating Interlibrary Loan, 26 J. Interlibr. Loan, Document Delivery & Elec. Reserve 181 (2017), https://doi.org/10.1080/1072303X.2018.1465011; Michelle Courtney Lee, Improving Accessibility in Interlibrary Loan Using OCR, 29 J. Interlibr. Loan, Document Delivery & Elec. Reserve 75 (2020), https://doi.org/10.1080/1072303X.2020.1859426.

<sup>113.</sup> See, e.g., Kirstin I. Duffin, Comparing Open Access Search Tools to Improve Interlibrary Loan Fulfillment Efficiency, 37 Tech. Servs. Q. 415 (2020), https://doi.org/10.1080/07317131.2020.1810442; Tina Baich, Opening Interlibrary Loan to Open Access, 40 Interlending & Document Supply 55 (2012), https://doi.org/10.1108/02641611211214305.

<sup>114.</sup> See, e.g., Beth Posner, Library Resource Sharing in the Early Age of Google, Libr. Phil. & Prac. (LPP Special Issue on Librs. & Google), June 2007, at 1; Ebrahim Randeree & Lorri Mon, Searching for Answers in a Google World, 52 Reference Libr. 342 (2011), https://doi.org/10.1080/02763877.2011 .584504; Jill Cirasella, You and Me and Google Makes Three: Welcoming Google into the Reference Interview, Libr. Phil. & Prac. (LPP Special Issue on Librs. & Google), June 2007, at 1.

services has grown increasingly international, $^{115}$  while ILL librarians must watch for and redirect library patron ILL requests for materials that are available locally. $^{116}$ 

¶32 Notwithstanding technological changes and the automation or digitalization of various library functions and processes, ILL librarians must also confront and seek to control the costs in time and money associated with citation errors in ILL requests. In 1952, an early study of ILL requests found that, on average, it took 2 minutes and 54 seconds to locate correct citations within a library's catalog (82% of total ILL requests); 3 minutes and 23 seconds to locate correct citations not in the catalog (9%); 12 minutes and 49 seconds to verify incorrect citations (5%); and 10 minutes and 32 seconds before librarians gave up on unverifiable incorrect citations (4%).¹¹¹ The study thus indicated that librarians had to spend substantial amounts of additional time on the nearly 1 in 10 incoming requests with faulty information. Although today the not-in-catalog determination is expedited greatly for correct citations by OCLC and other online catalogs, and similar tools have helped reduce time spent to verify citations in each category, technology has not yet solved the problems of identifying and fixing incorrect citations or the additional time spent doing so.

¶33 Regarding the costs associated with ILL requests and how to measure these costs, scholars have observed, "At first glance, the literature presents a disconcertingly wide range of answers to the question, 'how much does an ILL request cost?" Various factors figure into the total: librarians' labor costs typically comprise 36 to 80 percent, labor going with copyright or royalty fees and other charges. Total costs include borrowing costs paid by the borrowing library together with the lending costs of the lending library. Costs can vary widely by item and by institution, but based on a comprehensive

<sup>115.</sup> See, e.g., Kurt Munson & Hilary H. Thompson, Giving Your Patrons the World: Barriers to, and the Value of, International Interlibrary Loan 18 PORTAL 17 (2018), https://doi.org/10.1353/pla.2018.0002; Kurt Munson et al., The World Is Your Library, or The State of International Interlibrary Loan in 2015, 44 Interlending & Document Supply 44 (2016), https://doi.org/10.1108/ILDS-01-2016-0005; Gemma Burke, Erin Duncan & J.L. Smither, Share Resources through the Largest Interlibrary Loan Network, 44 Interlending & Document Supply 137 (2016), https://doi.org/10.1108/ILDS-05-2016-0018.

<sup>116.</sup> See, e.g., Troy W. Espe & Rebecca M. Wisniewski, Unnecessary Requests: Examining Patrons' Reliance on Interlibrary Loan for Electronically Owned Items at an Academic Library, 28 J. Interlibr. Loan, Document Delivery & Elec. Reserve 35 (2019), https://doi.org/10.1080/1072303X.2019.1655514; Hae Min Kim, John Wiggins & Lynda Sadusky, The Impacts of Library Services on Interlibrary Loan Requests Canceled Due to Local Availability, 28 J. Interlibr. Loan, Document Delivery & Elec. Reserve 115 (2019), https://doi.org/10.1080/1072303X.2020.1722779; Pamela Johnston, Helping Patrons Find Locally Held Electronic Resources: An Interlibrary Loan Perspective, 13 J. Access Servs. 1 (2016), https://doi.org/10.1080/15367967.2015.1113138.

<sup>117.</sup> James G. Hodgson & Robert W. Kidder, Errors and Incomplete Entries in Interlibrary Loan Requests, 13 Coll. & Rsch. Librs. 336, 341 (1952), https://crl.acrl.org/index.php/crl/article/view/10705.

<sup>118.</sup> Marc-André Simard, Jason Priem & Heather Piwowar, *How Much Does an Interlibrary Loan Request Cost? A Review of the Literature*, ARXIV:2009.04281 [cs.DL], at 4 (Sept. 9, 2020), https://doi.org/10.48550/arXiv.2009.04281.

<sup>119.</sup> *Id*. at 1.

<sup>120.</sup> *Id.* at 2–3; Amy Stefany, Meghan Williams & Jenn McCool, *Average Cost per Interlibrary Loan Article Request at Western Libraries* 2 (W. Librs. Fac. & Staff Publ'ns no. 65, 2015), https://cedar.wwu.edu/library\_facpubs/65 [https://perma.cc/FT6G-8NYY].

<sup>121.</sup> Simard et al., supra note 118, at 1.

2004 study, \$17.50 has been a frequently used average for borrowing costs in many later studies, while lending costs have been estimated at a little over half that (\$9.50), for total average ILL transaction costs of around \$27.122 Although there apparently has been no comprehensive ILL cost study since 2004, the increasing transmission of downloadable digital copies of articles since then likely has driven average costs lower; for instance, a 2011 study of one library reported average borrowing costs of only \$9.62.123

¶34 Such average figures mostly concern normal, nonproblematic ILL requests. But given that ILL requests including citation errors take more time and effort to process, we may expect them to run substantially more costly. In a 2001 study, Wayne Pedersen posited that incorrect citations would necessarily cost more due to two factors: their taking more time to process and some of that time frequently being spent by higher-salaried library staff. Pedersen's study data indicated that, on average, ILL requests including incorrect citations cost roughly 3.18 times more than those with correct citations. Using that multiplier on average costs for normal requests and including all the labor costs of reference and ILL staff at both borrowing and lending libraries, he estimated average costs for faulty requests at \$72.90 in 2001 dollars (\$125.66 in 2023 dollars). In times when libraries face tight budgets and, perhaps, pressure to reduce staffing, the significant amounts of time, labor, and money wasted on fixing citation errors are most unwelcome.

¶35 Although citation errors obviously can be annoying nuisances for reference librarians, the complex system of cooperation and reciprocity between librarians and between institutions that characterizes the interlibrary lending relationship makes citation errors potentially even more serious and costly in the ILL context. In keeping with the traditional practices of law journals—that it is not enough to merely identify a problem, an author also should propose possible solutions—the next section of this article offers the thoughts, reflections, and suggestions of a highly skilled and experienced ILL librarian at a busy academic law library regarding some helpful and efficient methods for taming, if not banishing, the ongoing problem of citation errors.<sup>127</sup>

<sup>122.</sup> MARY E. JACKSON, ASSESSING ILL/DD SERVICES (2004); Simard et al., *supra* note 118, at 2 (noting that Jackson's 2004 estimated average of \$17.50 remained, in 2020, the "most commonly used figure, based on the largest study sample and frequently cited by other scholars").

<sup>123.</sup> Stefany et al., supra note 120, at 3 (reporting results from Lars Leon & Nancy Kress, Looking at Resource Sharing Costs, 40 Interlending & Document Supply 81 (2012)).

<sup>124.</sup> Wayne A. Pedersen, *Economics of the Bad Cite*, 14 BOTTOM LINE (2001), https://doi.org/10.1108/bl.2001.17014daf.001.

<sup>125.</sup> Id.

<sup>126.</sup>  $\mathit{Id.}$ ; US Inflation Calculator, https://www.usinflationcalculator.com/ [https://perma.cc/Z484-7MHA].

<sup>127.</sup> Because the ILL librarian coauthor of this article is much too modest to toot his own horn, the non-ILL librarian coauthor will do so for him. A prolific scholar at the authors' home institution observed in the acknowledgments of a recent book, "David Zopfi-Jordan ... tracked down obscure and fugitive materials and provided bibliographical support of a quality and extent of which, I suspect, less lucky writers can only dream." MICHAEL TONRY, DOING JUSTICE, PREVENTING CRIME ix (2020).

# **Practical Suggestions for Confronting Citation Errors in the ILL Context**

¶36 In a busy ILL department, all sorts of problems present themselves, and it requires knowledge and problem-solving techniques to address the issues that arise. Moreover, different types of resources and materials can create different sorts of headaches. The following discussion briefly traces the distinctive problem profiles, and practical solutions, for various major document categories: books, journals, newspapers, dissertations and theses, and audiovisual or other more unconventional resource types.

#### Books

¶37 There are several approaches to working on ILL requests for books. For instance, if the information that was given in a request fails to find the book sought, try using segments of the information provided, with the hope that some information may be correct. Try the author's name with publication year, leaving out the title—or title with publication year, leaving out the author—to test for errors in the author's name or title. If that approach fails, try the title alone in case other data segments such as author and year are both wrong. Also, conferences or special publications may not list individual authors, making the title often the most valuable data point. A quoted-phrase search for a title on Google or Google Scholar can help clarify whether an uncertain or ambiguous item is a journal article, a book, or a chapter within a book.

¶38 To search books with an International Standard Book Number (ISBN), you can use isbnsearch.org or an online bookstore, such as abebooks.com, alibris.com, or amazon.com. Online bookstores can also provide tables of contents for locating needed page numbers or the correct year of publication. Although first editions of certain books may be hard to obtain, usually later reprints of the same book can satisfy the request. There are several useful search tools that will help locate books. These tools may not supply page numbers or tables of contents, but they can verify that the book exists.

¶39 WorldCat is an international meta-catalog for books, journals, e-books, audiovisual resources, manuscript collections, and other documents and materials that helpfully shows which libraries own certain items.<sup>128</sup>

¶40 Addall can find both in-print and out-of-print books. 129 It can find ISBN numbers, other reprints, or other editions of a book so that it can be requested using interlibrary loan. Addall can also compare books on many dimensions for purchasing decisions; by default, it compares prices across bookstores from least to most expensive. Purchasing books may sound like a foreign concept to ILL practitioners, but with the acquisition department's permission, it sometimes offers a better solution than ILL, especially if the various postage and transaction fees associated with ILL would make an item more costly to borrow than to purchase. 130

<sup>128.</sup> WORLDCAT, https://www.worldcat.org [https://perma.cc/53E2-G7BL].

<sup>129.</sup> Addall, http://www.addall.com [https://perma.cc/RDV6-RKF9].

<sup>130.</sup> Regarding the potential role of ILL departments in book purchasing, see generally, e.g., Charles William Gee, Book-Buying Through Interlibrary Loan: Analysis of the First Eight Years at a Large

¶41 Google Advanced Search is a search form that helps to locate the book you are looking for. It is an advanced searching tool that has all the features of a public catalog. It is often helpful to use a basic Google search first, putting the title in quotations. If this does not work, Google Advanced Search can be tried since it allows searching with multiple fields at the same time.

¶42 Digital books normally do not circulate beyond the libraries that hold them, for copyright and licensing reasons, so a hardcopy edition may be required. However, the Virtual Library of Virginia does circulate e-books. 132

### **Journals**

¶43 Journals, periodicals, and monographic serials have many areas in which errors can occur—the article title, author, year, journal title, volume, and/or page numbers. There may also be situations where the volume and publication year given in a request do not match the actual journal information, and it can be difficult to figure out what went wrong without being able to look through entire journal volumes. But there are tools and techniques to help fill requests despite such errors. For instance, International Standard Serial Number (ISSN)–based search tools allow librarians to use a publication's ISSN to correctly identify a journal title and publisher even if a request has garbled that information.<sup>133</sup> Then the journal publisher's website can be located and searched, and frequently content can be downloaded. Another helpful option is Ulrichsweb, a database providing information about journals and the other databases that include these journals.<sup>134</sup> Once the correct database is identified, the journal's contents may be searched. Google Scholar has frequently proved helpful to find lists of all publications by particular authors. Entries for available articles usually have hyperlinks allowing direct access to desired articles.<sup>135</sup> These are some helpful tools among the various

Public University Library, 24 J. Interlibr. Loan, Document Delivery & Elec. Reserve 133 (2014), https://doi.org/10.1080/1072303X.2015.1018473; David Zopfi-Jordan, Purchasing or Borrowing, 18 J. Interlibr. Loan, Document Delivery & Elec. Reserve 387 (2008), https://doi.org/10.1080/10723030802186447. Again, regarding the relationship between ILL and acquisitions departments at libraries, see, e.g., Ward et al., supra note 110.

<sup>131.</sup> Regarding limits on ILL circulation of e-books and other e-resources, see generally, e.g., Heather Wicht, The Evolution of E-books and Interlibrary Loan in Academic Libraries, 3 Collaborative Librarianship 205 (2011); Kurt Munson, Herding Cats: Challenges in Interlibrary Loan Lending of E-Journal Articles, 22 J. Interlibr. Loan, Document Delivery & Elec. Reserve 163 (2012), https://doi.org/10.1080/1072303X.2012.719599.

<sup>132.</sup> VIRTUAL LIBR. OF VA., https://vivalib.org/c.php?g=836990&p=6137355 [https://perma.cc/2V8M -KEJV].

<sup>133.</sup> See, e.g., ISSN PORTAL, https://portal.issn.org [https://perma.cc/M4R3-XQMU].

<sup>134.</sup> See, e.g., Kim Meeks, *Ulrichsweb Review*, 15 J. Elec. Resources Med. Librs. 26 (2018), https://doi.org/10.1080/15424065.2018.1432436. The website for Ulrichsweb is http://ulrichsweb.serialsollutions.com [https://perma.cc/9HSK-N444].

<sup>135.</sup> See, e.g., Ya Wang, Web-Scale Discovery and Google Scholar: A Study in Use Patterns, 32 J. Elec. Resources Librarianship 1 (2020), https://doi.org/10.1080/1941126X.2019.1709722; Duffin, supra note 113. Google Scholar's website is https://scholar.google.com [https://perma.cc/77PT-YXWM].

options that continue to surface as the online information universe and open access trends continue to evolve rapidly.<sup>136</sup>

#### **Abbreviations**

¶44 Abbreviations of journal titles or other information in citations can cause confusion for library patrons and librarians alike. Hopefully the requesting patron will be able to explain a potentially tricky abbreviation. Otherwise, librarians may be able to apply their subject-area knowledge and familiarity to make educated guesses at the meanings of mysterious abbreviations. Libraries' reference departments typically have books and other tools to help with such situations, while discipline-specific websites increasingly are available to demystify abbreviations. Legal literature, which includes large numbers of potentially confusing abbreviations and mostly uses the hyper-abbreviated *Bluebook* citation format, thankfully also has resources such as *Prince's Bieber Dictionary of Legal Abbreviations*.

# Newspapers

¶45 Requests for newspapers can be problematic since online articles may differ from articles in print. For recent newspapers and articles, NewsLink has proved helpful. There are also several useful finding tools for older newspapers, including Chronicling America: Historic American Newspapers and other collections and databases maintained by the Library of Congress. ProQuest Historical Newspapers is also a helpful subscription resource covering a number of major American newspapers back to the 1800s. Along with current news, NewsBank offers a wide range of often smaller, more local historical newspapers from the 1800s onward through its Readex—Archive of Americana division. Along Primary Sources offers a collection of Nineteenth Century U.S. Newspapers. Such sites can help identify years and page numbers for requested articles if such information is not provided. Using databases to search for

<sup>136.</sup> See, e.g., Margaret Mering & Casey D. Hoeve, A Brief History to the Future of Open Access, 46 Serials Rev. 300 (2020), https://doi.org/10.1080/00987913.2020.1850041.

<sup>137.</sup> See, e.g., Scott Seaman, Online Catalog Failure as Reflected through Interlibrary Loan Error Requests, 53 Coll. & Rsch. Librs. 113, 116–17 (1992), http://hdl.handle.net/2142/41535 (finding abbreviation difficulties to account for 9% of cases in which patrons could not find locally held items in the library's online catalog).

<sup>138.</sup> Even a simple search in a general web browser for the abbreviated term plus the discipline is often sufficient.

<sup>139.</sup> NewsLink, http://www.newslink.org [https://perma.cc/2LF3-JZJX].

<sup>140.</sup> See Chronicling Am.: Historic Am. Newspapers, https://chroniclingamerica.loc.gov/[https://perma.cc/8YWP-3WJK].

<sup>141.</sup> PROQUEST HIST. NEWSPAPERS, https://about.proquest.com/en/products-services/pq-hist-news/ [https://perma.cc/3K4U-WD7N]. Along with various well-known, major newspapers, the ProQuest historical collection also features various historical African American newspapers from several cities.

<sup>142.</sup> NewsBank, www.newsbank.com/about-newsbank [https://perma.cc/8TN4-ANSL.] Like Pro-Quest, NewsBank offers a range of specialized historical newspapers, including African American and Hispanic American newspapers.

<sup>143.</sup> GALE PRIMARY SOURCES, https://go.gale.com/ps/start.do [https://perma.cc/K8EE-UGY9].

archived newspaper articles usually proves to be more efficient than searching through an actual copy of a newspaper. Many papers now provide online archives of their earlier editions. Because newspaper titles can change, it may be necessary to verify the publication year or year range and compare that information against the title that was then in use. Ulrichsweb can help track name changes for newspapers along with journals, and Newspapers.com, which offers a free basic service plus additional fee-based services, is also helpful.

#### Dissertations and Theses

¶46 Theses or dissertations traditionally were difficult to obtain by interlibrary loan, both because they could be hard to locate in the first place (information sources regarding dissertations traditionally were limited) and because potential lenders often were unwilling to lend items that might be the sole copy in existence. 144 Yet a number of online databases now provide information about such graduate research projects, nationwide or occasionally worldwide, that often allow direct downloads: Open Access Theses and Dissertations (global and free to the public);<sup>145</sup> DART-Europe E-theses Portal (free European theses and dissertations);<sup>146</sup> ProQuest Dissertations & Theses (a vast collection of both open access and non-free theses and dissertations from North America and other nations or regions over the past century);<sup>147</sup> and the Networked Digital Library of Theses and Dissertations (specifically for open access electronic theses and dissertations). 148 As with other research resources, the digitalization of both newly written theses and older projects formerly available only in print or on microfilm has helped to make such works much more accessible. Some institutions also make their students' research freely available through institutional repositories. The various dissertations databases listed here can help verify or clarify information needed to request such works by ILL, if they are not directly downloadable.

#### Audiovisual Materials

¶47 Audiovisual materials in unusual or out-of-date formats, such as VHS videotapes or cassette audiotapes, can pose special problems for getting access, for finding equipment suitable for playing them, and perhaps in facing heightened risks of citation or cataloging problems. <sup>149</sup> Sometimes, if the item is not needed in its specific original

<sup>144.</sup> Regarding the long history of special difficulties associated with interlibrary lending of dissertations and theses, see, e.g., Jack Plotkin, What Has Been Done: Dissertations and Interlibrary Loan, 4 RQ 5 (1965); Cherié L. Weible, Where Have All the Dissertations Gone? Assessing the State of a Unique Collection's Shelf (Un)availability, 30 COLLECTION MGMT. 55 (2005), https://doi.org/10.1300/J105v30n01\_06; Baich, supra note 113, at 59.

<sup>145.</sup> OPEN ACCESS THESES & DISSERTATIONS, https://oatd.org.

<sup>146.</sup> DART-EUROPE, https://www.dart-europe.org/basic-search.php.

<sup>147.</sup> ProQuest Dissertations & Theses, https://pqdtopen.proquest.com [https://perma.cc/K8FF-9PRV].

<sup>148.</sup> Networked Digit. Libr, of Theses & Dissertations, http://www.ndltd.org/ [https://perma.cc/D5YH-LM7Y].

<sup>149.</sup> Regarding the special challenges of audiovisual ILL, see generally, e.g., Sue Kaler & James

format, a digitized or otherwise more readily accessible substitute can be provided. WorldCat contains information on a vast number of such unconventional "documents" and where they may be found. A surprisingly wide range of audiovisual materials also may appear on websites such as YouTube.

# **Key Tools and Resources**

#### ILL Handbook

¶48 The *Interlibrary Loan Practices Handbook*, *3rd Edition* (2011), edited by Cherié L. Weible and Karen L. Janke, is an important resource for the interlibrary loan practitioner because it includes the basic workflow for lending and borrowing, copyright information, and web tools. <sup>150</sup> This book educates the practitioner on all functions of the ILL unit. The chapter on technology and Web 2.0 particularly addresses the topic of this article. The *ILL Handbook* is a reference resource that every ILL practitioner should have.

# American Library Association's Webpage on Interlibrary Loans

¶49 The ALA's Interlibrary Loans page is an enormously helpful and informative resource, especially for fledgling ILL librarians or for normally non-ILL librarians temporarily serving in an ILL capacity. It also serves as a useful reminder and information clearinghouse for more experienced ILL librarians. The webpage includes links to key policy documents related to ILL services, such as the current Interlibrary Loan Code for the United States (updated in January 2016), which applies in the absence of other ILL agreements among institutions or consortia, and ALA's approved ILL Request Form. The site also includes a section with links and guidelines specifically concerning international ILL services derived from the International Federation of Library Associations (IFLA). Along with Weible and Janke's *ILL Handbook*, the site provides links to other helpful books and documents offering a wide array of suggestions and recommended best practices for ILL, document delivery, and resource sharing. <sup>151</sup>

Jaquette, Interlibrary Loan Fill Rates: The Audiovisual Conundrum, 20 J. INTERLIBR. LOAN, DOCUMENT DELIVERY & ELEC. RESERVE 19 (2010), https://doi.org/10.1080/10723030903459339; Patricia B. McGee, Interlibrary Loan of Media Materials—The Tennessee Tech Volpe Library Experience: A Model for Change, 55 S.E. LIBR. 41 (Spring 2007), https://digitalcommons.kennesaw.edu/seln/vol55/iss1/8 [https://perma.cc/B7FM-STPL]; Avery Hicks, Interlibrary Loan of Audiovisual Materials: Breaking the Taboo, 51 VA. LIBRS. (2005), https://doi.org/10.21061/valib.v51i2.971.

<sup>150.</sup> For more discussion of this important resource, see, e.g., Miriam Carruthers, A Review of: "Interlibrary Loan Practices Handbook. Weible, Cherié L. and Janke, Karen L., eds.,", 8 J. Elec. Resources Med. Librs. 459 (2011), https://doi.org/10.1080/15424065.2011.626362; Bradford Lee Eden, A Review of: "Interlibrary Loan Practices Handbook. (3rd ed.)," 31 Collection Bldg. 166 (2012), https://doi.org/10.1108/01604951211274089.

<sup>151.</sup> The ALA's ILL webpage is at https://libguides.ala.org/Interlibraryloans [https://perma.cc/38G8-G7DD]. Notably for the present topic and the traditional friction between institutions over insufficient verification, the ILL Code includes in section 4.0, "Responsibilities of the Requesting Library," "4.3

# Wayback Machine and HathiTrust

¶50 One important tool for identifying and accessing problematic materials is the Internet Archive's Wayback Machine, which can help find materials that are no longer accessible through usual channels due to their age. This tool is useful for citation verification because, when hyperlinks produce no results, the Wayback Machine often can reveal the source of the problem and perhaps find the item sought. Failure to find materials using either current databases or the Wayback Machine often confirms a serious citation error.

¶51 Another important resource for dealing with older materials is HathiTrust, which includes a vast collection of digitized books, journals, and other print materials. ¹53 This resource allows downloading of page ranges or entire texts of public domain works. ¹54 HathiTrust is often particularly helpful in tracing earlier titles and title changes that may frustrate researchers looking for a work in current databases.

# **Classes and Continuing Education**

¶52 Between new and changing technology and the older, long-established hurdles of ILL librarianship, there is always more to learn. The ALA and OCLC offer classes on tools for ILL practitioners to help them meet challenges and find materials despite incorrect citations. The ALA's online class titled "Xtreme Bibliographic Searching for Interlibrary Loan and Reference" is offered every few years. This class presents tools and techniques to locate materials that can be tricky to find even with correct citations. The course covers a wide range of document types and formats, as well as how to handle title changes or citation errors regarding all the various formats. The instructors also provide

Describe completely and accurately the requested material following accepted bibliographic practice." *See* https://www.ala.org/rusa/guidelines/interlibrary [https://perma.cc/R38V-MPRK].

<sup>152.</sup> Regarding the Wayback Machine and how it works, see, e.g., Holly Andersen, A Website Owner's Practical Guide to the Wayback Machine, 11 J. Telecomm. & High Tech L. 251, 252–56 (2013); Mary Whisner, Cool Web Sites, 97 Law Libr. J. 721, 722–23 (2005); Cassie Wagner et al., Disappearing Act: Decay of Uniform Resource Locators in Health Care Management Journals, 97 J. Med. Libr. Ass'n 122, 124–25 (2009) (finding the Wayback Machine to be "the most successful tool for finding the originally cited content at the 992 inactive URLs" in this particular study). Already by 2009, researchers found nearly half of a sample of 2011 URLs from publications that appeared from 2002 to 2004 to be already inactive. They concluded, "URL decay is a serious problem in healthcare management journals." Wagner et al. at 122. See also Michelle Polchow, Exploring Perpetual Access, 80 Serials Libr. 107, 108–09 (2021) (discussing "Problems with link rot"). The Internet Archive also includes many full-text books no longer under copyright. The Wayback Machine can be accessed at https://archive.org.

<sup>153.</sup> HATHITRUST, https://www.hathitrust.org [https://perma.cc/N6US-9KTK].

<sup>154.</sup> By 2015, HathiTrust, founded in 2008, held more than 13.2 million volumes, with around 5 million of those already in the public domain (back then, pre-1923 publications). Maria A. Perez-Stable, *Hidden Gems of the Library*, in Hacking the Stacks: The Inside Scoop on Library Resources for Graduate Level Research—3, at 4 (2015), https://scholarworks.wmich.edu/hacking\_stacks/3 [https://perma.cc/PSU5-6S9X]. As of 2022, HathiTrust claims holdings of more than 17.6 million total volumes, with 40 percent of those (more than 7 million) in the public domain. *See* https://www.hathitrust.org/about [https://perma.cc/V3VW-LXDZ].

helpful resources for finding book chapters, conference proceedings, open access materials, digital repositories, and abbreviations. <sup>155</sup> In 2018, OCLC offered a resource-sharing conference (Bridging Communities) with a section on "Tips and Tricks for Handling Difficult Requests," including practical training on HathiTrust and the Wayback Machine, among other resources. <sup>156</sup> Such valuable continuing educational opportunities are most welcome.

#### Conclusion

153 The academic world has had a long and problematic history with citation errors in the books and journals of various academic disciplines. Such errors, which potentially strike to the heart of the whole academic project, arguably have not yet been given the importance they truly deserve—outside of American legal academia with its vast teams of law student journal members and editors doing the extensive and grinding labor of meticulous cite-checking that most other disciplines and journals find to be beyond their capacity. Although many suggestions have been made for how to improve the whole situation, including the imposition of additional responsibilities on authors, coauthors, editors, and peer reviewers, the problem remains. In fact, the pressure to publish rapidly and in quantity may create a perverse incentive that still encourages authors to save time on the careful and tedious labor of creating and checking their own citations for accuracy. Perhaps someday, artificial intelligence and/or machine learning will allow digital servants to more effectively perform the work that humans have not always done. Until then, the problem of citation errors likely will remain with us.

¶54 Citation errors, which can be a problem for reference librarians and any other librarians, pose a special, potentially costly, and frustrating problem for ILL librarians, who must cooperate with their counterparts at remote institutions and require correct citation information to do so. Yet there are various ways for ILL librarians to help mitigate the possible damage from incorrect citations. This article offers various suggestions in that direction, from a successful old hand at the ILL process.

<sup>155.</sup> For further details on the course contents, see the course website, http://www.ala.org/rusa/onlinece/xtreme-bibliographic-searching [https://perma.cc/TH8T-XBA6]; see also, e.g., David Zopfi-Jordan, Xtreme Bibliographic Searching for Interlibrary Loan—Part 1, MARC and WorldCat, MINITEX News, May 4, 2017; David Zopfi-Jordan, Xtreme Bibliographic Searching for Interlibrary Loan—Part 2, Search Tools, MINITEX News, May 23, 2017; David Zopfi-Jordan, Xtreme Bibliographic Searching for Interlibrary Loan—Part 3, Open Access, MINITEX News, May 23, 2017; David Zopfi-Jordan, Xtreme Bibliographic Searching for Interlibrary Loan—Part 4, Stump the Instructor, MINITEX News, Apr. 29, 2017.

<sup>156.</sup> The link to the conference is https://www.oclc.org/en/events/conferences/resource-sharing-conference/2018/agenda.html [https://perma.cc/X93B-K3ET].