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## Ready Reference Collections: A History

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**Ready Reference Collections:  
A History**

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## **Ready Reference Collections: A History**

### **Abstract**

Ready reference collections were originally formed, and still exist, because they perform a valuable function in providing convenient access to information that is frequently used at the reference desk. As library collections have been transformed from print to electronic, some of the materials in these collections have inevitably also been replaced by electronic resources. This article explores the historical roots of ready reference collections and their recent evolution.

## **Introduction**

As Katz wrote, “in almost every library there is a small collection of print sources, usually near the reference desk, which can be labeled ready-reference works.”<sup>1</sup> We don’t know when or where the first print ready reference collection was formed in the United States. However, we can assume several conditions had to be met before there was a need for a ready reference collection. There must have been sufficient reference activity to require the provision of a place dedicated to reference service. There must also have been a reference collection large enough to make it cumbersome to find the most heavily used items. Once those elements existed, the reference librarian would have wanted the most essential tools of the trade near at hand and a ready reference collection would have naturally been assembled.

## **Early History of Reference Services**

The frequently cited 1876 article by Samuel Swett Green, “Personal Relations Between Librarians and Readers, “ is generally regarded as the first published call for a program of help to library users.<sup>2</sup> Reference service wasn’t invented by Green, as evidenced by the testimony of the Columbia College librarian, who reported in 1857 that his work included helping students with their research. He explained, “The Librarian is really an instructor, as much so as a professor...His business is not merely to suggest plans of reading, but actually to discuss a subject.”<sup>3</sup> Even in 1876, Green was far from being the only librarian to promote the idea of “assistance to readers.” In that year, Librarian of Congress Spofford wrote, “That is the best library, and he is the most useful librarian, by

whose aid every reader is enabled to put his finger on the fact he wants just when it is wanted.”<sup>4</sup> A letter by Cutter, published in 1877 said, “To assist those who come to the library in finding what will suit their needs is the librarian’s highest work.”<sup>5</sup>

In 1880, the librarian of Rochester University wrote, “during the free hours on Saturday the professor of English, the professor of history, and the librarian are always present” to assist students. The President of the University and other faculty members were also sometimes available for assistance.<sup>6</sup> However, Robinson made it clear that the reference work was being done primarily by the teaching faculty:

Professors come, not with a lecture prepared, but ready in a semi-official way to take up any subject which may be presented and show the inquirer how to chase it down. They understand that they do this at some risk. It is one thing to appear always before classes on carefully studied subjects in one department of learning. It is quite another thing to go into a library for several hours every week where scores of students are at work, take off your professional gown, and offer yourself for assistance on everything that comes to you.<sup>7</sup>

Robinson felt that “the demand which we often hear for library professorships” would be more effectively met if all teaching professors scheduled time each week to help students because students profited from access to the subject specialists and an individual librarian could not provide

such broad subject expertise. Nevertheless, he believed that doing research in the library was extremely important for students: “Students who are thus encouraged and assisted, almost invariably become our best scholars while here, and after graduating look back to their work in the library as one of the most beneficial exercises of their college course.”<sup>8</sup>

Ware described the Harvard College Library in 1880: “It is safe to say that a public library does not exist to which readers are more cordially welcomed, or more intelligently and courteously aided in their researches, than the library of Harvard College under its present and modern management.” He noted that students “gratefully acknowledge the aid which an educated, trained librarian can afford, to lessen their labors, to save their time, to suggest what they need, to hint what they do not need.”<sup>9</sup>

In 1884, Melvil Dewey hired the first two known college reference librarians, George Baker and William G. Baker, to work at Columbia College.<sup>10</sup> By 1895, there were still only a few college and university libraries with a staff member whose primary function was to provide reference service.<sup>11</sup> However, by 1915, reference work was a standard service in many university libraries and some libraries had recognized the importance of this service by forming a reference department.<sup>12</sup> Reference staff often focused on answering “ready reference questions,” although they also compiled bibliographies and indexes.<sup>13</sup>

### **Early History of Reference Collections**

Katz traced the history of reference books back to the beginning of writing, citing clay tablets or papyrus used by Egyptian and Mesopotamian scribes.<sup>14</sup> In

late nineteenth century America, most reference collections were limited to a few books in the Reading Room. Rather than being on open shelves, these collections were sometimes kept behind a railing or desk. These were not ready reference collections, except inasmuch as the reference collection in many libraries was so small as to be made up entirely of frequently-used resources. However, library collections were growing rapidly. In 1876 there were only eighteen libraries with 50,000 books or more in their collection. By 1900, there were more than 140 libraries with collections of this size. As new libraries were built to accommodate these larger collections, reference rooms were incorporated into the design.<sup>15</sup>

In the papers published for the World's Library Congress, held at the Columbian Exposition of 1893, the Librarian of Princeton College, wrote, "At least a small selection of the best reference books should be accessible to the public. These have come to be known as the reference department, and are in general usage, *par excellence*, reference books."<sup>16</sup> By 1902, there were so many reference books that Kroeger wrote her *Guide to the Study and Use of Reference Books*.<sup>17</sup> This was not the earliest list of recommended reference books published in the United States, but the first that was large enough to publish as a book. In 1876, Librarian of Congress Spofford had written a twenty-five page list of recommended reference books for libraries.<sup>18</sup>

### **History of Ready Reference Collections**

The term “ready reference” has been used in libraries since at least the nineteenth century. In the preface to Spofford’s 1876 list of recommended reference books he refers to dictionaries, encyclopedias, bibliographies, and biographical dictionaries as “ready reference” tools. He also described a “central bureau of reference” that he said should be in every library. “Here should be assembled, whether on a circular case made to revolve on a pivot, or on a rectangular case, with volumes covering both sides, or in a central alcove forming a portion of the shelves of the main library, all those books of reference and volumes incessantly needed by students in pursuit of their various inquiries.” Although this could be a description of a ready reference collection, Spofford was urging libraries to make such a collection accessible to the public.<sup>19</sup>

The type of collection we now call ready reference was referred to in various articles throughout the late nineteenth and early twentieth century, without using this term. In 1894, Foster wrote about answering questions at an Information Desk with “some one of those indispensable tools which such a desk should have within reach.”<sup>20</sup> Describing a telephone reference service, Parham noted, “Many references as well as the Abridged Poole may be kept at the loan desk to answer questions quickly.”<sup>21</sup> In 1915, Bishop recommended a reference librarian keep the most frequently used tools “near at hand where they can be reached with little motion...He will need as many works of quick reference as he can get about him, dictionaries, indexes, compends of statistics, recent bibliographies, directories, and so on. These are his first aids, his emergency tools.”<sup>22</sup>

By 1919, ready reference books were used so frequently that Hazeltine recommended omitting them from notes about sources used to answer reference questions: "Generally speaking these records will not include the more obvious entries such as may readily be found in the ready reference books."<sup>23</sup> She also wrote that good sources for answering historical or literary questions were "the ready reference type of book, especially encyclopaedias and literary handbooks."<sup>24</sup>

In 1930, Hughes wrote, "To answer these questions one should have a collection of fact finding or, as we have been taught to call them, ready reference books right at the desk. Such a collection might have the 'World Almanac,' 'U.S. Statistical Abstract,' 'Who's Who in America,' 'Statesman's Year Book,' 'American Year Book,' Hoyt's 'Practical Quotations,' Lippincott's 'Biographical Dictionary,' Lippincott's 'Gazateer,' 'Standard Dictionary,' 'Congressional Directory,' legislative manual of the state and the directory of the city."<sup>25</sup> Published in the same year, Wyer's reference textbook echoed the same list for the collection of books to be placed at the reference desk.<sup>26</sup>

The utility of ready reference collections continued to be promoted when Shores wrote in 1941, "But as in the past, certain classes of reference sources are receiving particular attention, because of their frequent and characteristic use for answering questions. Chief among these collections of sources are the so-called 'quick reference' tools usually placed behind the reference desk or in proximity to the information booth. These consist of yearbooks, directories, statistical and financial services, civil services manuals, receipt books, and, of

course, a copy of the *World Almanac*.<sup>27</sup> In the same year, Gifford described the Cleveland Public Library's telephone service desk, which included a collection of approximately fifteen books, with another one hundred on shelves behind the desk.<sup>28</sup> She wrote, "There are three essential factors in efficient telephone reference service: a good quick reference collection, the best telephone equipment and a well trained staff."<sup>29</sup> In her 1944 reference textbook, Hutchins wrote "Practically any reference department would want near or on the reference desk the sixteen books listed by Gifford."<sup>30</sup>

Any longstanding collection may become too large as it matures. By the 1970's, Horn complained:

I consider desk collections either an expression of the "Thelma, peel me a grape" conception of the librarian as one who is there to be served rather than to serve or a quite meaningful gesture of defeat and despair. A little (at first) reference collection within the reference collection is formed. Initially it consists of the books most frequently used as well as those most frequently stolen, but it tends to grow and grow as the will or ability of the librarians diminish in the face of that long, long walk across the room and among all those tables and stares and mutterings. Eventually it is the real reference collection or at least the central one surrounded by the secondary reference collection, which shades off into the general and other special collections.<sup>31</sup>

By the 1980's, Futas wrote that some ready reference collections "resemble the Sorcerer's Apprentice, with the librarian rather than the patron, playing the part of the sorcerer." She described how the Georgia State University Library Reference Department planned and implemented a review of the ready reference collection. They recommended the following criteria for choosing items to be placed in the ready reference collection:

1. To locate quickly items frequently used by the reference librarians in providing service at the reference desk.
2. To support quick look-up telephone service.
3. To provide convenient access to materials that frequently require interpretation by a librarian, provided that such materials do not take up an unreasonable amount of shelf space.
4. To provide quick access to materials useful to the librarians and patron in relation to one of the special functions of the Reference Department (e.g. interpretation of a computer thesaurus).

The librarians decided books should not be placed in the ready reference collection only because they were often requested, but that they should also need to be interpreted by a librarian. Another concern was that books not be put in the ready reference collection simply because they were hard to find in the reference collection. A major concern was expressed in the written policy for the collection: "But if the only reason for placing an item on Ready Reference is the convenience of the reference librarian, the resulting inconvenience to the patron cannot be justified."<sup>32</sup>

Nichols discussed the problem of keeping the “core-reference collection” current and advocated giving special attention to these “seventy-five to one-hundred-fifty plus reference sources...which answer a high percentage of reference questions” both by weeding and judicious purchasing.<sup>33</sup> Yates advocated keeping a ready reference collection as small as possible: “The ideal general ready-reference collection would have only the single most authoritative, encyclopedic source in each subject area.” She listed seventy sources in a “Super-Ready-Reference Collection” that should be kept near a telephone reference station.<sup>34</sup>

The concern about maintenance of ready reference collections continued into the 1990's. Waters described the efforts of the University of California at Los Angeles reference staff to review the reference collection in the University Research Library, including a major reduction in the size of the Desk Collection.<sup>35</sup> Librarians from Mankato State University weeded their extensive ready reference collection. They wrote, “Over the years librarians had insinuated their favorite titles, books that required a long walk to retrieve, heavily used items, books prone to theft, or reference materials on little-known topics into this collection. Ready reference was no longer ‘ready’ but bulky and cumbersome.” They began by defining ready reference to include six areas: “special tools of the library trade, basic compendia, major sources to answer frequently asked questions, up-to-date directories, indexes to frequently sought information, and security for heavily used reference works.”<sup>36</sup>

Clark and Cary deplored the tendency for ready reference collections to become too large and the temptation for librarians to become lazy and rely too heavily on this collection. To combat these trends, the reference staff at the Virginia Commonwealth University's library moved all but a few titles to the general reference collection. As librarians needed to use the former ready reference books, they placed those titles back on the ready reference shelves. This transformed a collection of 210 titles into one of thirty-four titles.<sup>37</sup> Although Nolan acknowledged the tendency of ready reference collections to become too large, he decided this was outweighed by the advantages of having a group of small, heavily used sources immediately adjacent to the reference desk.<sup>38</sup>

Delwiche and Bianchi, in 2006, wrote that the need to reduce the size of the ready reference collection at the University of Vermont's Dana Medical Library resulted in merging the majority of the items in the ready reference collection into the general reference collection. Only thesauri, collection development tools, and other books used primarily by the librarians were left at the reference desk.<sup>39</sup>

### **Reference Collections Transformed by Electronic Resources**

The transformation of reference and ready reference collections by electronic resources began half a century ago. In 1957, Shores predicted that reference work would be revolutionized by automation. He described a database of pictures that could be searched "by pushing a series of buttons on a huge robot that then popped up like a toaster a mounted 35mm positive with all of the requirements."<sup>40</sup> Western Reserve University announced a plan to install a

“searching selector call the GE-250.” This machine could search 100,000 abstracts per hour and would allow the operator to search an entire year of the chemical literature in one hour.<sup>41</sup>

In the 1960’s, some librarians were concerned that people who specialized in retrieval of information using computers would replace reference librarians. Parker wrote about these information specialists who would “translate the needs of the researcher’s into the language of Boolean algebra. The answer would appear as if by magic on a cathode ray tube to be read and erased without a trace.” He calculated that a research library would need to rent a computer for \$100,000 per month and reassured reference librarians, “For now and for a number of years to come, the most efficient machine for information retrieval will continue to be a well qualified reference librarian.”<sup>42</sup>

Tenopir termed everything before 1964, “The Age of Print.” She chose that year because, in 1964, the National Library of Medicine began offering MEDLARS batch searching for some libraries. The librarian had to submit a search request to NLM and then wait one or two weeks to receive a printout of citations.<sup>43</sup>

In the 1970’s, the use of online databases transformed reference work in many libraries. The National Library of Medicine made MEDLINE operational in 1971. Dialog offered eighteen databases by 1974.<sup>44</sup> A survey of large academic libraries, in 1975, found that 65% were offering search services. Gardner and Wax asserted, “Online searching has become one of the fastest growing services in academic and research libraries.”<sup>45</sup>

Due to the increasing popularity of databases in libraries, librarians felt pressured to provide this kind of service. Reference librarians at West Liberty State College were so worried they might be viewed as antiquated since they weren't able to afford a computer for reference service, they offered a fake computer service. Users could submit a question and, twenty-four hours later, receive a list of subject headings to be used in the card catalog. The new service was very popular with students, faculty, and administrators, who were delighted that the library was using such advanced technology.<sup>46</sup>

By 1982, Ensor wrote, "Online databases are here to stay, and use of them will continue to expand."<sup>47</sup> Ensor also hoped that, in the future, users would be able to do their own online searches for free and predicted, "Every good-size reference department will have its own microcomputer for ready reference and word processing."<sup>48</sup> The expanding use of computers in reference created concerns about the difficulties of learning how to use so many databases and about the potential necessity to downsize reference collections in response to the greater use of online resources.<sup>49</sup> Dwight Myers predicted that the reference collection would disappear in favor of electronic resources.<sup>50</sup>

A survey, conducted in 1984, of 500 college and university libraries revealed that 41.8% of academic libraries offered search services to their users, with an additional 23.9% planning to add the service within three years. This survey also showed that the service was relatively new in most libraries, as 74% of libraries surveyed had been doing online searches for no more than five years.<sup>51</sup> With so many libraries providing online search services, Anderson

promoted the idea of using subscription databases for ready reference searching.<sup>52</sup> By this time, some libraries began offering online systems, such as Dialog's Knowledge Index or BRS' After Dark, for end user searching. Janke warned, "Should librarians and information scientists choose to stonewall or simply ignore the spread of end user searching, they do so at their own peril."<sup>53</sup>

In the mid-1980's, libraries began using videodisc technology for databases. When the Colorado State University library tested the newly released InfoTrac for end-user searching, users were surveyed and 95% preferred to use InfoTrac rather than print indexes. Librarians reported students made very few complaints about their search results, but suspected students might not be conducting the most effective searches.<sup>54</sup> In Biggs and Biggs' survey of academic libraries, fewer than half of the libraries had cancelled paper resources due to their online availability, but many indicated that this outcome would be more likely in the future.<sup>55</sup> Coleman and Muroi surveyed academic libraries and found that 55% of those surveyed had purchased optical disc products, such as Infotrac, IAC's Government Publications, and ERIC.<sup>56</sup>

The use of CD-ROMs created a demand for end user searching. Before this time, students and faculty usually had to ask the librarian to perform searches.<sup>57</sup> Herther wrote that CD-ROM was a good alternative to online databases because libraries could subscribe to a CD-ROM service for a monthly fee instead of paying for time used. It was too expensive for most libraries to allow end users to do the searching in subscription databases.<sup>58</sup>

Access to CD-ROMs in college and university libraries increased rapidly during the late 1980's. A survey conducted by OCLC found that ownership of CD-ROMs increased from 5% in 1986 to 24% in 1987 for academic libraries and from 6% to 62% for academic research libraries.<sup>59</sup> Chen surveyed academic libraries in 1987 and 1988 and found that 29.2% owned CD-ROMs in 1987, a percentage that increased to 58.6% in 1988.<sup>60</sup>

Books on CD-ROM also began to be available at this time. Bowker released *Books in Print Plus* and *Ulrich's Plus*.<sup>61</sup> In 1986, Grolier published the first encyclopedia on a CD-ROM which contained the full text of the *Academic American Encyclopedia*, without illustrations.<sup>62</sup> Bristow wrote that, at Indiana University, they had cancelled some print resources to fund CD-ROM products, although none of the print sources were the same title as the electronic products which were purchased.<sup>63</sup>

Havener published the results of a study in which sixty-eight reference librarians each used either print or online resources to answer twelve reference questions. The librarians who used online sources took slightly less time to answer the questions and were also more successful in finding all of the required citations for conceptual questions. However, the study found that print sources were much faster in finding the answers to factual, ready-reference questions.<sup>64</sup>

The American Library Association published the results of a 1990 survey of academic libraries which revealed that 16.5% of the 541 respondents provided searching of locally mounted databases, 79.5% provided CD-ROM searching, and 81.9% offered access to remote databases.<sup>65</sup>

Tenopir and Neufang conducted a survey of Association of Research Libraries (ARL) libraries, in 1991, to discover what electronic reference services and resources were being offered. They found that 97% offered online search services, 96% offered CD-ROM databases, 45% offered end-user searching of online databases, and 36% offered databases searchable through the library OPAC. Librarians reported that use of CD-ROMs had caused a decline in the number of online searches performed, both by librarians and by end-users.<sup>66</sup> Tenopir and Neufang did follow-up interviews with some of the librarians who answered the survey. Some librarians were responding to the popularity of databases by moving paper indexes out of the reference area to make room for computers and canceling print indexes due to electronic availability. Although some librarians were concerned that students preferred databases to print indexes, even when the print index was more appropriate, other librarians reported they almost always referred students to CD-ROMs instead of print indexes. A major complaint was the necessity of spending too much time on tasks such as loading paper into printers and fixing hardware problems.<sup>67</sup>

By 1993, libraries could offer a wide choice of electronic resources. Tenopir wrote that most types of print resources would continue to be used, but indexes might stop being published. Libraries were also offering online searching of commercial pay-as-you-go databases, Internet and bulletin board databases (some of which were free), locally loaded databases, and CD-ROMs.<sup>68</sup> An article in *Forbes* predicted the demise of the *Encyclopaedia Britannica* due to home use of encyclopedias on CD-ROM.<sup>69</sup> This prompted

*Library Journal* to poll academic and public librarians to ask if they believed print resources would be replaced by electronic ones. Some academic librarians reported that they were already replacing indexes and abstracts with electronic resources. Others agreed with Judy Matthews of the Physics-Astronomy Library at Michigan State University who said, "I don't feel electronic reference sources will replace print tools any more than Cuisinarts have replaced paring knives." Even a librarian who was replacing print indexes with CD-ROMs answered, "We still rely on print for ready-reference tools like encyclopedias, almanacs, directories, etc., although gopher resources are increasing in use for directory-type information retrieval."<sup>70</sup>

Lanier and Wilkins advocated the use of Internet resources to answer ready reference questions. They listed online resources that could be used instead of their print counterparts, but warned that Internet files could disappear without notice.<sup>71</sup>

By the mid-1990's, Ensor found the majority of college and university librarians had cancelled some print resources in order to pay for CD-ROMs.<sup>72</sup> As they had done in 1991, Tenopir and Neufang surveyed ARL libraries about their use of electronic reference products. They found that virtually all were using CD-ROMs, although most had stopped using stand-alone CD-ROM workstations, in favor of local area networks. All but one still offered mediated online searching, but use of this service had declined between 1991 and 1994 as end user searching and CD-ROMs gained in popularity. In fact, availability of end user online searching increased from 45% in 1991 to 66% in 1994. By 1994, 77% of

these ARL libraries were offering public access to the Internet, although only a few had access to the Web. Most were offering Telnet access. Seventy-four percent of libraries reported that they used the Internet for answering ready reference questions. Some libraries reported canceling print resources in favor of electronic resources. The authors quoted respondents: “computer workstations have replaced the card catalog and print indexes as the focal point of the reference area” and “these electronic resources are the first resort for patrons and staff, and their use has become integral to reference work.”<sup>73</sup> CD-ROMs were so widely used that *Library Journal* published an article recommending core reference sources on CD-ROM, including a list of ready reference sources. The authors said that 10,000-25,000 CD-ROM titles were available.<sup>74</sup>

Horner and Michaud-Oystryk replicated Havener’s study, published in 1990, comparing the efficiency of answering ready reference questions using print and online ready reference sources. This study also showed that the librarians who participated in the study answered conceptual questions more quickly using online sources, but were faster at answering factual, ready reference questions using print sources.<sup>75</sup> Rettig compared the efficiency of using print and online sources to answer some typical reference questions. He concluded that, using some of the sources from the ready reference collection, such as *Higher Education Directory* and the *Statistical Abstract of the United States*, was faster than finding the same information on the internet. He chose to use the print sources because, “[o]ne of the principles that ought always to guide good reference service is Ranganathan’s Fourth Law: “Save the time of the

reader.”” He speculated that librarians who were less familiar with the print titles might prefer the online sources; and that technological advances might make the online resources easier to use.<sup>76</sup>

By 1997, the number of reference CD-ROMs was declining as Internet versions were increasing.<sup>77</sup> Publishers, including Gale, began making standard print resources, such as *Contemporary Literary Criticism*, *Contemporary Authors*, and *Dictionary of Literary Biography*, available online.<sup>78</sup>

An article in *Publishers Weekly* asked, “Are reference books living on borrowed time?”, but concluded, “Publishers are still confident that printed reference can’t be beat.” However, the author noted that many reference publishers were also producing CD-ROM and/or online versions of some reference books.<sup>79</sup> Koutnik predicted that the Web might cause the demise of the reference book. To investigate whether the Web was as efficient as print sources for reference work, he tried to find the answers to 104 reference questions, using only the Web. He found answers to 31.7% of his questions and concluded, “At this time, or in the foreseeable future, Internet access through the World Wide Web will not replace printed reference sources.” However, he also decided, “a library that does not offer access to the Internet through the World Wide Web will be offering less than standard reference service.”<sup>80</sup> Darrah praised the usefulness of online resources, but worried that reference librarians increasingly ignored the books in the reference stacks. She noted that previous editions of reference books, such as the *World Almanac*, were not available online and were still valuable for reference work. She listed books that were

easier and faster to use than their online counterparts, such as the *Oxford English Dictionary* and Bartlett's *Familiar Quotations*.<sup>81</sup>

In 1997, Tenopir once again surveyed ARL libraries about electronic reference resources. By this time, many libraries were acquiring access to electronic sources through consortial arrangements. One librarian commented, "Considering digital reference collection development, reference staff often feel like they are losing control. Because of cost (often shared) and consortial arrangements, reference staff cannot always have the database or vendor (software) they evaluate as best. It is often out of our hands, unlike the case with print." Librarians also began to complain that users expected to find everything online and full text. Some librarians also talked about the difficulties of getting students to use print resources and speculated that it might be time to stop getting print indexes, although they were still using print subject encyclopedias, directories, and books with factual information.<sup>82</sup> Respondents reported that mediated online search services were still available, but rarely used. End-user online searching, CD-ROMs, locally- or consortially-loaded tapes, and Internet searching were all popular services, although libraries were increasingly providing access to databases available through the Internet. Many of the libraries responded that they were buying fewer print resources and more electronic ones. The conclusion was that print resources were still favored for locally owned resources, but electronic resources were more likely to be loaded remotely.<sup>83</sup>

Gabriel reported on a study in which ready reference questions, which had been first asked at the reference desk, were then answered using Internet search engines. He found that twenty-two of the twenty-four questions could be answered within ten minutes using Internet resources. He anticipated that this could have a serious impact on ready reference collections.<sup>84</sup>

In 1999, Susan Lynn compared print and Internet versions of several directories to determine which version should be used to answer ready reference questions. She concluded that neither format is inherently superior, but that librarians should choose based on the specific source, the exact question being asked, and any differences in accessibility of the formats.<sup>85</sup> Wilkinson and Lewis quoted Christopher W. Nolan, "Quick fact books like almanacs and encyclopedias...still are easy to consult, more easily interpreted, and sometimes quicker to use than online sources."<sup>86</sup>

However, many libraries were exploring how to better use ready reference resources on the Internet. Stacy-Bates examined the web sites of ARL libraries and found that 94.6% had at least one page of ready reference web sites.<sup>87</sup> Kern published a list of recommended Internet ready reference resources and asserted that the Internet versions of these reference sources were not only just as good as the print versions, but they were usually available from any Internet-connected computer.<sup>88</sup>

Tenopir and Ennis surveyed ARL libraries again in 2000 and found that libraries were still offering locally loaded or consortially loaded databases, CD-ROMs, mediated online searching, end-user online searching, and Web based

databases. However, CD-ROMs and mediated online searching of fee-based databases had declined, while Web based databases had proliferated. As one respondent said, "The most significant change in reference services over the past few years... is the extent to which the Web [versions of commercial database] has overshadowed the use of print reference sources."<sup>89</sup> One librarian interviewed by Wilkinson and Lewis reported they preferred to purchase electronic resources rather than books, but were hampered by having to pay annual access fees rather than paying only once for a print source. As one librarian stated, "It means that libraries can provide less information, but the information they do provide goes to a wider audience."<sup>90</sup>

Landsman echoed this concern, saying that higher costs for electronic resources meant that libraries were less able to purchase specialized scholarly resources, which would cause publishers to cease publishing them. She concluded, "Ultimately, reference collections will have less breadth and depth than they do today."<sup>91</sup>

Wilkinson and Lewis quoted librarians from the University of New Mexico, who said, "More and more we see that if a reference tool like the *Grove Dictionary of Music and Musicians* is available in the library in both print and online, end-users usually ask to be shown the online version." A librarian from Western Governors University quoted a user who said, "I prefer to access anything available on the Internet. I only go to the library for reference material as a last resort."<sup>92</sup> There were still librarians who worried that print materials might disappear because of the popularity of electronic resources. For instance,

Tennant warned about the “convenience catastrophe,” a name for “nothing more or less than the disappearance of our print collections in the face of more easily obtained digital content.”<sup>93</sup>

As libraries began to purchase databases of aggregated reference works, the connection between the print book and the electronic counterpart became more tenuous. Users and librarians frequently searched the database, rather than looking at an individual title. Wilkinson and Lewis conducted interviews with librarians, one of whom noted, “in so many cases with ready reference books, it takes a librarian to lead the student to the source: the librarian is acting as a search engine of the print reference collection.”<sup>94</sup>

In 2002, librarians at Stetson University decided to test their assumption that they were using more electronic resources than print ones. For two months each semester during the 2002-2003 academic year, they recorded every reference question and the source(s) used to answer the question. Of the 2,491 questions answered in this study, fewer than 10% were answered by a reference book. Less than 2% of the books in the reference collection were used to answer any question during the test period.<sup>95</sup>

Librarians at Texas A&M University experimented with roving reference using tablet PCs. They noted that having access to online reference sources “reinforces the argument for increasing electronic versions of ready reference resources”.<sup>96</sup> However, Mizzy and Mahoney wrote, “It is clear that print Ready Reference Collections play a crucial role in the provision of telephone and face-to-face reference.”<sup>97</sup>

Despite the popularity of online versions of reference works, some authors maintained that reference books were frequently faster and more effective in paper copy. This varied with the ease of use and features available for an electronic source that was comparable to a print source. Webster wrote that *The World of Learning* had been mostly replaced by the Internet, but the paper *Europa World Yearbook* was still faster and more efficient than comparable electronic resources, in addition to being more authoritative. He felt that paper was still a viable format in reference, partly due to cost. The price of electronic reference materials was generally higher than that of the print source. Even though publishers pointed out that the electronic format was remotely available 24/7 and sometimes had greater content, librarians were concerned that paying more for individual electronic sources resulted in being able to purchase fewer resources for the reference collection. In addition, purchasing aggregated databases left them with less flexibility to purchase materials from multiple publishers, resulting in a less diverse reference collection.<sup>98</sup>

In order to determine the trends in purchase of print or electronic reference resources, Robbins, McCain, and Scrivener examined catalog holdings and Internet resources of ARL libraries to discover if they were continuing to purchase thirty-four print core reference titles. They found that most ARL libraries were canceling print versions of these core reference titles when they had access to the electronic version. Of the categories being studied (science, social sciences, arts and humanities, general, and ready reference), only the ready reference titles were being duplicated by more than 30% of the libraries.<sup>99</sup>

Bristow summarized some of the concerns of reference librarians about changing formats in reference materials. She pointed out that publisher claims for continuous updating were sometimes imaginary and not always necessary. As one student she spoke to asked, “just how often does an article on logic need to be updated?” She also wrote about the difficulty of format changes on the budget, causing monographic purchases to become serial costs, sometimes at considerably higher amounts than the previous monographic cost and cited a dictionary, formerly purchased every ten years for \$100-200, that was transformed to a \$6,000 annual cost for a large research library.<sup>100</sup>

Wilkinson and Lewis interviewed reference librarians about how they were spending reference collection development funds. Some said students and faculty were increasingly unwilling to use paper resources. Many of these libraries were offering online reference services, which meant online reference sources became even more necessary. The authors concluded, “Print survives, but mainly for individual subject resources – large encyclopedias are less likely to be purchased. Dual formats are becoming much less common. CD-ROMs are dead, or dying.”<sup>101</sup>

One indication of the transformation of reference collections by electronic resources is Flaxbart’s statement, “The use of printed reference works in the sciences has almost dropped off the meter these days.”<sup>102</sup> Tyckoson also questioned the usefulness of print reference collections. He evaluated a list written a decade previously of twenty core reference sources and found that he rarely used most of the titles. He also cited statistics from his library, noting that

the number of reference books reshelfed dropped from 46,000 in 1994-1995 to 11,000 in 2003. He wrote, "When the classics mentioned above have become of questionable value, the rest of the reference collection is in deep trouble."<sup>103</sup>

Van Epps tested the speed of using several handbooks in both print and Internet formats. In this test, finding a particular piece of statistical data in the Internet version of the *Statistical Abstract of the United States* took almost twice as long as using the print version, although she noted that this would not be true for those who weren't already in the library. Performing a similar task in *Machinery's Handbook* took slightly less time in the electronic version than in the print format. She concluded, "an electronic book has to be well produced to be faster than the print".<sup>104</sup> Puacz came to similar conclusions about the ease of use of both print and online ready reference sources, but wrote that improvements in technology and interfaces promised to improve the electronic resources. She cited the *Statistical Abstract* as an example of a print source that is still easier to use in print.<sup>105</sup>

Wilkinson and Lewis asked librarians from five university libraries if they chose print or electronic reference books when they could only choose one. All chose to purchase the electronic version. Among the reasons they cited were access outside the library, increased number of distance education students, access 24/7, lack of space in the reference collection, use of virtual reference services, and user demand. As librarians from the University of New Mexico, Albuquerque responded, "For many (most?) scientists and engineers, if it is not electronic it does not exist."<sup>106</sup>

When the University of Vermont health science library reduced the size of its print reference collection from more than 800 linear feet to less than 200 feet, it also merged almost the entire ready reference collection into the main reference collection.<sup>107</sup>

In 2008, Polanka wrote, “The reality is, print reference is dead, or nearly dead, or never existed for many of our users, yet we still have patrons who need and prefer print.” She cited the results of a survey taken at several presentations she gave in 2007, in which 58% of librarians polled said print reference is, or soon will be, dead, while 33% said print reference is still alive.<sup>108</sup>

### **Conclusion**

Although we don’t know when or where the first ready reference collection was formed, early writings about them confirm that these collections were designed for a practical reason. They grew out of a human desire to have the most commonly used resources conveniently available.

In recent years, print reference materials have increasingly been supplanted by electronic versions. As this trend persists or accelerates, these collections of materials that have been such an important part of reference service may disappear. Although some print ready reference collections may survive due, in part, to inertia, most will exist only as long as they provide the answers to frequently asked questions at the reference desk and do so more efficiently and effectively than online information sources.

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