The Reference Interview Revisited: Librarian-patron Interaction in the Virtual Environment

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ABSTRACT

This paper examined the reference interview literature over the past 10 years to determine how thinking has changed regarding the process. The ten-year window was chosen to roughly measure the impact of the internet on reference (specifically, the RI) since its introduction in the early 1990s. The paper was divided into two parts—the RI in the traditional (electronic) reference setting; and the online RI in the virtual setting. The thinking of reference personnel has come full circle—to an understanding that the basic tenets still hold true. To the extent that reference workers provide the "human touch" in the "high-tech" setting is the extent to which they will, not only survive, but thrive in modern libraries.

The reference interview is far from being a simple verbal interaction between two people. It remains one of the most difficult tasks in the library. (Cohen, 1993, p. 189).

Introduction

Cohen characterizes the singular importance of the reference interview (RI) in library practice. Defined as personal assistance and question negotiation, it remains the heart of the transaction that takes place between the user and the librarian. Broadly defined, the RI is "a conversation between a member of the library reference staff and a library user for the purpose of clarifying the user's needs and aiding the user in meeting those needs" (Sutton & Holt, 2001, p. 36). "Basic steps in the process," they continue, include: "question negotiation or, more generally, the statement and clarification of the problem; location of the information required to answer the question, or progression toward the solution; and communication of the answer to the user or successful closure of the interview, such as referral to an alternate source for help" (Sutton & Holt, 2001, p. 37).

Why is the question negotiation process that takes place during the RI important? Because it is the motivation to solve a problem that compels the patron to seek help outside his or her familiar information sources in the first place. The "why" of the interview was acknowledged at the first American Library Association conference (Green, 1876). The "how" is still only partially understood.

If librarians had a better grasp of the process, the fifty-five percent rule of reference success could possibly be improved (Jardine, 1995; Durrance, 1989). Although the 55% rule refers to an "answer fill" rate by reference librarians (that is, a percentage of questions answered in response to a set of "test" questions), the fact remains that approximately half of the queries presented to reference librarians are satisfactorily answered. In practical terms, only half of patrons who approach the reference desk leave satisfied with their results. While reference evaluation is a complicated affair—no matter who evaluates the service—many variables affect successful encounters (e.g., collections, staffing, administrative procedures, etc.). Effective RI increases the likelihood that patron information needs will be fully satisfied.

This paper will examine the RI literature over the past 10 years to determine how thinking has changed regarding the process. The ten-year window was chosen to roughly measure the impact of the internet on reference (specifically, the RI) since its introduction in the early 1990s. The paper will be divided into two parts—the RI in the traditional (electronic) reference setting; the second, the online RI in the virtual setting. The following questions guided the researcher: How has the interview changed in the past decade? What implications do these changes have for library practice?

Basics of the Reference Interview

The literature of RI builds on the foundation laid by Green (1876), Wyer (1930), Hutchins (1944) and Rothstein (1989) who established the need for personal assistance to readers and the importance of the reference department. According to Bunge (1984), Hutchins is believed to be the first to coin the term "reference interview" in her classic text, *Introduction to Reference Work* (1944). Chapter 3 (entitled "Reference Interview") provides a framework for examining the process that would be cited in the library literature for the next sixty years. She addresses personal and impersonal factors librarians must consider in the dialog between themselves and their readers; time required by the interview proper; clarifying the question; ascertaining the reader's needs; and results of the interview (Hutchins, 1944).

Taylor (1968) emphasized the question negotiation aspects of the RI, noting the value of clarifying the question before proceeding with the search event. Several models have been proposed of reference (Benson, 1975; Dervin, 1977; Kulthau, 1988). Gothberg (1995) examined nonverbal communication during the reference encounter. Katz (2002), Smith and Bopp (2001) and Grogan (1992) have written the major reference textbooks over the past thirty years. They all divide the RI into question-negotiation and the actual search. Question-negotiation defines the context or framework of the query (pre-search period). This phase is critical for, if the question is misunderstood, the entire remainder of the process is affected. The search procedure consists of the often iterative activity that connects the user with relevant information resources.

The Reference Interview in the Traditional (Online) Environment

The RI literature in the 1990s includes models of information seeking behavior, discussions of information and communication theory, counseling techniques, the value of interpersonal communication, etc. Keefer and Karabenick (1993) review general models of information seeking. Most users, they note, when faced with an information need go the path of least resistance (Mooers' Law), but forge ahead if the urgency and compelling need do not go away. Kulthau (1988, 1994) and Radcliff (1995) provide theoretical contexts for events that follow the decision to seek help with the information need, using school library and medical examples. Kulthau (1994) organizes the search process in terms of seven stages: a) initiation (recognition of information need); b) selection (identification of topic); c) exploration (preliminary examination of potential information resources); d) formulation (articulation of needs as submitted to system); and e) presentation (completion of subject search). Radcliff (1995) goes beyond theory building to compare the models of physician-patient relationships and librarian-patron relationships within the framework of interpersonal communication. Basing her study on the assumption that patron satisfaction increases as libraries move toward standards of customer service, she questions whether certain communication styles improve service delivery. She found that while the situations are different (e.g., client motivation, characterization of need, etc.), they have similarities (problem solving situations, provider-client interaction, etc.). In both cases, user satisfaction is dependent on the provider's understanding of the value of interpersonal communication. She recommends that librarians borrow the medical model for improving customer relations, focusing on:

> 1) characteristics of the patient (age, educational attainment, socio-economic status, locus of control, gender, perceptions of privacy, communication apprehension and personality types); 2) communication behavior, style and function: interpersonal involvement, communication style (dominance) conversation analysis, exchange of information expertise, and control; 3) satisfaction: patron satisfaction, communication satisfaction, immediacy, similarity, receptivity, dominance, composure and formality; 4)compliance: compliance-gaining strategies and resistance; and 5) relational history: trust, intimacy and control. (Radcliff, 1995, pp. 504–505).

Librarian-patron satisfaction, she concludes, is affected by warmth, self-disclosure, feedback and immediacy.

Morris (1994) treats the user-centered approach to RI modeling. The patron's needs, not his or her wants or demands, should be the focus of attention in the RI. The contexts in which user needs are

pursued, she argues, should be factored into the design of information systems and services. Embracing Dervin's (1992) sense-making paradigm, she presents the following concepts:

(1) The examination of information needs, as distinct from information wants or demands, has implications for how we explore the needs with users.
(2) Ambiguous needs are often misunderstood by librarians; clarifying the ambiguity should be a primary goal of information professionals.

Because of this ambiguity, question-negotiation—a crucial verbal process—takes place more than once: initially in the tentative, private struggle to clarify the need, and later in a public phase of communicating the need to a system. One event is internal (in the user's own mind). The "public" phase of communicating the need to a system involves a system representative (librarian or informational professional). An additional aspect of question-negotiation involves understanding how questions are related to cognitive structure (Morris, 1994).

Whitlatch (1995) and Gothberg (1995) review RI concepts. Whitlatch examines question classification including answer characteristics, library source documents, user needs, how patrons intend to use the information and forms of acceptable answers (Reference Assessment Manual, 1995). Gothberg discusses communication at the reference interface in terms of its nonverbal facets, social and psychological factors. (Reference Assessment Manual, 1995).

The "why" of the reference query (the motivation behind the question) is addressed by Dewdney and Michell (1997), while Morgan (1999) suggests that the questions are more important than the answers. One has to get this point correct or the whole process goes awry.

Fine (1995) appeals to information professionals to keep the user at the center of attention during the reference encounter.

> Reference is not just about (linking patrons with) resources, she maintains. It is about users, whether they are students or scholars, browsers or borrowers, novices or seasoned researchers, whether they present themselves as purposeful or vague, secure or timid, cool or agitated, hopeful or discouraged, competent or inept – or somewhere in between. (Fine, 1995, p. 19)

Additionally, she continues, reference is about how users and librarians behave in their respective roles, and how each responds to the other's behavior in their joint information seeking endeavors. It is this interactive behavior that ultimately makes the reference process happen creatively or feebly or not at all. The real issue is that being aware of the way people really behave, not the way we think they behave or pretend they behave or wish they would behave, allows librarians and information professionals to see themselves and their users more clearly (Fine, 1995). Distinctions the author makes raise interesting questions. Is the contrast between how users really behave and how we think they behave—which would suggest appearance versus reality? Perhaps the characterization might include epistemological issues about whether our perceptions of another are ever really accurate. Or, is the distinction between how they really behave versus how they pretend to behave? Whatever the case, the scenario is complicated.

The paradox, she contends, is that:

> the more complex the query, the less likely the librarian is to try to clarify the problem before offering to 'solve' it. If he does not understand a question, reference librarian tends to answer the one he does understand...The information search then satisfies the librarian's own needs for quick action and the appearance of competence is not service; it is disservice. (Fine, 1995, p. 19)

In a professional setting, the user is permitted these temptations; the professional is not. Librarians must be aware of them not only in the user but in themselves as well. Only then can the human

factor continue to be a strength rather than a weakness in the seeking and sharing of information (Fine, 1995).

Counseling techniques, within the context of interpersonal communication, are addressed by Afolabi (1992, 1996), Cohen (1993), Keefer and Karabenick (1993), Radford (1998) and Durrance (1995). Afolabi (1992) advocates an "open" attitude toward the user – one that is accepting, accommodating, adaptable and flexible. Cohen (1993) explains why attitude is important, claiming that patron anxiety is no small problem. The reference librarian is too often unaware of the depth of the client's apprehension, he contends, and if only the verbal language is addressed, the real question is likely to be misunderstood. The librarian, then, will assume a simplicity which is likely to be superficial. Only in the fullness of their relationships, one language with another (the librarian's and the patron's) can we really actualize the potential which the languages and their structures contain (Cohen, 1993):

> Human beings are creatures of emotion, however, and as soon as a word is created through the mouth of the speaker, then that the speaker places himself at the mercy of the other. The speaker becomes immediately vulnerable and so exposes his inner self to the other half of the partnership. Even the simplest of reference questions is an offering, to some degree, of oneself to another. For many that involves a great deal of personal pain and even for the strongest of us, it exposes a degree of weakness which screams out against our need for survival. We never want to display our personal vulnerabilities to others and always have a strong tendency to mask our true selves. Part of the reference librarians task is to go behind the mask to meet the client at a truly personal level. How often we fail in the task! (Cohen, 1993, p. 185)

One cannot help but wonder if what Cohen is suggesting is really achievable or capable of being implemented on a macro level. Even if his suggestion is not capable of implementation on a large scale, the librarian who understands and remembers the dilemma of the anxious patron during a reference encounter will, at best, get that much closer to the "perfect" interview.

Keefer and Karabenick (1993) continue the characterization of the overwhelmed patron by advancing the notion that the public reference desk is intimidating. As a traditional structure and an historical icon, its good points are many – its visibility, prominence and accessibility.

On the other hand, bad points of the public reference desk are also many. Patrons feel "onstage," exposed, vulnerable, for the most part. First, the library is a very "public" environment. Students must "perform" and carry out their assignments in full view of their peers and the experts, the librarians. Secondly, the fact that libraries are "quiet" places contributes, since one's "mistakes" and ignorance are thus much more noticeable. Our reluctance to admit failure in front of our peers can be frustrated by the very "openness" of the system. "The reference desk, in particular, can feel very uncomfortable to students who may otherwise have no trouble asking for help" (Keefer & Karabenick, 1993, p. 68).

The authors further recommend a variety of help settings, in addition to the traditional public reference desk, to accommodate the diverse backgrounds of most student populations. Small, semi-private consulting cubicles; peer assistance tutoring; librarians available in dorms or involved in other outside support areas; and drop-in tutorial sessions on using online catalogs and other electronic bibliographic tools are just a few possibilities. Computer conferencing and electronic bulletin boards offer new ways to assist students in effectively utilizing the full resources of their libraries. Such interactions can be private ones, lowering their levels of threat (Keefer & Karabenick, 1993).

Radford (1998) studied characteristics of librarians that patrons find most inviting. She observed reference interactions for 37 hours, interviewing 155 users who approached 33 librarian volunteers. Using content analysis, five categories were identified that affect librarian selection by patrons: initiation, availability, familiarity, proximity and gender. Simply put, librarians were selected by users more frequently when users were made to feel relaxed, less anxious, during the reference encounter. Her findings

include the following: that non-verbal communication (warm messages)–eye contact, proximity, initiation–make a big difference in the patron's level of comfort.

Another investigation of librarian behaviors that affect search outcomes was conducted by Durrance (1995) who studied interactions that increase the likelihood of the patron's return to the library. Factors she found useful included approachability (again), effective use of general questions, possession of an ability to listen, and demonstrated interest in the patron's needs–all of which have a powerful effect on the creation of a supportive environment for patrons.

Dewdney and Ross (1994) further examine effective reference librarian behaviors that improve patron satisfaction. They too highlight the significance of interpersonal communication skills, not taking the user's initial question at face value, using follow-up questions; and carefully monitoring referrals. These "structural factors" produced 40% percent failure rate among library staff. That is, 40% of the failures involved problems in these areas. "Library managers and library educators," the authors conclude, "should provide support and preparation for the front-line staff–giving them more tools, strategies and skills to do their work" (Dewdney & Ross, 1994, p. 228).

Once patrons are made to feel comfortable with the reference librarian, a practical template for problem-solving has been found to be useful. Redlich (1993) presents a RI checklist that has been successfully used in the Art and Music Division of an academic library. When the inquiry concerns a work of art or its artist, staff has found that the more thoroughly the patron is questioned about the artist or artwork, the more likely it is that the most pertinent sources will be used to best advantage. Often inquirers will initially provide only very meager data because they have not taken the trouble to examine what they have, do not know what to look for, or are asking on behalf of someone else. In these cases, librarians tell them what details are needed, instruct them how to look for the information and urge them to get back with the librarians when a more complete picture is formed, if possible. If the necessary data cannot be furnished, and the query remains enveloped in vagueness, this too will determine the nature of the search. In this type of situation, general comprehensive sources will be the first, and perhaps the only, works consulted (Redlich, 1993).

The "art" template used in the Art and Music Division included: the full name of the artist; subtitles of the work; general description of subject; date of execution; medium of work; nationality, gender, race and residence of artist; other inscriptions of artwork; and dimensions and provenance of the work. The "music" template included: title or first line of selected song; name of composer; vintage of song; name of singer; genre of song; context of song; and source of patron's information (Redlich, 1993, p. 30). Hence, the more carefully defined the query, the more efficient the search and the more effective the results.

Along these same lines, Booth, O'Rourke and Ford (2000) investigated the use of a similar presearch request form in the negotiation process between requester and librarian. Three hundred eighty (380) request forms were distributed in a health multi-center facility in Britain. They found that patrons who completed more specific forms, called the evidence-based medicine (EBM-structured) form, were more satisfied with their results than those who completed a less structured (minimally structured) form. The EBM-structured form was better for the complex searches and clinical searches; overview questions were found appropriate for the minimally structured forms. One may hypothesize, noted the authors, that enhanced structuring, both at the time of request and at the time of database interaction, can help minimize "noise" at important points along the mediated search request process (Booth, O'Rourke & Ford, 2000, pp. 239–246).

Further research, according to the authors, needs to: (a) investigate the utility of different interfaces for various end users and their needs in order to replicate the process of elicitation that, as demonstrated, can yield improved dividends for search results; and, (b) develop indicators that will help librarians to "triage" requests according to whether they fit appropriately within a clinical question paradigm (Booth et al. 2000, p. 244).

Peters (2000) addresses the evaluation of the RI. Digital libraries will increasingly lead to the creation of new services that meet the needs of online users. The (reference) librarian's professional challenge is to discern these needs, then meet them. Discerning nascent and emerging needs for a service program is itself a form of appraisal, which could serve as a bridge between pure meta-assessment and traditional evaluation activities. He continues:

> There is a strong division between real-world (physical) and online environments. As computing becomes more diffused throughout the real-world environment and throughout human experience in real-world environments, the current cognitive disconnects between online and real world activity may pass away. (Peters, 2000)

The binary opposition here of "real world/physical and online" is interesting, given the increasingly sophisticated ways the profession theorizes online environments.

In sum, the traditional RI literature of the 1990s is characterized by a closer, more intense look at the "players of the game." That is, the dynamics of the exchange between librarian and patron are more complex. The events are more complex than they once were. Or, they are recognized as being more complex than we once thought they were. Librarians acknowledge the increasing possibility of "disconnects" (and potential dissonance) between the clients and the information they seek, if the interview is not properly handled. While patrons may be more technologically savvy, computer literate, they still are not sophisticated in navigating their way through the maze of computer interfaces, selection of "best" reference tools for their information needs and the management of information overload.

As the potential for communication breakdown increases, librarians must work creatively to keep from "losing the patron." Librarians must also face the fact that wired reference service often gives the illusion that relevant information sources are easier to identify. In actual practice, precision and recall (as problematic as they were to measure in traditional, print-based reference) may be even more difficult to estimate in electronic reference. Additionally, who measures effectiveness in wired reference? The patron? The librarian? A third party? Ultimately, if the patron is happy with the search results, who are we to say otherwise?

In practical terms, what implications does the change in thinking have for librarians?

Face-to-face reference in the electronic environment must keep the patron and his needs front and center. Librarians must reject the temptation to move technology to the star position, and keep the patron aboard every step of the way, assuming nothing. "Good-enough" results should not be rule, as services are continually evaluated.

The Reference Interview in the Virtual Library Environment

The RI literature in the 1990s is essentially internet-related. If the 1960s belonged to batch searching; the 1970s, batch/online; the 1980s, online; the 1990s and beyond would be digital/internet. The face-to-face RI in the electronic library is distinctly different from the online virtual RI. In the former, there is personal contact between requester and librarian. In the "faceless" RI, there may be minimal personal contact between the requester and librarian, depending on the organization of the reference service. In one sense, librarians replay an earlier pattern (from batch to end user searching). The old-style, batch RI has been replaced by email reference; the online search system RI has reappeared as "interactive" webref (i.e., chatrooms, whiteboards, groupware, etc.); and the end user RI finds its counterpart in gateways, search engines, meta-webcrawlers, etc. The virtual reference patron has landed in an interesting, often vulnerable position. On the one hand (and to the patron's credit), he or she has at their fingertips access to more library holdings than all previous generations of library users put together. On the other hand (and to his or her peril), they are given less help to find their way through the maze than any of their earlier predecessors. Simply put, without the RI, patrons are left to fend for themselves, to do the best they can.

The literature of the virtual RI over the past decade consists of overview pieces (Sutton, 1996; Cole, Kennedy & Carter, 1996; Lankes, 2000; Lipow, 1999, Lipow 2002) and strategies to webreference using email (Abels, 1996; O'Neill, 1995, Tamaiuolo & Packer, 2000; Garnsey & Powell, 2000; Weisman, 2001); webforms (Haines & Grodzinski, 1999; Stacy-Bates, 2000); webref software (McGlamery & Coffman, 2000; Kerns, 2001), even call centers. (Ironically, at a time when library networks are unprecedented, the public is concerned about the demise of librarians, particularly reference librarians.) Lipow (1999, Lipow 2002) even decries the demise of the traditional library (the physical facility) as we know it; professionals have been warned that reference librarians are no longer needed. By deduction, if librarians are no longer needed, then libraries may experience a decrease in reference activity (transactions). Atlas (2000) and Hewitt (1997), for example, report the decline of mediated searches in medical libraries. However, in the digital environment, reference work is more important than ever.

Lipow argues that reference librarians can become endangered by inaction. As point-of-need librarians disappear, she worries about service to users who cannot afford commercial services; librarians are needed as connections to the great diversity of available resources. The points in her argument do not inherently flow from each other, but the scenario she paints captures the essence of her concern:

> ...we might wake up one morning and find that libraries have turned into Internet rooms, with our stacks of books going the way of our card catalogs. If this happens, reference librarians are the key to the survival of libraries themselves. Technical service librarians have been cooperating and collaborating for decades through well-established systems (MARC, OCLC, RLIN, etc.). Likewise, public service librarians should imaginatively reposition themselves to provide interactive point-of-need service to remote users. (Lipow 1999, 2002, http://www.csu.edu.au/special/online99/proceedings99/200.htmhttp://www.ala.org/ala/rusaprotocols/future-ofref/pointofneed.htm)

Sutton (1996) discusses a typology of reference−traditional, automated, hybrid, digital−respectively characterized by the typical reference desk, electronic sources, a mix of paper and electronic reference, and digital libraries. Regarding the interview, as one moves up the chain (traditional, automated, hybrid, digital), the more important "context" becomes. In other words, in the traditional, face-to-face reference interview, the librarian's work is more clear-cut; as the computer becomes more prominent, the interview becomes a dynamic event and the work of the librarian becomes less clear cut.

Cole, Kennedy and Carter (1996) compare the traditional face-to-face interview with the online RI, noting that the computer changes the dynamic of the traditional RI in several ways. First, it changes the question; the patron may mention the computer in the question as a possible source of information. Secondly, it adds an important instructional component to the interview. Finally, the computer may shift the objective of the reference interview in the direction of making the user self-reliant in searching for information (Cole, Kennedy & Carter, 1996).

Email reference dominates the online RI literature−its advantages, disadvantages, and comparisons to the traditional RI. Abels' (1996) work, which builds on White's (1981, White's 1985 and 1989) research, provides a much-needed empirical examination of the email reference interview. Her findings indicate that the email RI is adequate for general (subject) requests but lacks the structure needed when high precision search results are needed.

Lankes (2000) extols the virtues of the internet in reference. Its major advantages include expanded traditional library collections, improved location and access to reference resources (particularly ready reference materials and pathfinders through Web sites and access to cataloging and electronic reference sources through telnet). The internet-based RI accommodates both fact-type questions as well as more complex subject searches through email reference and customized software (e.g., the Question Interchange Profile). The author discusses the notion of change and the need for technical proficiency in reference librarianship (Lankes, 2000).

The popular AskaLibrarian project spurred the widespread use of email reference links on library web-pages during the 1990s. O'Neill (1995) describes the Santa Monica Public Library's successful establishment in 1995 of a webpage which included an ask-a question link. The library received requests from two places – from the "Ask a Librarian" link on the city's web page – and from the "Ask a Question" link on the library's web page. An average of ten requests per month at the main library were reported in the study.

The design of the question form on the webpage was important. Rather than the long question form used by larger resources like Internet Public Library, the Santa Monica web form was short, requesting name, email address, home or work telephone and fax. It also asked the user whether he wished the response to be sent by email or fax. A large text box seems to encourage clients to expand on their requests and to explain them more clearly. The online catalog "Ask a Question" form that appeared in the "Requests" module of the catalog was shorter than the web page "Submit a Question" form, presenting only text boxes for questions, numbers for library cards and drivers' licenses. One interesting observation: users of the online catalog service believed that the machine would respond (to their reference queries) as it did to their keyword queries, and clients using (reference) email expected a human being waiting at the other end of the line to answer them. Hence, the user's expectation of the librarian's personal touch.

Virtual reference (web reference) may be (unjustly) touted as a way to save libraries and librarians. However, it is not without its problems. Significant concerns include low use of the service, extended library service area, limits on what may be answered, response time, staff time and training and costs (O'Neill, 1955).

Tamaiuolo and Packer (2000) further caution reference librarians about email reference problems: minimal information submitted; sheer volume of questions; and the provision of reference service to users world-wide. An exceptional example, the authors maintain, is the Internet Public Library's virtual reference desk and its large volunteer staff. Garnsey and Powell (2000) report an empirical study of public library email reference. Fifty-five percent of the libraries used email reference to answer ready-reference questions; slightly half, 25%, were classified as research questions. Other findings: many librarians were concerned with the difficulty of conducting reference interviews via electronic mail (many of the non-verbal cues that play an integral role in facilitating a telephone or face-to-face interview were missing). Advantages of email reference interviews included the following: librarians answer questions within their specialized subject areas; statistics are easier to keep; no need to juggle (as in telephone reference) service between patrons; no transcription errors as librarians typically find in telephone reference; and efficiency.

Weisman (2001) offers 12 factors to consider when launching email reference in the library: audience (specific user groups); specific users; work "fit;" policy; staff; staff training; provision of question and answer archives; use of signatures; turnaround time; the use of auto(matic) responders to acknowledge receipt of question; scope of service; the use of FAQ file/page; and the use of digital and live reference. Other recommendations she strongly urges include "peer coaching" where "technowhizzes" should consult with "senior thoughtfuls" who have mastered the nuances of patron queries. She also recommended the AskA Starter Kit designed by Lankes and Kasowitz (1989).

Haines and Grodzinski (1999) extol the value of using online search request forms in the reference interview. Email queries are typically used in remote reference service but online forms can give librarians a fuller description of the user's need. Use of the form then improves on the limitations of email. The form provides (a) anonymity which may perhaps appeal to users who have personal questions and (b) a user-friendly point of access for those who are reluctant to approach the reference desk. Additionally, the form provides a framework for the search request so the user can describe fully – in some detail – the context of his information need. It also furnishes statistical feedback, helping the librarians to improve their skills (from template design to writing HTML and CGI script). A bonus is the visibility it provides for the library. Further possibilities include Web-tutorials can be used in conjunction with courses and instructional modules (Haines & Grodzinski, 1999).

The problem of poorly defined email reference queries is investigated by Stacy-Bates (2000) who studies the characteristics of ARL reference webpages to determine their most useful features. Of the 110 Web sites examined during the week of February 8–12, 1999, most of the libraries had email reference forms; 71.9% used forms of some level of complexity; and 28.1% used one or more "mailto links" as the means for receiving email questions. Of the 27 e-mail reference pages that did not use a form, seven (25.9%) gave guidelines for the specific information to include in the e-mail message.

Useful features of reference Web pages were observed during the process of data collection. Some of the following features served to connect patrons to reference resources: pop-up mini-windows describing each resource in a ready reference list; pointers to free reference 'megasites' on the Web; online pathfinders in prominent locations; links to reference FAQ lists; and a classification scheme pointing to reference resources according to the type of format or information (books, journal articles, statistics) rather than category in library jargon (catalogs, indexes). Other sites were creative in offering alternative access to reference librarians.

One site featured a separate form for arranging in-depth research consultations and another site had a reference online chat room available several hours each day. Still another site had the option of sending messages first to a reference pager for quicker response, and then rolling them over to a standard email mailbox if no reference staff were on call. In some cases, the link to the e-mail reference page was part of the template for the library's Web site, so it could be accessed from every page, or at least the majority of high-level pages, in the site. The reference pages simulated in a sense the effective reference interview, including pointers to a variety of resources from online catalogs to pathfinders to "live" personal reference assistance. Future research should be done, according to the author, on the "use, structure and content of forms" and instructions for submitting questions to email reference services (Stacy-Bates, 2000).

McGlamery and Coffman (2000) discuss the major benefits of virtual reference offered at the Los Angeles Public Library - the major objective being to provide reference assistance right when the researcher needs the information (24 hours a day, 7 days a week). They also discuss Web chat software and the variety of ways the library might exploit its features through live-reference and email options. Sloan compiles a list of "live reference" alternatives (e-lists, library products, library websites and bibliographies) at the University of Illinois website (http://www.lis.uiuc.edu/~b-sloan/collab.htm).

Other authors acknowledge the challenges of virtual reference. One such author, Kautzman (1999) finds the challenges of supporting the technology greater than anticipated in the Lamont Library (Harvard University). The endless pursuit of technological expertise was a real concern as librarians struggled with changing interfaces and commands. Cohesive search patterns, for instance, were harder to maintain in changing systems. Training librarians to become good teachers became more important than ever, as reference sessions included technology education, database searches, the basics of critical thinking and the structure of the discipline. She found that she spent more time problem solving brought about by technology than she did thinking up new services for her students (Kautzman, 1999).

Ross and Nilsen (2000) found that in the virtual (internet) environment, reference staff are shortchanging their traditional roles as intermediaries between stores of information and users. Given the complexity of using appropriate search appropriate search engines, evaluating Web-based information, and discriminating between authoritative Web sources and unreliable ones, library users need help finding trustworthy answers to their questions on the Web.

The online (virtual) reference interview, then, is unlike the face-to-face transaction in the electronic setting. Librarians agree with Abels that email reference has its advantages, chief among them being "anytime/anywhere" assistance. Complements to email include webforms, and other I-reference software that is intended to stand in lieu of personal assistance. The prevailing sense of the literature appears to be that reference librarianship at its best uses technology to augment and refine the interview. Patrons should experience, even in virtual reference, the presence of "warm blooded" librarians who help them solve their information problems (Lancaster, 1999, p. 50).

Desiderata for an Effective Electronic or Virtual Reference Interview

What makes an interview good and what makes a bad one bad? Regardless of setting, a good reference interview is still comprised of basic elements: identification of the "real" question and translating the query language into the system language. Today's library user deserves the best of both worlds—the personal touch of the old-fashioned transaction coupled with up-to-the-minute virtual access to global resources—and the ideal RI is a blend of the two. Desiderata for an effective session are outlined in RUSA's (2004) "Guidelines for Behavioral Performance of Reference and Information Services Providers" (http://www.ala.org/ala/rusa/rusaprotoools/referenceguide/guidelinesbehavioral.htm).

The Performance Guidelines also include "searching" and "follow-up" categories. Searching recommendations provide techniques for matching query and system languages, broadening and narrowing search terms, database selection, etc. Follow-up guidelines determine levels of patron satisfaction and refer patrons to additional information resources. While the RI process includes searching and follow-up, question-negotiation is an iterative, heuristic activity that continues until the patron's question is answered.

In face-to-face RI, verbal and non-verbal clues are key factors in the communication process; in the virtual environment, librarians must find ways to "personalize" the transaction. In other words, users should not feel more "dehumanized" in the virtual setting than they already feel reducing their complex information requests to mere menus and windows. Imagine the sick patient who calls his physician's office and attempts to navigate his way through the telephone menu. The virtual library experience should be positive, not a frustrating series of hurdles. Live reference both in person and on the computer, offers instant feedback.

Exemplary virtual reference interviews are illustrated in the Virtual Reference Toolkit Project Green Awards. The award is named in honor of Samuel Swett Green, the founder of reference services in the United States. Chatref software captured five real-time interviews. Librarians successfully walked patrons through the search process, articulating and clarifying their information needs, teaching the use of Boolean connectors and proximity operators without library jargon. The interview transcripts carefully followed RUSA guidelines: librarians were approachable and interested; they "listened" well—even within the virtual environment (http://www.vrtoolkit.net/greenaward/awardwinners.htm). Librarians made very effort to facilitate patrons in their virtual information seeking—aiming to please the users, anticipating their unspoken and spoken questions—from hardware and software to literature structures to database selection. The award winners exhibit digital reference at its finest. Although the Green Award was discontinued in December 2003 after only five years, it provides a fine template for librarians to use to conduct effective webref interviews.

Observations Concerning the Changing Literature

How has RI thinking changed over the past decade in the online environment and in the digital environment? Consider first the online context. In the pre-windows operating system environment, wide/local area network stations were the order of the day. Against this backdrop, librarians asked different RI questions; reference scenarios were far from seamless (e.g., with multiple search protocols, graphical interfaces, etc.) Librarians at this stage focused on the proliferation of digital resources, instruction in database use, impacts on users (characteristics, anxiety, satisfaction). Elements of mediated, delegated search situations were examined. Figure 2 presents RI literature reviewed in the first half of the paper.

Most of the studies address interpersonal communication and presearch activity. The user and his needs take center stage.

In the digital environment, after the introduction of the Web, the shift moved quickly to web-based catalogs and the addition of the reference module to integrated library systems. The traditional reference desk soon disappeared, making way for more seamless experiences for library patrons. The challenge

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<tr><td colspan="1" align="center">Performance Guidelines</td></tr>
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Performance Guidelines

1. Approachability
  Establish trust and rapport with patron.
  Help to make patron comfortable - which sets the tone for the interview.
  Be non-judgmental, open, patient, flexible.
2. Interest
  Focus attention on patron.
3. Listening/inquiring
  Use tone appropriate to the nature of the transaction.
  Allow patron to state fully the information need in his or her own words before responding.
  Rephrase the patron's question and ask for confirmation to ensure query is understood.
  Use open-ended questioning techniques to encourage patron to expand on request.
  (Please tell me more about your topic? How much information do you need?)
  Use closed or clarifying questions to refine search query. (Current or historical information?
  What have you found already?)
  Avoid excessive jargon.
  Maintain objectivity.

Figure 1. Desiderata for an effective interview: pre-search stage

became how to keep the best of the old RI tradition in the virtual environment. Empirical investigation moved from patron analysis to systems analysis. One outcome: reference departments gradually reorganized to accommodate system changes. Whether email, chat or video conferencing web software, emphasis moved from patrons to the process. Note the number of webreference discussions in Figure 3.

Years	Authors	Contributions to RI Literature
1992	Afolabi	Interpersonal communication/ Counseling techniques
1993	Cohen	Interpersonal communication
1993	Redlich	RI template (presearch form)
1993	Keefer & Karenbenick	Model (information seeking)
1994	Morris	Model (information seeking)
1994	Kulthau	Model (search process)
1994	Dewdney & Ross	Reference evaluation
1995	Fine	Interpersonal communication
1995	Radcliff	Theory building/model (interpersonal communication)
1995	Durrance	Information communication/theory
1995	Whitlatch	Question clarification
1995	Gothberg	Nonverbal communication
1997	Dewdney & Michell	Question clarification
1998	Radford	Interpersonal communication/postsearch follow-up
1999	Morgan	Question clarification
1999	Booth, O'Rouke, & Ford	Webforms (presearch form)
2000	Peters	RI evaluation

Figure 2. The reference interview in the electronic setting: summary of the literature

A troubling undercurrent in the RI literature, particularly in the past 5–6 years, has been the perceived deprofessionalism of the reference task. Patrons perceive that all their questions may be answered on the web–that they can "google" their way to the majority of pertinent sources. Such a misconception has actually become an opportunity for the reference librarian: bibliographic instruction (the use of physical library resources) has given way to information literacy (instruction in the use of digital library resources).

The RI literature–in the electronic and virtual settings–is solid, as far as it goes. But it does not go far enough. Granted, models of the search process, descriptions of user satisfaction in emerging contexts are important. However, reference librarians should step back and reflect on the questions being asked at this juncture (concerning patron characteristics, webforms, etc.). Additionally, professionals should think critically about questions not being asked that should be. For example, what is the extent to which organizational arrangements affect the RI positively or negatively? What is the effect of reference policy on the virtual RI? What are effective methods of teaching information literacy that could be used in the RI? What will reference departments look like in the next 5–10 years? How will the RI look at that time? While the nature of the interview itself may be the same (matching users with the information sources they seek), how we go about connecting the two entities may be totally different. If reference

Years	Authors	Contributions to RI literature
1995	O'Neill	Webreference/email
1996	Sutton	Reference typology
1996	Cole, Kennedy, & Carter	Traditional/online RI comparison
1996	Abels	Email reference interview
1997	Hewett	Mediated (delegated) online RI
1999	Lancaster	Human factor in virtual reference
1999	Haines & Grodzinski	Webforms
1999	Kautzman	Email reference training
1999	Lipow	Repositioning of reference librarians
2001	Weisman	Email reference management
2000	Tamaiuolo & Packer	Email reference management
2000	Lankes	Virtual reference management
2000	Garnsey & Powell	Email reference
2000	Ross & Nilsen	Virtual reference management
2000	Stacy-Bates	Webforms
2000	McGlamery & Coffman	Virtual reference management
2000	Atlas	Mediated (delegated) online RI
2002	Lipow	Repositioning of reference librarians
2004	Sloan	Live reference
2004	ALA/RUSA	Performance guidelines for RI

Figure 3. The Reference interview in the virtual setting: summary of the literature

professionals feel that their work is being displaced or devalued by technology, they should be reminded to "keep the horse before the cart," measuring their success by Ranganathan's (1957) "five laws" of library science – especially in the virtual environment: books are for use; every reader his book; every book his reader; save the time of the reader; the library is a growing organism. The medium (the book) has changed, but the concept remains the same.

Implications for Library Practice

How does the change in thinking about the RI affect library practice? Observations from the literature suggest several ways, primarily in reference administration – selection; training; rotation of staff; equipment purchases; and budgeting.

(1) Selection of staff. Announcements must include, in addition to good oral and written communication skills, excellent computer skills.
(2) Training of staff. Paraprofessional who staff information desks (in tiered arrangements) must be trained when to refer their questions to professionals. Librarians should also continue to find ways to "personalize" the virtual interview.
(3) Rotation of staff. Email and chatreference require "anywhere/anytime" help in terms of larger staff and longer hours.
(4) Equipment purchases. Digital reference software must be selected and evaluated for reference departments of various sizes and types.
(5) Budgets. Monies for added staff and software replacement must be allocated to serve larger numbers of patrons.

Conclusion

In conclusion, the purpose of the paper was to determine how thinking has changed about the RI interaction process in the 1990s. Face-to-face online RI literature is characterized by a closer examination of the variables that affect human-computer interaction. The virtual reference literature echoes Green's 1876 plea for personal assistance to faceless patrons. Perhaps, the thinking of reference personnel has come full circle – to an understanding that the basic tenets still hold true. To the extent that reference workers provide the "human touch" in the "high-tech" setting is the extent to which they will, not only survive, but thrive in modern libraries.

Further research could address the evaluation of the RI in distinct modes such as email, chatref, webforms, etc. A comparative analysis of the various modes could also be useful. The use of transaction logs could also be explored to better understand patterns of communication in complex subject searching. The finest collections and the best technological advances are lost if librarians fail to manage the reference process in light of the reality of human behavior. If properly embraced, virtual reference could present a "moment of truth" for all of reference librarianship (Fine, 1997). In other words, decisions made at this juncture will affect libraries for years to come. As the "signature" of reference librarians, the interview itself will help to shape this direction.

BIOGRAPHICAL NOTE

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References

Abels, E.G. (1996). The e-mail reference interview. *RQ*, *35*(3), 345–358.

Afolabi, M. (1992). The application of counseling techniques to interviewing in reference services. *Library Review*, *41*(4), 31–37.

Afolabi, M. (1996). The application of diagnostic constructs to query negotiation in reference service. *Library Review*, *45*(8), 25–32.

American Library Association. Reference and Adult Services Division. Ad hoc Committee on Behavioral Guidelines for Reference and Information Service Providers (2004). Guidelines for behavioral performance of reference and information providers. Retrieved on September 18, 2004 from the world wide web: http://www.ala.org/ala/rusa/rusaprotools/referenceguide/guidelinesbehavioral.htm.

Atlas, M.C. (2000). The rise and fall of the medical mediated searcher. *Bulletin of the Medical Library Association*, *88*(1), 26–35.

Benson, J., & Maloney, R.K. (1975). Principles of searching. *RQ*, *14*(4), 316–320.

Booth, A., O'Rourke, A.J., & Ford, N. (2000). Structuring the pre-search reference interview: a useful technique for handling clinical questions. *Bulletin of the Medical Library Association*, *88*(3), 239–246.

Bopp, R.C., & Smith, L.C. (2001). *Reference and information services*, 3rd ed. Littleton, Colorado: Libraries Unlimited.

Coffman, S., & McGlamery, S. (2000). The librarian and Mr. Jeeves. *American Libraries*, *31*(5), 66–69.

Cohen, J. (1993). The hermeneutics of the reference question. *Australian Library Journal*, *42*, 182–189.

Cole, C., Kennedy, L., & Carter, S. (1996). The optimization of online searches through the labeling of a dynamic, situation-dependent information need: the reference interview and online searching for undergraduates doing a social science assignment. *Information Processing and Management*, *32*(6), 709–717.

Dervin, B. (1977). Useful theory for librarianship: Communication, not information. *Drexel Library Quarterly*, *13*(3), 16–32.

Dewdney, P., & Ross, C. (1994). Flying an aircraft: reference service evaluation from a user's viewpoint. *RQ 34*(2), 217–230.

Dewdney, P., & Michell, G. (1997). Asking "why" questions in the reference interview: a theoretical justification. *Library Quarterly*, *67*(1), 50–71.

Durrance, J.C. (1989). Reference success: Does the 55 percent rule tell the whole story? *Library Journal*, *114*(7), 31–36.

Durrance, J.C. (1995). Factors that influence reference success: what makes questioners willing to return. *Reference Librarian*, (*49–50*), 243–265.

Fine, S. (1995). Reference and resources: the human side. *Journal of Academic Librarianship*, *21*(1), 17–20.

Garnsey, B.A., & Powell, R.R. (2000). Electronic mail reference in the public library. *Reference and User Services Quarterly*, *39*(3), 245–254.

Gothberg, H. (1995). Nonverbal communication and the reference interface. In: *The Reference Assessment Manual*. American Library Association, Reference and Adult Services Division (RASD), Evaluation of Reference and Adult Services Committee. Ann Arbor, Michigan: Pierian Press.

Green, S.S. (1876). Personal relations between librarians and readers. *American Library Journal*, *1*(2,3), 74–81.

Grogan, D.J. (1992). Practical reference work, 2nd ed. London: Clive Bingley.

Haines, A., & Grodzinski, A. (1999). Web forms. *College and Research Libraries News*, *60*(4), 271–272, 291.

Hewett, S. (1997). The future of mediated online search services in an academic institution: a case study. *Online and Cdrom Review*, *21*(5), 281–284.

Hutchins, M. (1944). *Introduction to reference work*. Chicago: American Library Association.

Jardine, C.W. (1995). Maybe the 55 percent rule doesn't tell the whole story: a user-satisfaction survey. *College and Research Libraries*, *56*(6), 477–485.

Katz, W.A. (2002). *Introduction to reference work*, 8th ed. Vols *1 and 2*. New York: McGraw-Hill.

Kautzman, A. (1999). Digital impact: reality, the Web and the changed business of reference. *Searcher*, *7*(3), 18–28.

Keefer, J., & Karabenick, S. (1993). Help-seeking and the library reference instruction setting: a social-psychological perspective. In: *What is good instruction now? Library instruction in the 90s*, pp. 63–71. Ann Arbor, MI: Pierian Press, 1993.

Kulthau, C.C. (1994). Students and the information search process: zones of intervention for librarians. *Advances in Librarianship*, *18*, 57–72.

Kulthau, C.C. (1988). Developing a model of the library search process: cognitive and affective aspects. *RQ*, *28*(2), 231–242.

Lancaster, F.W. (1999). Second thoughts on the paperless society. *Library Journal*, *124*(15), 48–50.

Lankes, R.D. (2000). AskA's Lessons learned from K-12 Digital Reference Service. *Reference and User Services Quarterly*, *38*(1), 63–71.

Lipow, A.G. Point-of-need reference service: no longer anafterthought. *Presented at the American Library Association Annual Conference*, Atlanta, Georgia, June 2002. Retrieved on September 18, 2004.

Lipow, A.G. Serving the remote user: reference service in the digital environment. Australian Library and Information Association. Ninth Australian Information Online and On Disc Conference and Exhibition, January 1999. Retrieved on September 18, 2004 from the world wide web: http://www.csu.edu.au/special/online99/proceedings99/200.htm.

McGlamery, S., & Coffman, S. (2000). Moving reference to the web. *Reference and User Services Quarterly*, *39*(4), 380–386.

Morgan, E. L. (1999). What's more important: the questions or the answers? *Computers in Libraries*, *19*(5), 38–40.

Morris, R. (1994). Toward a user-centered information service. *Journal of the American Society for Information Science*, *45*(1), 20–30.

O'Neill, N. (1995). E-mail reference service in the public library: a virtual necessity. *Public Libraries*, *38*(5), 302–303.

Peters, T. (2000). Current opportunities for the effective meta-assessment of online reference services. *Library Trends*, *49*(2), 334–349.

Radcliff, C.J. (1995). Interpersonal communication with library patrons: physician-patient research. *RQ*, *34*(4), 497–506.

Radford, M.L. (1998). Approach or avoidance? The role of nonverbal communication in the academic library user's decision to initiate a reference encounter. *Library Trends*, *46*(4), 699–717.

Ranganathan, S.R. (1957). *The five laws of library science*. London: Blunt and Sons, Ltd.

Redlich, B. (1993). Reference column: refining the art and music reference interview. *New Jersey Libraries*, *26*, 28–30.

Ross, C.S., & Nilsen, K. (2000). Has the internet changed anything in reference? The library visit study, phase 2. *Reference and User Services Quarterly*, *40*(2), 147–155.

Rothstein, S. (1989). Across the desk: 100 years of reference encounters. *Canadian Library Journal*, *34*(5), 391–397.

Sloan, B. Collaborative live reference services. Retrieved on November 24, 2004 from the world wide web: http://lis.uiuc. edu/~b-sloan/collab.htm.

Stacy-Bates, K.K. (2000). Ready-reference resources and email reference on academic ARL websites. *Reference and User Services Quarterly*, *40*(1), 61–73.

Straw, J.E. (2000). A virtual understanding: reference interview and question negotiation in the digital age. *Reference and User Services Quarterly*, *39*(4), 376–379.

Sutton, S. (1996). Future service models and the convergence of functions: the reference librarian as technician, author and consultant. *Reference Librarian*, *54*, 125–143.

Tamaiuolo, N., & Packer, J.G. (2000). AskA do's, don'ts and how-to's: lessons learned in a library. *Searcher*, *8*(3), 32–35.

Taylor, R.S. (1968). Question negotiation and information seeking in libraries. *College and Research Libraries*, *29*(6), 178–194.

Virtual, Toolkit. Samuel Swett Green Award Winners. Retrieved on November 29, 2004 from the world wide web: http:// www.vrtoolkit.net/greenaward/awardwinners.htm.

Weisman, S.K. (2001). Considering a launch? *Library Journal*, *126*(2), 49.

White, M. (1981). Dimensions of the reference interview. *RQ*, *20*(4), 373–381.

White, M. (1985). Evaluation of the reference interview. *RQ*, *25*(1), 76–84.

White, M. (1989). Different approaches to the reference interview. *The Reference Librarian*, *25–26*, 631–646.

Whitlatch, J.B. (1995). Question clarification. In: *The Reference Assessment Manual*, 42–46. American Library Association, Reference and Adult Services Division, Evaluation of Reference and Adult Services Committee: Ann Arbor, Michigan: Pierian Press.

Wyer, J.I. (1930). *Reference work: a textbook for students of library work and librarians*. Chicago: American Library Association.