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Reimagining the Library as a Technology: An Analysis of Ranganathan's Five Laws of Library Science within the Social Construction of Technology Framework

Patrick L. Carr

ABSTRACT

S. R. Ranganathan's five laws of library science have long been a theoretical cornerstone of librarianship. This article draws on theories in the field of technology studies to advance the claim that the enduring relevance of the five laws is rooted in how they embrace the social construction of technology (SCOT) framework, which is based in the supposition that the actions of user communities shape a technology's meaning. After briefly discussing the five laws along with the central principles of the SCOT framework, the article analyzes how the laws map within the framework and also how the laws confound the claims of a competing theory of technology, technological determinism. The article advocates that librarians use the laws' SCOT-based principles as a guide to navigate through a period of transformative change.

Since their publication in 1931, S. R. Ranganathan's five laws of library science have had an enduring hold on librarianship's collective imagination. Succinct in length and yet broad in their scope, clear in substance and yet elusive in their deeper meanings, the laws have long been recognized as a paradigmatic declaration of the fundamental tenets of library science. Despite this eminent stature, there has been little enquiry into what principles underlie the laws and give them their power. Such enquires have been stymied by the pervasive notion in librarianship of the laws as venerable and canonical expressions of timeless truths. This notion is reflected, for example, in Michael Gorman's (1998, 22) feeling of "reverence" toward the laws and in Richard A. Leiter's (2003, 412) declaration that the laws "are sublime and worthy of our professional devotion."

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The following article rejects this belief that the five laws stand as timeless truths warranting reverence rather than enquiry. To theorize the laws and provide an account of their underlying power, I draw on ideas from the field of technology studies. Specifically, I analyze the laws within the social construction of technology (SCOT) framework. According to this framework, the actions and behaviors of user communities determine a technology's meaning, not the design or intended functionalities of the technology itself. Although it is in the general nature of laws to prescribe behaviors and therefore prohibit organic constructions, I argue that the laws prescribe actions to libraries that are, in an important sense, antiprescriptive. In other words, I assert that among the guiding principles underlying the laws are that a library is a technology and that the behaviors and choices of user communities shape this technology's functionalities. I believe that it is this theoretical grounding that gives the laws their enduring relevance.

To develop this argument, I begin by briefly describing the origins of the five laws and then summarize how the laws have impacted and been explained within the field of librarianship. Next, I outline the central principles of the SCOT framework and consider how the laws map within this framework. In doing so, I draw a contrast between the SCOT framework and a competing theory of technology, technological determinism, which implies a contrasting set of principles of librarianship than do the five laws. I then consider the particular importance of the laws to libraries today. I advocate that librarians should embrace the laws as they navigate through a period of transformative change.¹

The Five Laws of Library Science

Origins

Ranganathan's five laws of library science can be simply stated:

1. Books are for use.
2. Every person his or her book.
3. Every book its reader.
4. Save the time of the reader.
5. A library is a growing organism.

In contrast to the simplicity of their articulation, the laws' development was complex. Ranganathan (1963) recounts that these laws had their origins in five years of intensively studying, applying, and reflecting on the activities of librarianship. This period began in southern India in 1924, when Ranganathan cut short his career as a mathematician to accept an appointment as the first librarian at the University of Madras. Over the following years, Ranganathan channeled his energies toward the development and organization of the uni-

1. Throughout this article, I use the term "librarian" in its broadest sense to refer to any person working in a library.

versity library's collection, operations, and services. As he worked, Ranganathan became consumed with identifying librarianship's fundamental principles. He wrote of the libraries he observed, "There was no evidence of an overall view . . . what could be seen was only an aggregate of diverse practices without an integral relation" (1963, 20). The search for this "integral relation" came to a conclusion one evening in 1928, when a passing remark from a friend led Ranganathan to the first of his laws. From this moment of epiphany, the other four laws followed before the evening's close.²

The laws were first published in 1931 in *The Five Laws of Library Science*. Over the subsequent forty years, Ranganathan used this book as a foundation on which he developed a vast body of work—totaling approximately sixty books and two thousand papers—that addresses nearly every aspect of librarianship and that earned him a renown as, in Gorman's (2000, 18) words, "by common consent, the greatest figure in librarianship of the twentieth century." Of this body of work, Ranganathan (1962, 24) would write that each entry functions as an "elucidation of one section or other contained in that first book."

Impacts

The five laws today provide librarians with a valuable measure for assessing and advancing library operations and services. Indeed, as libraries have striven to transform their collections, presences (both physical and virtual), and services in response to the broadening ubiquity and impacts of networked digital technologies, the laws have provided a foundation for analysis as well as a consistent point of reference. For example, Janet Brennan Croft (2001) makes use of the laws to evaluate the extent to which the designs of library web pages succeed in accommodating users' preferences for searching for and accessing content. Michele V. Cloonan and John G. Dove (2005) address a similar topic, analyzing how libraries can comply with the third law by developing web presences with simple pathways to electronic resources and by reconfiguring reference services to focus on online points of contact. In an article in *Against the Grain* (Carr 2010/2011), I apply the laws in an attempt to critique and problematize what I refer to as the "dual mission paradigm," the notion that libraries have distinct missions of preserving and providing access to information. Other recent publications use the laws to propose solutions to challenges faced by specific types of libraries. For example, articles by W. Bede Mitchell (2007) and Keren Barner (2011) apply the laws to academic libraries, Leiter (2003) presents a law librarian's perspective on the laws, and Glen Holt (2010) considers the laws in the context of public librarianship.

Another register of the impacts of the laws is the various efforts that have been made to develop new laws. As Alireza Noruzi's (2004) review of this branch of the professional lit-

2. This article's account of the origins of the five laws is in accordance with the account that Ranganathan (1963) provides in the first chapter ("Genesis") of *The Five Laws of Library Science*. M. P. Satija (1992, 90–91) provides a differing account of the laws' development.

erature shows, new versions of the laws have been created for distance education, software libraries, children's libraries, web connectivity, and diversity. Following this literature review, Noruzi adds to the list by presenting five laws of the web. Most prominent among the commentators proposing new laws is the library theorist and former American Library Association president Michael Gorman (1995), who formulated five new laws of librarianship:

1. Libraries serve humanity.
2. Respect all forms by which knowledge is communicated.
3. Use technology intelligently to enhance service.
4. Protect free access to knowledge.
5. Honor the past and create the future.

Gorman characterizes these new laws as "a reinterpretation of Ranganathan's truths in the context of the library of today and its likely futures" (784). However, as I will later claim, Gorman's laws imply a rather different theory of the library as a technology than do Ranganathan's laws.

Explanations

Although the five laws have had a significant impact in the field of librarianship, there have been few attempts to account for the underlying principles that give the laws their enduring relevance. Instead, the laws are typically presented as timeless and unquestioned truths to be contemplated and revered. Those few explanations that do aim to identify the laws' underlying principles emphasize Ranganathan's keen observational powers and his genius for succinctly translating his observations into fundamental principles.

This perspective gets its fullest expression in M. P. Satija's (1992) monograph *S. R. Ranganathan and the Method of Science*. Here, Satija characterizes Ranganathan as a "staunch positivist" (147), whose greatness was rooted in his realization that librarianship is a domain of the social sciences and that, accordingly, the field should be governed by a normative doctrine. Satija concludes: "Therefore, he [Ranganathan] insightfully and with an inspired stroke of genius ascribed that plight of librarianship to lack of its normative principles so essential to any social science. He diagnosed that only by postulating its normative principles could library science become a science in real terms" (146). Within this account, the five laws are, of course, the "normative principles" that librarianship had been lacking. Satija writes that these laws were based in Ranganathan's "vast reservoir of empirical facts" (148) and that they took shape thanks to Ranganathan being "eminently predisposed to conduct a priori fundamental research" (149).

Gorman's (2000) explanation of the underlying principles of the laws is brief, but it goes a step beyond the prevalent tendency to conceptualize the laws as fundamental truths uncovered through Ranganathan's genius and observational powers. While acknowledging their

empirical grounding, Gorman contends that the laws “imply a context of values” (19). The first of the values that he identifies is rationalism, which he finds evidence for in the laws’ deep-seated pragmatism and user-centered orientation. Gorman further claims that the laws are based in the values of democracy and service. The former value is embodied in the second and third laws’ stipulations that a library’s collection should meet the needs of the full range of its user community; the latter value, service, is most fully embodied in the fourth law’s stipulation to save the user’s time. Finally, Gorman thinks that the laws are grounded in the value of stewardship. His sole justification for this claim is to make reference to the fifth law (A library is a growing organism) and to assert that “libraries must allow for growth in their collections and services if there are to be good stewards for the indefinite future” (19). As I will later argue, such claims are more telling as an indication of Gorman’s own values than of the values expressed in Ranganathan’s laws.

The Social Construction of Technology Framework

As the preceding section has suggested, Ranganathan’s five laws are, in the field of library science, an expression of first principles; that is, they are a paradigmatic declaration of librarianship’s fundamental tenets. However, the five laws lose their fundamental position if they are instead situated within another domain of knowledge with its own principles and paradigms. In this article, the domain that I will situate the five laws in is technology studies. Technology studies, which is a branch of the broader field of science, technology, and society (STS), considers how and why technology emerges and evolves in a given social context. Further, it considers the broader impacts that technology has within that context. Examples of the types of questions posed in technology studies include: What social forces generate the emergence and diffusion of a new technology? How does a technology get its meaning? And, how does a technology change the society in which it operates?

The five laws lend themselves to a technology studies–based analysis owing above all to Ranganathan’s tendency to situate libraries as a kind of technology. This tendency is demonstrated in the overall orientation of the laws toward the application of the library as a tool. This is a notion explicitly expressed in the first law—that books are for use—and in Ranganathan’s (1963, 81) description of libraries as “collections of books built for a special purpose.”³ Further, in a concluding passage in *The Five Laws of Library Science*, Ranganathan writes that the “vital principle of the library—which has struggled through all the stages of its evolution, is common to all its different forms and will persist to be its distinguishing feature for all time to come—is that it is an instrument of universal education, and assembles together and freely distributes all the tools of education and disseminates knowledge with their aid” (1963, 354).

3. It should be noted that when he refers to “books,” Ranganathan generally means to refer to all information resources, not just the monographic variety.

Such declarations suggest that, in essence, Ranganathan writes of the library as a tool for use, that is to say, as a technology.

As situated within technology studies, I believe that Ranganathan's notion of the library as a technology reflects the principles of one of the field's leading frameworks: the social construction of technology (SCOT). To understand the basic principles of the SCOT framework, it is useful to first consider the framework of technology that SCOT reacts against, and, to understand that other framework, it is useful to very briefly consider the views of technology advanced by the media theorist Marshall McLuhan. In books such as *Understanding Media* (1964), McLuhan postulates that transformations in communication technologies (e.g., speech, writing, moved type on paper, and electronic media) have transformative impacts on the behaviors and thought patterns of the communities that use those technologies. This is a view reflected in McLuhan's famous dictum that "the medium is the message." Explained briefly, what McLuhan means here is that a person's perception of reality is determined more by how a medium structures the person's experiences than by the content of the information being conveyed through the medium. He writes that the "'message' of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs. The railway, for example, did not introduce movement or transportation or wheel or road into human society, but it accelerated and enlarged the scale of previous human functions, creating totally new kinds of cities and new kinds of work and leisure" (1964, 8). Although it would be an oversimplification of McLuhan's ideas about technology to claim that they are wholly deterministic, they do generally embrace such a framework: these ideas claim that the nature of a technology determines the nature of use and changes in use follow from changes in the technology itself.

The technological determinism espoused by theorists such as McLuhan was the dominant framework in technology studies through much of the 1960s and 1970s. However, as Paul M. Leonardi and Stephen R. Barley (2010) recount, this framework's hold began to dissipate in the late 1970s. During this period, theorists such as Trevor J. Pinch and Wiebe E. Bijker developed a radically different framework of technology. This framework, presented in Pinch and Bijker's (1987) influential conference paper "The Social Construction of Facts and Artifacts," attributes agency not to a technology itself but to the communities that make use of the technology. In other words, they theorize that a technology's meaning is socially constructed. As Bijker (1995) explains in a subsequent publication, the SCOT framework operates on the premise that, to assess if and how a technology works, one should look beyond the technology's internal functionalities to consider the extent and manners in which the technology is being used by communities. During this process of uptake, different communities of users may construct the technology's meaning in quite different ways, resulting in a process of contention and negotiation among the communities. Ultimately, this process results in the closure of the technology's meaning. In this final stage, Bijker writes, "interpretative flexibil-

ity decreases, leaving the meanings attributed to the artifact less and less ambiguous" (270–71).

According to Leonardi and Barley (2010), the SCOT framework has today unseated technological determinism as the dominant theory in STS. This dominance has in turn given rise to critiques that attempt to identify and address gaps and problems in the framework. One major criticism of the SCOT framework is that it operates according to an overly simplistic model of the dynamics through which communities interact to negotiate and construct a technology's shared meaning. As Hans K. Klein and Daniel Lee Kleinman (2002, 31) write, the framework's "presuppositions are far too agency centric. They overlook systemic asymmetries of power and of how these power differences are rooted in structural features of social life." The framework seems to assume, for example, that all relevant communities are permitted an equal—and, indeed, any—voice in the process of negotiating a technology's meaning and that each community is a cohesive whole free from internal strife. Further, Klein and Kleinman charge that the framework overlooks the limitations that institutionalized social values may place on the ways in which communities can imagine a technology's meaning.

Klein and Kleinman's critique of the SCOT framework has bearings on a related issue, one that is not so much a weakness in the framework as it is an open question about how the framework functions. The question concerns what avenues there are for a change in a technology's meaning once negotiations among communities have concluded and closure has been reached. According to Bijker (1995, 271), "the process of closure is generally, but not absolutely, irreversible." In other words, Bijker believes that, once a meaning for a technology gets constructed, changing that meaning is difficult. Although they see their views as being "generally complementary" with the SCOT framework, Philip Faulkner and Jochen Runde (2009, 459) present a different picture of the potential for a technology's meaning to evolve in time. Referring to user innovations in the changing meanings of phonographic turntables as their primary example, Faulkner and Runde argue that a community does not consciously base its use of a technology on one particular socially constructed meaning. Rather it bases its use on routines and on a tacit knowledge. Just as routines and tacit knowledge can change, so too, Faulkner and Runde claim, can a technology's meaning. Thus Faulkner and Runde present a model of socially constructed meaning that allows for a technology's meaning to change more readily than does Bijker's model.

The Five Laws within the SCOT Framework

On initial consideration, Ranganathan's five laws may seem as though they reflect a technological determinist framework rather than a SCOT framework. Indeed, as laws, it is in their nature to prescribe, dictate, and determine behavior. Claims of the affinities between the technological determinist framework and the laws would be further substantiated by certain passages in *The Five Laws of Library Science* in which Ranganathan (1963) prescribes prede-

terminated roles for libraries. For example, in a passage cited earlier in this article, Ranganathan points to “universal education” (354) as the library’s ultimate role.

Despite Ranganathan’s occasional tendency to issue determinist utterances about the meaning of the library as a technology, I believe that the true orientation of the laws is within the SCOT framework. This orientation is evident above all in the object of the laws’ prescriptions: rather than directing the laws toward the behaviors of library users, Ranganathan directs the laws toward library functions and services. Moreover, the laws’ prescriptions are, in an important sense, antiprescriptive and antideterminist. That is, the laws define broad parameters within which libraries can evolve and thrive according to their socially constructed role(s) while concurrently blocking the impulses of librarians to preempt or limit those constructions.

To understand how the five laws align with the SCOT framework, it is useful to first consider the final law: the library is a growing organism. According to Ranganathan (1963, 326), this law is unique from the four that precede it because of its description of the “vital and lasting characteristics of the library” rather than its functionalities. This law emphasizes that libraries must adapt in time. Indeed, Ranganathan writes that the law “enjoins the need for a constant adjustment of our outlook” and enables libraries to “take new shapes and forms” (326). The parameters that the law establishes for evolution and change suggest that, for Ranganathan, a library’s meaning is dynamic. Further, the law suggests that the primary driver of changes in meaning should be the library’s external environment, not the views and inclinations of librarians.

The first law, in turn, establishes the basic nature of what kind of evolving entity a library is. By declaring that books are for use, Ranganathan is, in effect, declaring that a library is a kind of technology. While the first law establishes the library as a technology and while the fifth law establishes that the meanings of this technology are dynamic, the second law draws a connection between the meanings constructed for the library and the communities that carry out this construction. This law’s stipulation, every reader his or her book, indicates that a library should be a technology with a user-centered design. In other words, the library’s functionality should be reflective of the expectations of its user community.

Ranganathan’s third law, every book its reader, at once inverts and builds on his second law. It states that, in addition to developing a collection reflective of the expectations of its community, a library must implement tools and services that effectively match these needs with collection contents. In other words, the third law aims to ensure that, within its socially constructed meaning, the library reaches its fullest potential for embodying this meaning. Finally, Ranganathan’s fourth law, save the time of the reader, is also concerned with enabling the library to reach its fullest potential in embodying its socially constructed meaning. This law, however, shifts attention from the specific needs of the user community to the effectiveness of the library at meeting those needs. It presupposes that users value their time and

asserts that the library should be designed in such a way that its use demands as little time as necessary.

The five laws' affinities with the SCOT framework can be placed in further relief by contrasting them with Gorman's (1995) "new laws of librarianship," which were identified in an earlier section of this article. On the one hand, certain of Gorman's laws seem to reflect the same user-centered orientation as do Ranganathan's laws. For example, Gorman's first law, libraries serve humanity, and third law, use technology intelligently to enhance service, both explicitly identify user services as their aims. In doing so, Gorman's laws, like Ranganathan's laws, conceptualizes the library as a technology.

But Gorman's remaining three laws contain stipulations that are guided by different concerns. These three laws are all predicated on conservative actions implying that libraries should strive to endure rather than evolve; these actions are to "respect," to "protect," and to "honor." In mandating endurance over evolution, Gorman's laws advance a deterministic stance on the library as a technology. This stance implies that the library has a prescribed functionality rooted in timeless ideals and that this functionality is closed off from fundamental change. Indeed, Gorman (1995, 785) writes that libraries must retain "the best of the past" and must acknowledge their "enduring values" and the continuity of their mission. It is not, however, until the second half of his last law that Gorman's technological determinism is explicitly expressed. Here he asserts that libraries must "create the future." With this stipulation, Gorman expresses the view that the library itself can and should have the capacity to drive use according to a prescribed meaning.

The Five Laws' Ongoing Exigency

The SCOT-based principles of Ranganathan's laws and the technological determinism of Gorman's laws can be regarded as counterbalances that together help enable a more dialectical understanding of how and why particular technologies emerge and evolve in particular contexts. In the case of libraries, an acknowledgement of the significances of the two frameworks contributes to an appreciation of the ongoing interplay of influences emanating both from within user communities and from the design and operational decisions of librarians; together these influences have shaped libraries' meanings as a technology throughout history. And yet, having acknowledged the value of technological determinism, I believe that in librarianship's current historical moment it is particularly prescient that librarians embrace the SCOT-based principles of Ranganathan's laws.

To understand the prescience of these laws, it is useful to briefly consider contemporary libraries in their broad historical context. Throughout almost the entirety of their roughly four thousand year history, libraries have existed in environments of information scarcity. In such environments, barriers to information distribution and reproduction were high, and, libraries, due to their position as loci for the aggregation and access of information, have held

a prominent—if not dominant—position in the information marketplace. Indeed, people often had few if any alternatives for gaining access to information in library collections. As long as they served the needs of their user communities in a manner that was at least somewhat competent, librarians had considerable latitude in determining the specifics of how libraries operated as a technology. For example, a user who found her library's card catalog to be a confusing and cumbersome searching tool faced the choice of either making do with the catalog or being deprived of the ability to search for the information that she sought.

Today users face alternatives that are far less stark. With the emergence and broad uptake over the past two decades of the World Wide Web and of vast integrated digital networks, libraries currently exist in a complex, dynamic, and competitive marketplace of information access. In this marketplace of what Peter Morville (2005, 6) has termed "ambient findability," a person "can find anyone or anything from anywhere at any time." What makes this "ambient findability" particularly astonishing is that it has developed concurrently with a profound increase in the generation of information. According to researchers at IBM (2012), 2.5 quintillion bytes of data are being generated every day. This rate of information generation constitutes such a precipitous increase over past rates that IBM estimates that about 90 percent of the information in the world today (i.e., the totality of information accumulated and retained over the course of human history) was generated in the past two years.

Realizing the implications of this vastly altered marketplace of information access, a growing number of commentators are advocating that libraries must be willing to pursue and embrace transformative changes if they are to retain their relevance. This imperative for transformation is expressed, for example, in Brian Mathews's (2012) white paper "Think Like a Start-Up." Here Mathews advocates that libraries embrace an entrepreneurial spirit of experimentation, risk, and dynamism. He comments: "Not only are we trying to survive, but we're also trying to transform our organizations into a viable service for 21st-century scholars and learners" (4). As framed within Ranganathan's laws, what Mathews advocates here is compliance with the fifth law, the library is a growing organism. Indeed, in describing this law's meaning, Ranganathan (1963, 326) writes: "A growing organism takes in new matter, casts off old matter, changes in size, and takes new shapes and forms. . . . So it is with the library."

But no less important than the pursuit of transformative change is the need to ensure that this change is in congruence with the ways in which user communities are making use of the library as a technology. Indeed, the transformations that libraries undergo should resist impulses to "create the future" (Gorman 1995, 785) and should instead be informed by the SCOT framework of Ranganathan's laws. In other words, libraries should transform in ways that are shaped first and foremost by the awareness that library collections are for use and that the nature of these collections should align with the nature of user needs and preferences.

One example of how libraries can successfully embrace SCOT-based changes is the implementation of demand-driven acquisition (DDA) models. As their name suggests, these models entail the acquisition of new materials based on the actual current information needs of users, not the ideals and inclinations of librarians regarding what materials the collection ought to contain. In one of the most commonly implemented DDA models, a library loads records into its online catalog for e-books that it has not yet acquired and that fit a specific profile (based on such criteria as publisher, subject, price, and copyright date). As users discover these records through their searches of the online catalog, they can use links contained within the records to access the full text of the e-books. By doing so, users trigger e-book purchases. Once an e-book is purchased, the library is invoiced by the vendor and subsequent access of the e-book is free of charge just as would be the case for any other item in the library's collection.

The increasingly widespread adoption of DDA models (particularly in academic libraries) is significant because it represents an instance in which libraries have turned over a degree of control to users by equipping them with the agency to help shape the nature of the library's collection. Indeed, the adoption of DDA models reflects an awareness that in the current information marketplace users have numerous choices regarding information access. To remain competitive in this environment, librarians must subdue urges to dictate the limitations of the library's meaning and must instead help empower users to play a key role in defining the meaning of the library as a technology.

Conclusion

One of this article's theses has been that Ranganathan's five laws constitute a set of first principles around which librarians have established values and developed library collections and services. It is to librarians' great fortune that this fundamental text of modern librarianship is not also a dead text—in other words, a text whose utility has dulled in time. The laws have not only endured, but, as I have argued in the previous section, they hold a particularly prescient message as libraries navigate through a period of transformative change. This prescience is largely rooted in the laws' SCOT-based principles—that is, their capacity to limit impulses toward technological determinist and to compel librarians to equip user communities with the agency to help construct the library's meaning. Because of this capacity, the laws stand as a genuine provocation. Far from being a buttress for conservative arguments opposing change in libraries, the laws can be understood as an imperative for librarians to summon the boldness and courage to evolve their libraries in accordance with user needs, to embrace new roles, and to abandon roles that are becoming obviated.

But, in an important sense, embracing the message of the five laws is only half of the challenge. Additionally, librarians must develop strategies to compel user communities to actually apply their agency as constructors of meaning. The history of libraries spans millennia,

and one consequence of this long history is that libraries are a technology with a deeply ingrained set of meanings, which evoke in users' minds accompanying iconographies, practices, and spaces. One of the great challenges that librarians today face is determining how to enable user communities to see beyond traditional notions that library functionalities are bounded, for example, by the storage and circulation of print collections. As was indicated in this article's overview of the SCOT framework, there are differing opinions on the extent to which a technology's meaning can evolve once one particular meaning has taken hold. Whereas Bijker (1995) argues that it is very difficult for a technology's meaning to change once this meaning has been settled upon, others, such as Faulkner and Runde (2009), argue that there is much more potential for a technology's meaning to evolve in time.

Assuming that the library's meaning as a technology is in fact open to user-initiated change, the challenge of facilitating this change is complex and formidable. Addressing it requires librarians to at once harness the power of the library's long-established identity as a technology but also to attempt to subdue this power. On the one hand, the library's strong identity is a key advantage that librarians can and should exploit to remain relevant and to successfully compete in the current economy of information access. But, on the other hand, this identity is a shackle that can inhibit users from investing in libraries those meanings that are reflective of their actual needs. A proper understanding of how to successfully navigate through these challenges would require a separate and more extensive investigation addressing the dynamic interplay of the library's functionality, identity, and legitimacy as a technology and as an institution.

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