
THEORIZING THE IMPACT OF IT ON LIBRARY-STATE RELATIONS

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Pragmatically, libraries and the library community must solve the myriad legal problems generated by the use of digital technologies at the operational level. These can seem so overwhelming that, as the old saw warns, we can miss the forest for the trees. Viewed together at a more abstract level, these issues are manifestations of changing relations between libraries and national governments. The responsibilities and effects of library-state relations, of course, run in both directions: the legal environment created by states creates the context within which libraries must operate, while the informational and communicative functions of libraries in turn shape, contribute to the sustenance of, and in some cases enable the state and political practices. Details vary from country to country, but there are overarching similarities across nations in twenty-first century library-state relations that betray the shared experience of the transition from the bureaucratic welfare state to the informational state. Because informational power now dominates and has changed the nature of power in its instrumental, structural, and symbolic forms (Braman, 2006a), the information policy issues that so confound libraries today simultaneously offer tools that governments and other entities can also use in the exercise of power.

To fully understand and cope with daily legal struggles, therefore, libraries must go beyond addressing single issues reactively and in isolation. Development of a more proactive stance and coherent overall information policies in an environment permeated with information technologies (IT) requires going further. Given the centrality of libraries to the information society, it is time for those in information science to develop a theory of library-state relations. Doing so would provide a conceptual ground from which to approach

specific policy issues as well as support for arguments in the face of what may be political or legal opposition. Libraries would not be the first information sector to undertake this task; scholars have been examining media-state relations since the close of World War II¹ because of keen appreciation for the political ramifications of mass communication.

This is not the only intellectual challenge facing the library sector. Some argue that new theories may be needed to understand how to respond to interactions between socioeconomic class and informational class in the digital environment (Hendrix, 2005). Existing theoretical perspectives from others of the social sciences are being used in the study of interactions between libraries and politics, as in the Gramscian analysis of Raber (2003) and the Rawlsian work of Hendrix (2005). Political theory is being brought to bear on subjects such as archives (Manoff, 2004). There are studies of the specific responsibilities of libraries vis-à-vis digital divide policies (e.g., Aabo, 2005), research on cross-national differences in conceptualizing the societal role of libraries (Shachaf, 2005), and calls for a critical information studies to examine the political economy and cultural effects of libraries (Vaidhyathan, 2006). This conversation has become more intense since heightened concern about national security issues has changed the roles of information in many contexts (Jaeger & Burnett, 2005). Indeed, Hartman (2007) claims there has been a dramatic shift in how libraries are perceived by both members of the public and by policy makers because of the war on terrorism. However, explicit debate over library-state relations began during the Vietnam War era (Raber, 2007). Libraries all over the world face the same questions, though in ways that may differ in response to the specifics of local ideological contexts (Andersson, 2006).

In this chapter's discussion of libraries, the law, and IT, the state is understood as an organizational and cultural form that is a complex adaptive system (Braman, 1994, 2004). *Information policy* serves as an umbrella term to refer to all laws and regulations that apply to information creation, processing, flows, and use. Using this definition, fundamental information policy principles include far more than free speech and access to information. Twenty information policy principles can be found, for example, in the U.S. Constitution (see the Appendix for a listing). Because policy analysis, at root, is an effort to answer the question "What are we doing to ourselves?," the chapter takes an interdisciplinary approach that combines the use of contemporary social theory, what we have learned from empirical social science research, and legal analysis. In addition to analysis of specific issues, there is attention to policy precession, a policy analysis concept that refers to the interaction of multiple policies with each other in ways that affect the impact of each.

A theory of library-state relations—and of the impact of IT on those relations—must incorporate attention to the legal issues through which libraries and national governments become involved, identification of the various dimensions of library-state relations, articulation of a theory of the state, and analysis of current trends. A first pass at each of these is offered here, in

hopes of triggering communal discussion about and theorization of library-state relations.

IT POLICY AND LIBRARIES

Libraries and librarians engage in library-state relations affected by IT when they confront the legal and regulatory problems experienced in an IT-imbued library environment. In the midst of negotiations over who will have access to what under which conditions, however, it is often forgotten that these problems have long histories. Within a decade of the Federal Communications Commission (FCC) confrontation with issues raised by the convergence of computing and communication technologies in the 1950s (Pool, 1983), libraries began to experience legal challenges to their practices and commitments. The first tranche included debates over the use of photocopy machines under copyright law (Lazowska, 1968), concerns that new means of storing scientific information would make it more difficult to fulfill the library mandate (Sopnar, 1968), and recognition that networking made it possible to reconsider the local and autonomous nature of libraries (Kochen & Deutsch, 1973). The transformation of seemingly every information exchange into an opportunity for an economic transaction forced reconsideration of the library business model, whether public or private (Mosco, 1988), leading to ongoing training issues (Flatten, 1997). As in other areas of social activity, IT has even brought about changes in the structure of the production of scholarship; the fact that scholarly journals now themselves exhibit firmlike behavior (Havemann, Heinz, & Wagner-Döbler, 2005) has generated its own set of legal problems. Each innovation stimulates experiments that can affect the legal context for libraries in critical ways.

Today the menu of policy problems involving IT is vast (Braman, 2004). Digital technologies—informational metatechnologies—are so problematic from a legal perspective because they are qualitatively different from industrial technologies and preindustrial tools in the degrees of freedom enabled with which information can be created, processed, distributed, stored, and used (Braman, 2006a). Additional factors include jurisdictional issues raised by globalized networks when most law continues to reside at the national or regional levels, growing numbers of rules and regulations from international organizations that apply to libraries (Rikowski, 2005), and the likelihood that any single policy issue in this domain may be claimed within the portfolio of multiple regulators (Braman, 2006a). As is always the case, conflicts among policy principles must also be resolved. IT-related policy issues libraries face can be categorized according to the following typology.²

- *Traditional issues in traditional forms*: Not everything happens in the digital environment, and even when it does there may be no significant change in how policy

principles are operationalized, interpreted, and applied. An example of an issue in this category would be the need for libraries to protect the privacy of user data irrespective of the medium in which it is stored or the medium through which usage has taken place (Sturges et al., 2003; Swartz, 2005).

- *Traditional issues in new forms:* Often traditional policy problems take on new dimensions, require reinterpretation of the law, or trigger adaptation or replacement of the law when they appear in the digital context because shifts in scale, the relative ease of certain activities, speed, and/or the capacity to engage in new types of activities so change the social processes involved that they are perceived and experienced as qualitatively new. Some privacy issues fall into this category (Regan, 2004). Many copying and first sale issues do as well, since digitization changes the scale, ease, and distributional reach of both. The longstanding library practice of sharing a list of references generated in response to a user query with that user has had to be reconsidered in light of contemporary copyright law (Seadle, 1999). Disagreements over acquisitions profiles, for example, have long been rife but become yet more difficult when access to materials takes place via the Internet and software filters are among the tools being considered as a positive means of exclusion.³ Even the basic concept of lending has been challenged conceptually, operationally, and legally by the introduction of e-books (Craig, 2003).
- *New types of policy issues:* The distinct characteristics of informational metatechnologies are also generating quite new types of policy issues for libraries. Developing information architectures has long been a specialist responsibility of librarians, but today metadata systems serving users with changing needs from across multiple disciplines depend on input from knowledge producers as well for their development (Elings & Waibel, 2007). The shift away from purchase and towards licensing has involved librarians in struggles over contract law to protect fair use (Johnson, 2007). Issue-specific legal analyses are rife, but scholarly attention to these overarching trends has been sparse.

LIBRARIES AND THE STATE

Irrespective of what type of IT-related policy problem libraries are facing in a specific decision-making context, resolution of the issue will either contribute to reification of some dimension of library-state relations or reconfigure an aspect of the relationship. Though to my knowledge there are no extant explicit theories of library-state relations, there are references to political sources, uses, and effects of libraries and archives by national governments in the literature on the histories of the state and of democracy.

Novelist and cultural critic Umberto Eco describes the library as the central institution of Western culture (Pieterse, 1997), and Richards (1993) identifies the library impulse as perhaps the most successful element of the imperial drive. Library-state relations have been viewed as crucial since the origins of democratic culture (Zaret, 1999). The contemporary concept of libraries as a medium between local communities and the state, however, is a product of the bureaucratic welfare state. This particular type of state took

shape and diffused over the course of the nineteenth century, dominating the developed world from about 1870 until observers began to note its decline in the 1970s. Indeed, as Murdock and Golding (1990) note, the concept of social rights as part of the bundle of citizenship rights—including the idea that there should be universal access to information and communication facilities that include public libraries—was largely a twentieth-century phenomenon. As welfare state functions began to decline in the 1970s, however, the burden on libraries to increase their contribution to the delivery of social services went up (Golding & Murdock, 1986).

There may be no more vivid evidence of the importance of libraries to politics and governance than their use as a site for ideological battles. Forgas (1990) provides a particularly rich case study of this in his history of the political use of libraries during the first half of the twentieth century by both Italian Fascists and by those who opposed them. In a contemporary example, aggressive French right-wing political groups target libraries as a venue through which to promote their views (Kibbee, 2003). Portrayals of libraries in the case law of three U.S. states picture them not only as social and physical places with community as well as informational functions, but also as elements of political and economic structures in ways not predicted by the library literature (Burke & Martin, 2004).

Here, we look at the role of libraries in sustenance of the law, the production and reproduction of political culture, library functions vis-à-vis the public sphere, and new roles for libraries that are appearing as a result of changing library-state relations.

Sustenance of the Law

Libraries fill a number of functions that support the law and contribute to its implementation that are reflected in the curricula of professional schools in both areas: law schools are required to have libraries (Bearden & Esworthy, 2007), and librarians and information scientists take courses in the law (Arundale, 2002; Ellis & Oppenheim, 1993). Libraries are believed to be necessary to the implementation of a variety of types of laws and regulations, including those directed at economic development (Black, 2007), social policy (Black, 2005), and achievement of the goals of foreign relations (Maymi-Sugranes, 2002). While many of the legal functions of libraries are general, such as facilitating literacy, in some cases library programs are designed to serve very specific policy objectives. Examples of the latter include incorporating libraries into a Utah campaign to get rid of Mormon polygamy (Stauffer, 2005) and the United Kingdom's use of libraries to promote that country's agenda of regionalization (Hobbs, 2003).

Another way in which libraries help to uphold the law is by contributing to governmental transparency (Ranson, 2003), though the political and economic future of depository libraries is currently threatened (Shuler, 2005).

At least in the United States, however, this particular function has been seriously damaged by twenty-first-century demands from the White House that materials held by such libraries deemed to threaten homeland security be destroyed. Technical issues also undercut the ability of libraries to fulfill this role fully, for there is still uncertainty about both how to preserve critical digital information and what to preserve (Martin, 2004).

There are times when explicit library support for the law serves library, rather than governmental, objectives. In an influential Santa Monica, California, experiment of the early 1990s, librarians believed that offering those who were homeless access to the Internet would provide resources that would help them get off of the streets. Software supplied to libraries by the county government was intended to facilitate access to government services—but the librarians found that the same software could be used to support e-mail for the homeless. When the government objected to this application, the library response was that there was nothing they could do to prevent this use because they had no way of altering the software to bar such activity (Dutton & Guthrie, 1991).

The law is of course neither perceived nor implemented uniformly. In some political contexts, librarians may believe they are upholding basic legal principles even if they do so in abeyance of contemporary laws or regulations. A historical example: Southern libraries in the United States after the Civil War provided support for those who disliked federal government intrusion into regional affairs (Carmichael, 2005). And a contemporary example: For many years librarian refusal to release book withdrawal records in order to protect patron privacy stood on solid legal ground. Changes in the law in the twenty-first century, however, require librarians to take the additional step of insisting on constitutional (or constitution-like) principles as a justification for resistance even though statutory or regulatory law may provide law enforcement officials with grounds for requesting the information. Though library responses to the war on terrorism have not been uniform (Ross & Caidi, 2005), many individuals and institutions have been leaders in the battle for protection of civil liberties in the post-9/11 environment (Wheeler, 2005).

Political Culture

Library-state relations contribute to political culture via their role in the formation and sustenance of national identity (von Merveldt, 2007). Conflicts over the treatment of rare books during war (Genieva, 2003) and over access to research collections (Niessen, 2006) highlight the cultural centrality of libraries from the perspective of nationhood. During times of radical political change or trauma, libraries critically can provide the cultural memory with which national identity is associated and on which it rests (Chodorow, 2006; von Merveldt, 2007).

Libraries also play a role in the production and reproduction of attitudes towards and expectations of political processes. Caidi (2006) uses the phrase "civilization competence" to describe the contributions of libraries to the building of civic culture in transitional societies such as those of Eastern and Central Europe, and the same interactions are at play for societies such as Scotland in which the political changes are less radical (Guy, 2003). Analysis of national union catalog development in seven countries provides additional detail on ways in which political factors interact with social and technical forces during the building of the catalogs (Caidi, 2004). Even standard selection guides can reveal and reproduce ideological biases (Dilevko & Gottlieb, 2003).

As South African history has shown, however, there is no guarantee that movements towards democratic culture will inevitably be exhibited by libraries; such contributions can be stymied by politics or a lack of resources (Brown, 2004). Today, collection development has again emerged as an explicit site of political conflict. Legislation is now regularly proposed in the United States that would require those building research collections for academic libraries to ensure that they are doing so in a politically neutral manner that involves no advocacy (Highby, 2004).

Finally, libraries are important as sources of information about the shared matters of public concern addressed by policy makers. Content of political importance includes not just newspapers, histories, and statistical works; poetry and novels, too, are important to the development of the intellectual skills necessary for decision making about public affairs (Nussbaum, 1995), and even mundane aspects of daily activities and popular culture play important roles in political socialization (Merelman, 1998).

Libraries as a Public Sphere

Like institutions of higher education (Braman, 2000), libraries are venues within which the public sphere operates, offering opportunities for community discussion of political developments. This aspect of library-state relations is currently receiving scrutiny because of the perceived need to reconsider library design and practices for this purpose (Buschman, 2003; Dean, 2001). A recent study comparing libraries with library-like bookstores that invite prolonged visits with sitting areas and coffee shops found that libraries continue to serve many public sphere functions not found in purely commercial outlets (McKechnie et al., 2004).

Some believe that innovations in practice, materials, and organizational form are the best way to protect the public sphere and other politically important functions of the library in a national security-oriented environment, while others argue that continuing to protect the library as a place to read and find books is more likely to serve the same goal in the long run (Hartman, 2007). In an interesting example of the importance of policy precession, continuing to protect patron privacy is critical to the library's public sphere function.

Changes to the Legal System

There is a long history of changes in the ways in which legal information is created, used, distributed, stored, and made accessible to others as a result of technological innovation (Grossman, 1994). Katsh (1989) cataloged the first wave of effects of computerization on the law. These include the ability to store vast amounts of information, which was particularly important because the multiplication of documentation that was a part of the bureaucratic welfare state was becoming unsustainable in terms of storage of print records. The nature of precedent, so critical to legal thought, has changed significantly because digital search capacities greatly expand the flexibility with which innovative legal arguments can be developed. Digitization has also sped up the processes by which court opinions are distributed, and—of particular interest to librarians—eroded the historical separation of law libraries from other libraries. This shift greatly expands the amount of nonlegal material readily available to lawyers and should encourage those engaged in legal analysis to draw on all of the social science and other pertinent disciplines.

There are at least five ways in which digitization has affected the nature of the law and legal processes in ways that implicate libraries. The area of copyright is the best known but far from the only arena in which technologies themselves (e.g., digital rights management [DRM] systems) are being used to control behavior, complementing or superseding legal and regulatory approaches (Fernandez-Molina, 2004a, 2004b). Now that it is less time-consuming and easier to access library materials at any time and from anywhere, judges are increasingly turning to libraries for scientific information they feel will help them understand cases being litigated, though some question the constitutionality of such activities because of their impact on due process (Marlow, 1998). Internet filtering and related requirements can be viewed as, among other things, efforts by governments to deputize institutions; that is, organizations such as libraries that are not a part of the law enforcement establishment are being asked to serve law enforcement functions (Zittrain, 2004). Requirements that libraries filter Internet access by children can also be understood as an effort to use libraries as the “camel’s nose” for an effort to develop wide-reaching controls on Internet content (Miltner, 2005).⁴ And in some countries, libraries are also being used as test beds for a variety of e-government efforts, as when the United Kingdom experimented with the use of libraries as venues within which to promote interactive engagement with the government’s Web sites (Marcella, Baxter, & Moore, 2002).

THE INFORMATIONAL STATE

Any theory of library-state relations must rest on a theory of the state itself. While it is tempting to think about the nature of the state itself as stable and unproblematic, there have been numerous transformations of political and legal forms since the appearance of the modern state over 500 years ago.

Since the 1970s, the bureaucratic welfare state form that had dominated for a century has been giving way to a new form, the informational state, which has come to dominate in the early twenty-first century.

Transformations of the State

Any given political form, with its institutions, policies, and practices, represents but a moment of stability within a much wider, more diffuse, and constantly shifting policy field. This broad field from which particular legal systems derive and into which they disappear includes ethical and behavioral norms, discourse habits, cultural practices, knowledge structures, organizational forms, private sector and individual decision making, and technologies themselves as well as the formal laws and regulations of officially recognized governments. The information policy field therefore includes *government* (formal institutions of the law); *governance* (decision making with constitutive [structural] effect whether it takes place within the public or private sectors, and formally or informally); and *governmentality* (cultural predispositions and practices that produce and reproduce the conditions that make particular forms of governance and government possible).

Beginning in the 1970s, political scientists and commentators began to suggest that the power of the state relative to that of multinational and transnational corporations was on the wane, perhaps to become relatively insignificant or wither away altogether (e.g., Wallerstein, 1980). Though Marxists had long expected the state to go into decline, appreciation of the changes taking place in the nature of the state throughout most of the developed world appeared across ideological and theoretical spectra. Rather than disappearing, however, the state instead changed its form. With the transition from the bureaucratic welfare state to the informational state we have seen three trends of importance to libraries and library-state relations. First, national governments are learning to master the same types of informational power that corporations and other non-state actors have been successfully using in their challenges to the strength of geopolitical entities. Second, states are developing techniques for extending the use of private sector entities as regulatory agents, turning private centers of power to state purposes; public sector entities (including libraries) are being asked to take on functions never originally intended. Third, the state—like the firm—is increasingly characterized as networked because of the multiplicity of fundamental ways in which governments are intertwined with each other and with non-state actors. (Other theories of the state appearing in response to the decline of the bureaucratic welfare state, such as the notion of a social investment state, also demand reconceptualizations of the roles of libraries [Newman & McKee, 2005].)

Among the ways in which diverse types of states differ from each other is in the form of power that dominates. Heavy use of informational power is a defining characteristic of the informational state.

Forms and Phases of Power

In the digital environment, the ability to use informational power has dramatically increased, and power in its virtual phase has become a site of conflict in its own right.

Informational Power

Analyses of power have typically distinguished among three forms (e.g., Lukes, 2005). *Instrumental power* shapes human behaviors by manipulating the material world via physical force. This type of power has been so important that political theory classically defines a state as the political entity that exercises physical control over a specified geographic space. Library collections are affected by the exercise of instrumental power during times of war. *Structural power* shapes human behaviors by manipulating the social world via rules and institutions that limit degrees of freedom, determine how specific activities will be undertaken, and reduce uncertainty. Laws, treaties, and political processes themselves are all ways in which states exercise structural power. Several of the functions libraries fill for the state support the exercise of structural power. *Symbolic power* shapes human behaviors by manipulating the material, social, and symbolic worlds via ideas, words, and images.⁵ Symbolic power also has ancient roots; in modern forms, the exercise of symbolic power has included propaganda, public diplomacy, campaigns, efforts to influence public opinion, and the education system. As discussed previously, libraries are also involved in the exercise of symbolic power.

The informatization of society has made a fourth form of power evident. *Informational power* shapes human behaviors through the many uses of information beyond the message content that is the stuff of symbolic power. This form of power is exercised through manipulation of the informational bases of instrumental, structural, and symbolic power. Today's smart weapons, which can identify a target and direct themselves to it without human intervention, are examples of the effect of informational power on the exercise of instrumental power. The ability to monitor compliance with intellectual property rights law through surveillance of Internet use is an example of the influence of informational power on the exercise of structural power. The ability to tailor Web-based messages to the individual who is surfing is an example of the impact of informational power on the exercise of symbolic power.

Informational power can also be exercised through entirely new techniques; data mining vast quantities of information in diverse forms using pattern recognition is an example of a qualitatively new technique for exercising power. Just as it is possible to qualitatively distinguish the information society as an era despite the ancient importance of information to society on the basis of Engels' law (quantitative change can yield qualitative change), so informational power has existed for a very long time but today it is more evident because it dominates over other forms of power.

Power in Its Virtual Phase

Political scientists also distinguished between power in its actual phase (as it is being exercised) and in a potential phase (power that is claimed, but not currently being used). *Actual power* is potential power in use, as when guns are firing, laws are being implemented, and persuasive campaigns affect the vote. *Potential power* becomes actual only through specific practices. Information processing, distribution, and use are often necessary for the transformation of power from potential to actual. The number of tanks owned by an army that could be brought into use, laws on the books that aren't currently being acted on, and ideas for communication campaigns are all examples of power in its potential phase.

In today's information-intense environment, it is now also possible to recognize power in a virtual phase. Following economist Roberto Scazzieri's (1993) definition of virtual production processes, *virtual power* involves techniques of power that are not currently extant but that can be brought into existence using available resources and knowledge. It includes power that can be acquired or developed through transfers of power, use of resources, or shifts in internal or external conditions. Knowledge is so central to power in its virtual phase that every expansion of the knowledge base of a nation-state concomitantly causes a growth in the realm of power available. An example of power in its virtual phase is government control over the development of encryption techniques and of scientific research in areas believed to be of value for national security purposes, for in such instances the actual techniques or inventions do not yet exist. Power in its virtual phase is so important to national competitiveness and the ability to protect national security in the twenty-first century that research and development (R&D) are now considered key resources for the informational state.

Evaluations of the validity of claims to power in its potential and virtual phases are difficult, for they involve what political scientists refer to as capacity. Elements of capacity include the financial resources, knowledge of how to use those resources, political will, sovereign integrity, stability of administrative control, loyalty and skill among officials, infrastructure, and industrial base that are required to actually put the resources and techniques of potential and virtual power to use.

Information Policy in the Informational State

In the informational state, information policy has two faces. Each law or regulation does address its purported subject, whether that is privacy or access to information. At the same time, however, such policies are tools of power for the state and other entities. Information policy is thus key both to understanding just how the transformation from a bureaucratic welfare state to an informational state has come about and to understanding how the informational state exercises power. Information policy is the proprioceptive organ of

the state—the means by which it senses itself—and, therefore, the medium through which all other decision making, public or private, takes place. All informational and communicative issues are of constitutional (or constitutional-like) stature because they define social categories and the processes to be permitted within and between them, while other areas of the law deal with existing categories and processes (Tribe, 1985).

LIBRARY-STATE RELATIONS AND THE INFORMATIONAL STATE: KEY TRENDS

The uses of information policy to exercise state power internationally was evident a decade ago (Braman, 1995a).⁶ More recently, a study was undertaken of the domestic uses of information policy as a tool of power using U.S. law as the case. Quite diverse policy issues were examined, ranging from the unavoidably important (intellectual property law and privacy), to very traditional areas of the law in which change has been more radical than might be expected (libel law, and the role of information in maintaining or protecting borders), to those that are new as policy issues in today's technological environment (metadata and global sensing technologies). A synthesis of what is learned by looking at the impact on society of these technology-related information policy developments yields a number of broad trends that are critical to contemporary library-state relations. There is insufficient space to explore all of these here, but a few of particular importance include a decline in the mutual transparency between the state and citizens; impairment of democratic practice; the replacement of narrative memory with memory in visual, sensory, and data forms; and the replacement of state knowledge of its own history (genetic knowledge) with contemporary data about processes unfolding across the globe (epigenetic knowledge). The challenges that each presents to theorization of library-state relations and to library practice are briefly introduced here; for details of the empirical developments and the in-depth analyses that support these generalizations, see Braman (2006a).

Loss of Transparency

The informational state knows more and more about individuals, while individuals know less and less about the state. For most countries, the constitutional or constitutional-like model involves mutual transparency: as has been true since the beginning of the modern state, governments need to know about their citizens at least as much as is needed to provide the services necessary and citizens need to know about government in order to participate in decision making. Today, however, state knowledge of citizens is growing by orders of magnitude while citizen knowledge of state activities is declining. While there is no doubt that, on the surface, the amount of information available from most governments has grown as a result of a

variety of e-government practices, the issue of access involves quality and substance from the perspective of materiality for decision making.

Since libraries have long been a site through which citizens can gain access to government information, this issue presents the institutions with a dilemma. At the level of mission definition, libraries must reconsider the extent to which they can continue to fulfill the role of government information repositories, taking into account that the need for them to do so may now be more pressing than ever before. At the level of operationalization, some innovations may be necessary, perhaps learned from those involved in social movements.⁷

Impairment of Democratic Practice

We are now several decades into debates over whether or not the use of digital technologies will increase the possibilities of meaningful participatory democracy. In addition to the much-discussed question of the extent to which the digital divide undermines the positive contributions to democratic practice offered by the Internet, developments in other areas of information policy point to other dimensions of concern. Historically, for example, print literacy was considered necessary for classical political participation as support for contributions to and evaluations of public discourse as well as inputs into individual decision making on candidates and issues. Today, however, mathematical skills and technical knowledge are also politically necessary. The challenges to election legitimacy by electronic voting machines provide one example. Despite the significant amounts of rigorous empirical research available on ways in which the voting results produced by these machines can be falsified—and the number of elections in which this has demonstrably already happened—it has been very difficult to elicit voter concern and effective responses to this issue because of its technical nature. Election official claims that machines are now safe because they have been wrapped around with a piece of yellow tape, and vendor assertions that there are no alternative ways of producing such machines are accepted without question by those who lack the technical knowledge to understand why statements like this hold no water. The result has been a serious undermining of the electoral process and the possibility that in many locations candidates who did not legitimately win elections are in public office.

Since library-state relations include library responsibility for supporting legal processes and political culture, these types of issues present challenges. Should libraries become places where citizens can acquire technological and informational literacy in addition to exercising and deepening their print literacy? If so, how might this best be accomplished? How would incorporating such goals in the library mission affect responses to other policy issues, such as protecting patron privacy and use of Internet filtering when necessary, at the operational level?

Replacement of Narrative Memory with Data

Activities instigated by a wide variety of laws and regulations come together via policy precession to yield the state's knowledge of itself. Such knowledge is acquired not only through the development of national archives but also through the census, satellite surveillance, real-time data from a variety of types of sensors ubiquitously embedded in the environment, access to government-mandated collections of digital data, and government-funded empirical research on state-related matters from social processes to natural resources to pollution. Among these techniques, national archives are particularly weak; record collection is haphazard, organization and access are inadequate or non-existent, documents are often left in ephemeral conditions, and both collection and preservation are fragile in the face of political will. Archival records, however, are particularly important for the ability to develop narratives that can in turn inform decision making and enable political action—we act when we see ourselves as agents within stories. We can pursue answers to specific questions of data that come in other forms, but data in themselves do not tell stories. Thus while we may have more information than ever before, there is less ability to use that information effectively for political purposes.

In a theory of library-state relations, is there room for libraries as a place where data can be turned into stories for political use by citizens—and by policy makers? If so, what new practices would be needed to accomplish this?

Replacement of History with Epigenetic Knowledge of the State

Complex adaptive systems theory distinguishes between *genetic processes* that unfold across time and *epigenetic processes* that unfold across space; globalization processes are often an example of the latter, while historical causation as studied by the social sciences is a premiere example of the former. A corollary of the predominance of data over narrative in the state's knowledge of itself is that today at least the most developed governments, such as those of North American and European states, have better epigenetic knowledge than they have genetic knowledge. This, too, undermines the quality of decision making, for it impedes the ability to learn from experience.

In addition to being loci of knowledge storage, should libraries be sites of knowledge production to ensure that local histories, at the very least, are captured and made accessible? How would doing so affect a theory of library-state relations? What would it mean for organizational design and practice?

CONCLUSIONS

Theories of media-state relations make clear that there is a wide range of possible ways in which libraries, too, can relate to their national governments. Support for the law need not be unquestioning, information provision can

be proactive as well as reactive, the need for venues for public debate about public issues rises as the diversity of mass media content decreases, and the public's memory may not be the same as the memory of the state. Checking functions, insistence on governmental transparency, and active knowledge production about the affairs of the state may all be elements of a theory of library-state relations.

This is a period during which libraries must necessarily redefine their roles in response to qualitative changes in the ways that the polity seeks, accesses, and uses information because of rapid and continuous innovations in IT. As a theory of library-state relations develops it should focus most importantly on the population whom the government serves. Such a theory must be cast in such a way that it will continue to be useful even as the nature of society continues to change or it will not have utility as a framework for the comprehensive resolution of IT-related policy issues.

A number of elements of library-state relations that currently exist or that have been experimented with in the past are identified here, along with key dimensions of those relationships and current trends. This is just the beginning, however, of the development of a theory of library-state relations for the informational state of the twenty-first century.

NOTES

1. The classic and highly influential work was *Four Theories of the Press* by Siebert, Peterson, and Schramm (1956). A succinct synthesis of critiques of this work that begins but does not end with the expression of Cold War attitudes in *Four Theories of the Press* can be found in the work *Last Rights* by Nerone et al. (1995). Recent work by Hallin and Mancini (2004) provides a more contemporary typology of media-state relations.

2. Libraries are, of course, not only victims of technological change; at times they are also innovators themselves. The popularity of circulating libraries in London during the nineteenth century in turn affected the nature of the book industry as well as notions of ways in which libraries could serve civic culture (Smith, 1973), and a variety of approaches to information storage have long been critical to the development of a shared imagination that is necessary for the identity of a nation (Anderson, 1991). Libraries have been key to the development of digital archives, libraries, and preprints that are all now centrally critical to knowledge production (Bohlin, 2004); these approaches quickly outran the development of project-specific data collections as a means of disseminating information in support of knowledge production (Finholt, 2002), although many of these are still in play for specialized research communities. The U.S. Library of Congress is playing a lead role in the development of techniques for preserving information when the technologies of access themselves keep changing (National Science Board, 2005), and a number of libraries are doing the same for indexing and accessing what is being referred to as the deep web, meaning data and text buried within documents found through regular browsing software (Lewandowski & Mayr, 2006). Librarians are using file-sharing software to exchange government documents. Research on human-computer interaction now informs

study and practice in indexing (Bates, 1998). Many of these innovative activities create situations that challenge existing frameworks. So, too, do users, as when historians began using digital cameras to photograph archival materials (Carlson, 2004).

3. For contrasting views on filtering and collection development, see Miltner (2005) and Nadel (2000).

4. The folkloric Middle Eastern warning that one should not allow a camel's nose into a tent even though it is so small and disturbs nothing because soon the entire camel will be inside the tent is often used in legal discourse to refer to an act that is believed to lead to a slippery slope of much larger consequences than initially claimed or intended.

5. Symbolic power is also sometimes referred to as consensual or soft power.

6. A special issue of the *Journal of Communication* introduced by the Braman (1995a) article cited here also included a number of case studies dealing with these practices as exercised by countries as diverse as the Philippines (Sussman, 1995), India (McDowell, 1995), and Ireland (Bell, 1995).

7. An introduction to some of these techniques can be found in Braman (2006b).

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APPENDIX: INFORMATION POLICY PRINCIPLES IN THE US CONSTITUTION

Principle	Location
Government right to collect information about citizens	Art. 1, Sec. 2
Right of access to information about the government	Art. 1, Sec. 5; Art. 2, Sec. 3
Those within government have free speech	Art. 1, Sec. 6
Federal government controls currency (including in digital form)	Art. 1, Sec. 8
Universal access to an information distribution system	Art. 1, Sec. 8, Cl. 7
Intellectual property rights	Art. 1, Sec. 8, Cl. 8
Restriction of civil liberties during time of war	Art. 1, Sec. 9, Cl. 2
Treasonous communications are illegal	Art. 3, Sec. 3
Freedom of opinion	1st Am.
Freedom of speech	1st Am.
Freedom of the press	1st Am.
Freedom of assembly and association	1st Am.
Freedom to petition the government for change	1st Am.
Right to privacy	1st Am.; 4th Am.
Right to receive information	Art. 1, Sec. 8, Cl. 7; 1st Am.
Protection against unlawful search	4th Am.
Protection against self-incrimination	5th Am.
Right to due process	5th Am.
Rights beyond those enumerated	9th Am.
Incorporation of federal constitution into state constitutions	14th Am.