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### **Informed citizens in the Global Information Commons**

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### ***Abstract***

*While citizens in a global society require access to a wider and more diverse range of political information than ever before, the very technologies that enable this access also tend to bypass the kind of environments, like libraries, where citizens can learn to make productive use of that information. However, rather than marking the irrelevance of the library for citizenship, I argue that political literacy in the network society may actually depend upon bringing the sophisticated reference structure of the library to the network. I conclude with a model for distributed, cooperatively managed reference services using domain ontologies.*

### **Introduction**

*A Comprehensive Assessment of Public Information Dissemination*, published in 2001 by the U.S. National Commission on Libraries and Information Science (NCLIS), offers an opportunity to reflect on the real potential of digital dissemination of government information,

and on the difficulties of translating this potential into an effective instrument of citizenship. The Commission noted that, although "public sector information has always played a very important role in the political, economic, and social affairs of every country...the advent of the Internet and the World Wide Web have dramatically escalated [its] importance because of the power of the Internet to tremendously increase its availability."<sup>1</sup> However, the report acknowledges that this promise remains largely unfulfilled. The reasons cited for this failure are many and familiar. These include challenges associated with the digital medium per se (such as providing for the authenticity, preservation, and persistence of official information on the web); with the intellectual organization of this information, now made more difficult because of the dispersed and decentralized nature of Internet holdings; and government information policies that have not kept pace with technological change. Perhaps more worrisome, however, are the problems outlined in the report that relate to citizen access.

The report distinguishes between two types of access: *physical access*, the "physical means and tools to obtain information," and *intellectual access*, the abilities "necessary to know how to obtain the information efficiently, effectively, and economically."<sup>2</sup> Intellectual access is a largely unacknowledged aspect of the digital divide, one that cannot be bridged simply by providing more, or more equitably distributed, technological resources - as vitally important as such efforts are. As the report notes, "individual citizens are faced with considerable practical difficulties in knowing what government information exists that might help them, searching for it easily and cost effectively, and then understanding and utilizing it once located."<sup>3</sup> The report identifies three types of competencies as crucial to effective citizenship in a digital age: *computer literacy*, the knowledge and skills that allow citizens to use computers and information technology; *information literacy*, the abilities needed to locate, evaluate and use information resources; and the "special skills related to understanding and using public information."<sup>4</sup> This last, *political literacy* is the focus of this paper.

However, while agreeing that political literacy is vital to effective citizenship, I tend to disagree with the approach to literacy adopted in the NCLIS report. Literacy is one of those "essentially contested concepts," an idea whose meaning is unavoidably caught up in politics and embedded in history, a concept that admits of no full and final resolution; therefore today, two years into the United Nations Literacy Decade, it is incumbent upon those who adopt it to attempt some clarity as to its use.<sup>5</sup> While there are many ways to look at the range of meanings attached to literacy, perhaps most useful for this discussion is to distinguish between those which view literacy as a set of more or less definable skills or social facts that must be mastered and those which see it as a more contingent complex of social and cultural practices.<sup>6</sup> Without drawing hard and fast lines between these two perspectives, we can say that the NCLIS report tends toward the former position, and that I lean toward the latter. Practically speaking, this means that in this paper I make a distinction between political information, political knowledge and political literacy, the first being the universe of potentially-informative-things about which

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<sup>1</sup> U.S. National Commission on Libraries and Information Science, *A Comprehensive Assessment of Public Information Dissemination*, Final Report (Washington, DC: U.S. Government Printing Office, 2001), 1:4.

<sup>2</sup> *A Comprehensive Assessment*, 1:22

<sup>3</sup> *A Comprehensive Assessment*, 1:49

<sup>4</sup> *A Comprehensive Assessment*, 1:50-51

<sup>5</sup> William E. Connolly, *The Terms of Political Discourse*. 2nd edition (Princeton: Princeton University Press, 1983).

<sup>6</sup> New London Group, "A Pedagogy of Multiliteracies: Designing Social Futures" *Harvard Educational Review* 66(1996): 60-92.

citizens may want (or need) to know or use, the second being what they actually do know, and the third being related to the practice of citizenship itself, to the process of becoming informed about and participating in political life.<sup>7</sup>

### Political Information

Let me begin, then, by explaining what I mean by “political information.” A recent study of the information needs of British citizens defines political information as that which is “produced by or about national and local government, government departments and public sector organizations which may be of value to the citizen either as part of everyday life or in the participation by the citizen in government and policy formulation.”<sup>8</sup> While this is a good place to start, I would amend this definition slightly: first, by recognizing a broader array of political actors, including international and regional organizations and politically-active private sector organizations, such as transnational corporations; and second, by including information about the structure of government documentation. The former acknowledges some of the real complexity of politics in a global society, while the latter points toward one of the consequences of a networked society. With respect to this last, a recent guide to United States government information on the Internet asks, “Why do we need any print guide to government resources on the Web?”

Bypassing a guide such as this one and searching independently requires knowledge of government structure, types of publications...terminology, and specific titles...Without prior awareness of these issues, it is easy to look at a Web site and miss valuable content. For example, in dealing with congressional information sources, it is important to be able to differentiate between a report and a hearing. In the case of the executive branch, the information seeker needs some elementary understanding of the Freedom of Information Act and the difference between a publication and a record.<sup>9</sup>

In their influential study on political knowledge in the United States, Michael Delli Carpini and Scott Keeter have developed a useful typology that gets at this broader notion of political information. They divide the universe of information about politics into three kinds: information about *the rules of the game* (the institutions and processes of government); information about *the substance of politics* (“the major domestic and international issues of the day, current social and economic conditions, key policy initiatives, and so forth”); and information about *people and parties* (“the promises, performances, and attributes” of candidates, parties and nongovernmental organizations).<sup>10</sup> Some understanding of these three categories of political information, they maintain, is essential for producing informed citizens.

### Political Knowledge

Moreover, for most citizens, it is largely unfamiliar terrain. Marshalling a half century's worth of survey data, Delli Carpini and Keeter argue that, on the whole, voting-age citizens in

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<sup>7</sup> Michael Buckland, *Information and Information Systems* (New York: Greenwood Press, 1991).

<sup>8</sup> Rita Marcella and Graeme Baxter, “The Information Needs and Information Seeking Behavior of a National Sample of the Population in the United Kingdom, With Special Reference to the Needs Related to Citizenship” *Journal of Documentation* 55(1999): 161.

<sup>9</sup> Peter Hernon, John A. Shuler and Robert E. Dugan, *U.S. Government on the Web: Getting the Information You Need* (Englewood, Colorado: Libraries Unlimited, 1999), xx.

<sup>10</sup> Michael X. Delli Carpini and Scott Keeter, *What Americans Know about Politics and Why It Matters* (New Haven: Yale University Press, 1996), 14.

the U.S. are generally ill-informed about the details of government, that levels of political knowledge have varied little over the past fifty years, and that disparities in political knowledge among citizens "mirror their standings in the social, political and economic world."<sup>11</sup> Directly comparable data on the political knowledge of voting-age citizens outside the U.S. is thin, but studies from Australia and the Netherlands suggest that Americans are not alone and that relatively low levels of political literacy, along with the unequal distribution of political knowledge along socioeconomic lines, is a common feature of contemporary society.<sup>12</sup>

Furthermore, extensive cross-national data on secondary school students is also suggestive. In a 1999 survey of 14-year olds from 28 countries, the International Association for the Evaluation of Educational Achievement (IEA) found that, although most students have a "fairly adequate" knowledge about "basic notions of democracy and citizenship,"

the questions in the test answered correctly by only relatively small numbers of students are part of what might be required to perform such civic tasks as deciding between candidates based on their election leaflets, understanding newspaper editorials and deciding whether to join a political organization with a particular ideology.<sup>13</sup>

In other words, while establishing that 14-year-olds may be reasonably familiar with the formal processes of government, the IEA survey offers little, if any, justification for assuming that their formal knowledge will translate into the concrete ability to act as citizens. This failure to translate basic knowledge into actual practice is confirmed by a follow-up study of upper secondary school students (ranging from 16 to 19 years of age) in 16 countries. IEA researchers found that though most of the students "had mastered the principles of democratic government ... in many cases, uncertainties persisted when more demanding inferences were required."<sup>14</sup> Of course, we need to be careful in extrapolating from this evidence, but the fact that these students were more likely to have received recent, formal education in civics than the population at large suggests its wider relevance. Moreover, the study might also prompt us to ask what these "more demanding inferences" might be, and to pose questions about how and to what extent the Internet is capable of helping citizens meet these demands. This takes me from the matters of political information and political knowledge to that of political literacy.

### Political Literacy

How we think about the information demands of citizenship depends upon how we understand citizenship itself, and this will, in turn, color our judgment of the current adequacy of the Internet as a tool for democratic practice. Very briefly and at the risk of oversimplifying, we can plot a number of reigning models of citizenship on a grid in which the horizontal axis represents the extent of active deliberation expected of citizens, and the vertical axis charts the degree of political knowledge each model requires of them. In the upper right hand quadrant we find the classic ideal of the "informed citizen" developed during the Progressive era in the United States as a reaction to the excesses of party politics. Independent minded and self-

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<sup>11</sup> *What Americans Know*, 271.

<sup>12</sup> Ian McAllister, "Civic Education and Political Knowledge in Australia" *Australian Journal of Political Science* 33(1998): 7-23. Leo B. Van Shippenburg, Carlo Hagerman and Paul Hendriks Vettehen, "Politieke kennis en mediagebruik in Nederland" *Mens en Maatschappij* 77(2002): 65-79.

<sup>13</sup> Torney-Purta, J. and others, *Citizenship and Education in Twenty-eight Countries: Civic Knowledge and Engagement at Age Fourteen* (Amsterdam: IEA, 2001), 67.

<sup>14</sup> Amadeo, J.A., and others, *Civic Knowledge and Engagement: An IEA Study of Upper Secondary Students in Sixteen Countries* (Amsterdam: IEA, 2002), 72.

motivated, this is a citizen both attuned to the complex modern world and fully capable of making the informed choices necessary to self-government.<sup>15</sup> This is also the citizen about whom Walter Lippmann famously quipped, "I have not happened to meet anybody, from the President of the United States to a professor of political science, who came anywhere near to embodying the accepted ideal of the sovereign and omniscient citizen."<sup>16</sup> In the lower left quadrant we encounter Lippmann's alternative. In the face of both the complexity of modern society and the self-interested myopia of ordinary citizens, he recommends a notion of citizenship that transfers the need for knowledge from citizens to experts and limits citizen deliberation to moments of crisis.<sup>17</sup> This is also the quadrant where we find various versions of rational-choice minimalism, where citizen competence is effectively abandoned in favor of "information shortcuts" like the positions of interest groups, political parties, and other opinion leaders.<sup>18</sup> The lower right hand quadrant is occupied by the type of citizen promoted in John Dewey's rejoinder to Lippmann. While accepting much of Lippmann's pessimistic assessment of the state of citizen competence and acknowledging modern society's need for expertise, Dewey maintained that "knowledge is a function of association and communication" and that "improvement of the conditions of debate, discussion and persuasion" were the key to democratic governance. Unlike the self-sufficient citizen of Progressivism, Dewey's model makes no claims of omniscience at the level of the individual citizen, but instead relies upon the creation of structures of both intensive and extensive deliberation where knowledge can be pooled and rational decisions made.<sup>19</sup>

There is, you will notice, one final quadrant, the upper left. Before I take up the question of the type of citizen represented there, let me pause to consider the notion of the citizen that is assumed by American discussions of e-government. Most models of e-government in the United States rely on a relatively thin conception of democratic engagement, with citizens relegated largely to the role of customer.<sup>20</sup> From the perspective of both citizens and system designers, constructing "cost-effective models for citizens, industry, federal employees, and other stakeholders to conduct business transactions online"<sup>21</sup> is less demanding than making a commitment to using Internet technology to build "a more open and participatory democracy at all levels of government."<sup>22</sup> In fact, most citizens who use the Internet to conduct business with government tell pollsters that they are reasonably satisfied with available Internet services - though even here the survey data suggest room for improvement.<sup>23</sup> However, if we view the "citizen not only [as] a consumer in the product and service delivery chain, but also a partner in the governance process," the evidence is less encouraging.<sup>24</sup> In a study assessing the quality of

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<sup>15</sup> Michael Schudson, *The Good Citizen: A History of American Civic Life* (New York: The Free Press, 1998), 144-187.

<sup>16</sup> Walter Lippmann, *The Phantom Public* (New Brunswick, NJ: Transaction Publishers, 1993), 10-11.

<sup>17</sup> Lippmann, 53-64.

<sup>18</sup> Samuel L. Popkin and Michael A. Dimock, "Political Knowledge and Citizen Competence" in Stephen L. Elkin and Karol Edward Solta, eds. *Citizen Competence and Democratic Institutions* (University Park, PA: The Pennsylvania State University Press, 1999), 120.

<sup>19</sup> John Dewey, *The Public and Its Problems* (Chicago: The Swallow Press, 1954), 158 and 208.

<sup>20</sup> Harold C. Relyea, "E-gov: Introduction and Overview" *Government Information Quarterly* 19 (2002): 9-35.

<sup>21</sup> Thurman L. Whitson and Lynn Davis, "Best Practices in Electronic Government: Comprehensive Electronic Information Dissemination for Science and Technology" *Government Information Quarterly* 18 (2001): 79.

<sup>22</sup> United States Information Infrastructure Task Force, *The National Information Infrastructure: Agenda for Action* (Washington, D.C.: Executive Office of the President, Information Infrastructure Task Force, 1993), 18.

<sup>23</sup> John B. Horrigan, *How Americans Get in Touch With Government* (Washington, D.C.: Pew Internet & American Life Project, 2004).

<sup>24</sup> Elisabeth Richard, "Tools of Governance" in Barry N. Hague and Brian D. Loader, eds. *Digital Democracy:*

information services provided by parliamentary web sites in England and in the recently devolved legislatures of Scotland, Wales and Northern Ireland, Rita Marcella and colleagues at Robert Gordon University found that, although most participants considered the sites to be “useful” in the abstract, they

were confused by the number and variety of legislative and executive bodies existing at the national level, ...uncertain about [their] purpose...[and] consequently about the nature of the information that such agencies were likely to be able to offer on their websites. They found great difficulty in accessing relevant information in an accessible and comprehensible form [and though] the majority indicated that they would use electronic sources in the future; few felt that this was likely to be for democratic participation.<sup>25</sup>

There are a number of notable issues raised here. First, Marcella’s study identifies considerable bewilderment about the increasingly complex nature of British government; second, it notes that the design of parliamentary web sites contributes to this uncertainty, or at minimum, fails to alleviate it; and finally, it underscores the fact that most of the citizens involved did not perceive the online information provided as inviting political engagement. What I want both to argue and to emphasize here is that political literacy occupies the space at the intersection of these three things: the relative complexity of the political environment, the design of our information systems and the responsiveness of those systems to the information needs of citizens.<sup>26</sup>

This brings us back to the grid of citizenship discussed above, particularly to the remaining upper left hand quadrant, which represents the combination of a low degree of participatory deliberation and high demands on citizen knowledge. This is where I suggest we might locate models of citizenship that better reflect the realities of contemporary life. My argument is framed largely as a response to Dewey, whose model of citizenship occupies the lower right portion of the grid. On the one hand, while I agree with Dewey that human cognition is always partial and that political literacy depends to a certain extent on participation in a political community, it bears noting that the demands of modern life require both more and less of citizens than he envisioned. I am not arguing for the reinstatement of the omniscient citizen, but instead for the need to recognize the fact of what Lars Qvortrup has called hypercomplexity.<sup>27</sup> The phenomenologist Alfred Schutz describes this dilemma as follows:

The well-informed citizen finds himself placed in a domain that belongs to an infinite number of possible frames of reference. There are no pre-given ready-made ends, no fixed borderlines within which he can look for shelter. He has to choose the frame of reference by choosing his interest, he has to investigate the zones of relevance adhering to it, and he has to gather as much knowledge as possible of the origin of and sources of relevances actually or potentially imposed on him.<sup>28</sup>

Schutz compares the demands on the “well-informed citizen” to two other ideal types, “the man on the street” and the “expert.” The first is consumed by the routines of daily life, and the second by the pursuit of his specialty – in both cases, their occupations and preoccupations carry them away from the labor intensive work of public deliberation. This brings me to my other

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*Discourse and Decision Making in the Information Age* (London: Routledge, 1999), 73.

<sup>25</sup> “The Effectiveness of Parliamentary Information Services,” 41.

<sup>26</sup> *What Americans Know*, 209-217.

<sup>27</sup> Lars Qvortrup, *The Hypercomplex Society* (New York: P. Lang, 2003).

<sup>28</sup> Alfred Schutz, “The Well-Informed Citizen,” in Maurice Natanson, ed. *Collected Papers* (The Hague: M. Nijhoff, 1962-1966.) 2: 130-131.

point of disagreement with Dewey. The problem is that, for Dewey, the passage from man on the street to well-informed citizen can be accomplished only in and through “debate, discussion and persuasion.” This seems to require a level of engagement in public affairs that belies our experience of living in the world. As Michael Warner puts it, “a public is thought to be active, curious, alert. But actual people are intermittent in their attention, only occasionally aroused, fitfully involved.”<sup>29</sup> This is not to disparage deliberative democracy, which, like Dewey, I believe is crucial to democratic citizenship, but rather to maintain that we need to look for additional, supplementary structures of engagement that citizens can tap into as needed. It is also to suggest that political information systems require both breadth and flexibility to be of use to global citizens whose participation in politics is episodic, unpredictable, and contingent upon a broad array of world events and economic and social processes.

### An Information Commons

As we saw above, Delli Carpini and Keeter have extensively documented the low levels of political knowledge among U.S. citizens and the apparent durability of these levels over time. Rather than viewing this as evidence of apathy or the lack of adequate cognitive skills, they maintain (first) that most citizens make serious efforts to understand the political world, and (second) that environmental factors rather than individual attributes constitute the principal barriers to political literacy. Chief among these factors is the structure of the information environment, and Delli Carpini and Keeter make a number of proposals designed to render political information more accessible, among them making journalism more responsive to citizen needs.<sup>30</sup> More relevant to our purposes here, however, is John Gaventa’s concept of opening up “spaces for political learning,” of cultivating places where democratic discussion and analysis, however fitful or intermittent, can freely occur.<sup>31</sup> I would argue that libraries are such spaces.

Despite the success of the Internet, libraries “remain complex, democratic, one-stop shopping and consultation centers for all manner of...information, learning [and] cultural enrichment.”<sup>32</sup> This should come as no surprise to members of IFLA. However, I want to reflect a bit on what it is that makes libraries such unique cultural institutions. There is a tendency in professional discussions about digital dissemination to reduce libraries to their collections and thus to miss the many other important purposes they serve. This is especially evident in discussions of *disintermediation*, where it is sometimes argued that once everything becomes available online, there will no longer be a need for libraries unless they reinvent themselves by adopting new roles.<sup>33</sup> One of these new roles is that of the information commons, offering extensive patron workspace and a “continuum of service that provides the user with skilled staff consultation and an array of technological options for the identification, retrieval, processing, and presentation of information in a variety of formats.”<sup>34</sup> While I am a strong advocate of the information commons approach and agree that it incorporates numerous important innovations,

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<sup>29</sup> Michael Warner, *Publics and Counterpublics* (New York : Zone Books, 2002), 87

<sup>30</sup> *What Americans Know*, 217

<sup>31</sup> John Gaventa, “Citizen Knowledge, Citizen Competence, and Democracy Building” in Stephen L. Elkin and Karol Edward Solta, eds. *Citizen Competence and Democratic Institutions* (University Park, PA: The Pennsylvania State University Press, 1999), 59.

<sup>32</sup> Redmond Kathleen Molz and Phyllis Dain, *Civic Space/Cyberspace: The American Public Library in the Information Age* (Cambridge, MA: MIT Press, 2001), 185.

<sup>33</sup> Gellman, R.M. “Disintermediation and the Internet” *Government Information Quarterly* 13(1996): 1-8

<sup>34</sup> Donald Beagle, “Conceptualizing and Information Commons” *The Journal of Academic Librarianship* 25(1999): 86.

there is nothing particularly new about the idea of the library as a space for the production of knowledge.

The limitations of viewing the library as a mere “warehouse of books” and librarians as their “custodians” were already apparent by the late nineteenth century, after which a variety of other metaphors for libraries proliferated, many of which are assembled in Katherine Sharp’s 1898 description of the library as “a laboratory, a workshop, a school, a university of the people, from which the students are never graduated.”<sup>35</sup> At least since the time of Lippmann and Dewey, the best libraries have been more than *information supplying systems*; they have been *systems that inform*.<sup>36</sup> One of the more important ways that libraries have served this informing role is through the provision of reference services. Formal reference services in libraries developed as a direct response to an increasingly complex information environment, and over time they have themselves become complex and multifaceted. Of particular importance to political literacy is the reference interview, those open-ended dialogues between information seeker and librarian that begin with a question and often become

mini-instruction sessions, with librarians helping to develop the topic idea, lay out the structure of information . . . , explain and differentiate between types of information, provide an overview of general search strategies, demonstrate the use of a particular database, explain the interface, lead users in their search, direct them to where they can retrieve the materials found, and guide them in presenting their information clearly and appropriately.<sup>37</sup>

As any government information librarian can attest, much of the substance of reference interviews is devoted to helping readers uncover the context of their questions, negotiate the complex web of relationships that obtain between the institutions and processes of government and the bibliographic universe of government publications, and discover their own path through the intersubjective landscape of politics. Drawing on the work of Mikhail Bakhtin, John Budd has described this type of reference interview as a *dialogic* process, a mutual exploration of the multifaceted, meaning-laden information environment.<sup>38</sup> However, this process, which I maintain is crucial to political literacy, is made more difficult by larger developments in the contemporary information environment. Let me turn, then, to a brief discussion of globalization and citizenship in an effort to point toward the development of a new model of library services.

### The Network Society

Manuel Castells has characterized contemporary society as a “network society,” where “networks constitute the new social morphology . . . and the diffusion of networking logic substantially modifies the operation of and outcomes in processes of production, experience, power, and culture.”<sup>39</sup> Networks “make it possible to establish endless connections between different domains,” linking peoples, institutions and organizations across the globe.<sup>40</sup> Information technology is fundamental to this organization of social life, and information is one

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<sup>35</sup> Robert F. Nardin, “A Search for Meaning: American Library Metaphors, 1976-1926” *The Library Quarterly* 71 (2001): 119.

<sup>36</sup> Michael Buckland, *Information and Information Systems* (New York: Greenwood Press, 1991), 80.

<sup>37</sup> John W. Fritch and Scott B. Mandernack, “The Emerging Reference Paradigm: A Vision of Reference Services in a Complex Information Environment” *Library Trends* 50(2001): 286-305.

<sup>38</sup> John M. Budd, “Information Seeking in Theory and Practice: Rethinking Public Service in Libraries” *Reference & User Services Quarterly* 40 (2001): 256-263.

<sup>39</sup> Manuel Castells. *The Rise of the Network Society* (Oxford: Blackwell Publishers, 1996), 469.

<sup>40</sup> *Rise of the Network Society*, 67.



of the primary currencies traded on the networks. We are literally awash in it. Compared to previous eras, where information was relatively costly and political advantage accrued to those who could command more of it, the multiplication of relatively low-cost channels for the dissemination and acquisition of information results in what has been called the first era of *information abundance*. However, when it comes to political information, there is a danger that this new environment may, paradoxically, actually foster "greater inequality and... a less intelligible public sphere" than was characteristic of periods of comparative scarcity.<sup>41</sup> The "increasing complexity of public policy and government action" places such a premium on expertise that the ability of citizens to comprehend and participate in politics is diminished.<sup>42</sup>

The existence of translocal networks is not new and, arguably, premodern interregional or intercivilizational contacts through trade, conquest, and migration are examples of these networks at work. What is new, according to Castells and other theorists of contemporary globalization, is that the extent, intensity, velocity and impact of these flows of "physical artefacts, people, symbols, tokens and information" through networks is not only quantitatively greater than in previous eras, but also that it has resulted in a qualitatively different kind of interconnectedness.<sup>43</sup> "At the end of the second millennium... political communities and civilizations can no longer be characterized as 'discrete worlds'; they are enmeshed and entrenched in complex structures of overlapping forces, relations and movements."<sup>44</sup>

Perhaps the most significant effect of this *enmeshment* for political literacy is the changing nature of political authority. Beginning with the Treaties of Westphalia in 1648 and continuing up through at least the Second World War, the national state developed into the principal sovereign political authority within its own relatively well-defined territorial boundaries, while those regional and international regimes that did exist were "oriented to the establishment of minimal rules of coexistence."<sup>45</sup> In the years since 1945, however, processes that deemphasize national in favor of both global and local political and economic life have contributed to what has been called the *unbundling of territoriality* or the *new medievalism*, "multileveled and multifaceted processes which span global regulatory regimes, global regions, world cities, substate regions and localities, as well as states."<sup>46</sup> This complex deterritorialization and reterritorialization of political authority has resulted in

a profound and pronounced bifurcation in which a multi-centric macro world composed of a wide variety of nongovernmental, transnational, and subnational actors – from the multinational corporation to the ethnic group, from the NGO to the social movement, from the professional society to the epistemic community, from the advocacy network to the humanitarian organization, from the drug cartel to the terrorist group, from the local government to the regional association, and so on across a vast range of collective endeavors -- has evolved

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<sup>41</sup> Bruce Bimber, *Information and American Democracy: Technology in the Evolution of Political Power* (Cambridge: Cambridge University Press, 2003), 246.

<sup>42</sup> *Information and American Democracy*, 239. Kenneth L. Hacker and Jan van Dijk "What is Digital Democracy" in Kenneth L. Hacker and Jan van Dijk eds. *Digital Democracy: Issues in Theory and Practice* (London: Sage Publications, 2000), 5.

<sup>43</sup> David Held and others, *Global Transformations: Politics, Economics and Culture* (Stanford: Stanford University Press, 1999), 16.

<sup>44</sup> *Global Transformations*, 79-80.

<sup>45</sup> *Global Transformations*, 37-38.

<sup>46</sup> James Anderson, "The Shifting Stage of Politics: New Medieval and Postmodern Territorialities" *Environment and Planning D: Society and Space* 14(1996):140.

to cooperate, compete, or otherwise interact with a state-centric world that consists of collectivities [themselves] increasingly active on local stages.<sup>47</sup>

The point here is that politics has become much more complex, with many more political actors and dense webs of interest and authority entering the scene. The mental image of relatively stable, relatively legible, nested-hierarchies of political authority that most of us carry around in our heads pertains no longer. However, complexity on its own is not sufficient to remove citizens from politics. As I argued above, expertise is neither the lingua franca of citizenship nor the precondition for political literacy. What *is* essential is access to rich learning environments where sufficient political knowledge can be acquired as needed. However, another aspect of the network society threatens this type of access.

Castells argues that one of the effects of the new information technology is to fundamentally reshape our relationship to space and time, providing instantaneous access over the network to widely dispersed, fragmented and decontextualized bits of information.<sup>48</sup> The engines driving this process are increasingly sophisticated search engines, like Google. Surveys have shown that search engines are very popular among Internet users and there is good reason for this popularity. In fact, I cannot recall a single workday in the last few years when I haven't used search engines myself as part of my reference work. These same surveys also show, of course, that most users are overly confident about the adequacy of their searching skills and the reliability of their search results.<sup>49</sup> However, I would argue that the real problem is not disintermediation per se, nor is it really the confident naiveté of most search-engine users, but rather what John Shuler has referred to as "information dispersal," the "scattering [of] information objects around the digital landscape." This has serious consequences for political literacy, because government publications are but "bibliographic markers" of larger political events and "have little meaning without understanding the government processes, policies or programs that that gave them reason to exist." Traditionally, as I argued above, the reference interview was the occasion when citizens and librarians together learned to navigate and make sense of this dense web of relationships. However, in the network society, "how to deal effectively with the effects of 'information scattering,' or grasp the information ecosystem's complexity ... is the greatest challenge (and opportunity) for government information librarians."<sup>50</sup>

### The Access We Deserve: A Map and a Method

In sum then, whereas the contemporary practice of citizenship demands access to more, and more diverse, forms of political information than ever before, the very technologies that enable this access also tend to bypass the kind of learning environments, like libraries, where citizens can acquire the knowledge needed to make productive use of that information. However, rather than marking the irrelevance of the library for democratic engagement, in this last section I argue that political literacy in the network society actually depends on how well we can bring the sophisticated reference structure of the library to the network itself. My starting point is two recent efforts to address the challenges of using government information online.

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<sup>47</sup> James N. Rosenau, *Distant Proximities: Dynamics Beyond Globalization* (Princeton: Princeton University press, 2003), 62.

<sup>48</sup> *Rise of the Network Society*, 376-428.

<sup>49</sup> Deborah Fallows, *Search Engine Users* (Washington, D.C.: Pew Internet & American Life Project, 2005).

<sup>50</sup> John A. Shuler, "Nonlinear literacy and the Dispersal of Librarianship" *The Journal of Academic Librarianship* 30(2004): 418.

The first is an example of how we might begin to create online resources that model, albeit at a broad conceptual level, some of the political knowledge that the government information specialist currently brings to the reference process. EULEGIS (European User Views to Legislative Information in Structured Form) was a European Commission funded project designed to assist people with varying levels of expertise in European Union member states to identify and retrieve legal documents created in different legal systems and at different jurisdictional levels, from municipalities to international intergovernmental organizations. While there is significant variation among the legal systems of European nations (e.g. both civil and common law jurisdictions and considerable variation in internal power sharing arrangements within national states), researchers in the EULEGIS project identified a common conceptual structure underlying government activities across jurisdictions: legal systems have *actors*; these actors participate in *processes*; and *documents types* are produced by these processes. They also found that, despite considerable heterogeneity in document structures and languages, they could identify a number of generic document types common to all the legal systems studied. Drawing on these findings, they then constructed a prototype of a web-based reference tool with a graphical interface that allowed citizens to browse across multiple jurisdictions, from a variety of perspectives, and retrieve documents of interest.<sup>51</sup>

The second example I want to highlight, very briefly, is the Government Information Online project (<http://govtinfo.org/>) currently underway in the United States. GIO is a national pilot project to develop models for online, cooperatively managed virtual reference services specializing in government information. The project uses OCLC's QuestionPoint software suite, combining real-time chat and email reference services with a knowledge base of question-and-answer sets created and maintained by project participants. Currently, over thirty libraries are participating in the project. All are members of the Federal Depository Library Program and many are also depositories for their respective state governments. The goal of the project is not only to pool the collective expertise of participating government information specialists, but also to expand their reach. Whereas most other models of online reference services require citizens to come to the (virtual) library, GIO is attempting to deliver its services to those places on the web where citizens already congregate online, providing links to the service at popular web portals like GPO Access (<http://www.gpoaccess.gov/>) and FirstGov (<http://www.firstgov.gov/>).

John Fritch and Scott Mandernack have argued that we need a new vision for library reference services, calling for a multifaceted and multimodal approach that can meet the demands of the online environment without abandoning the real advantages of the physical library. They make a strong case for providing a continuum of services, from the nuanced, face-to-face communication possible with in-person reference interviews and formal library-based instruction, through a variety of digital services such as online tutorials, searchable FAQ (Frequently Asked Questions) databases, web portals or gateways and virtual reference.<sup>52</sup> However, as much as I agree with their argument, unless we can also find ways to address the fact of disintermediation and the decontextualization of knowledge, we cannot meet the

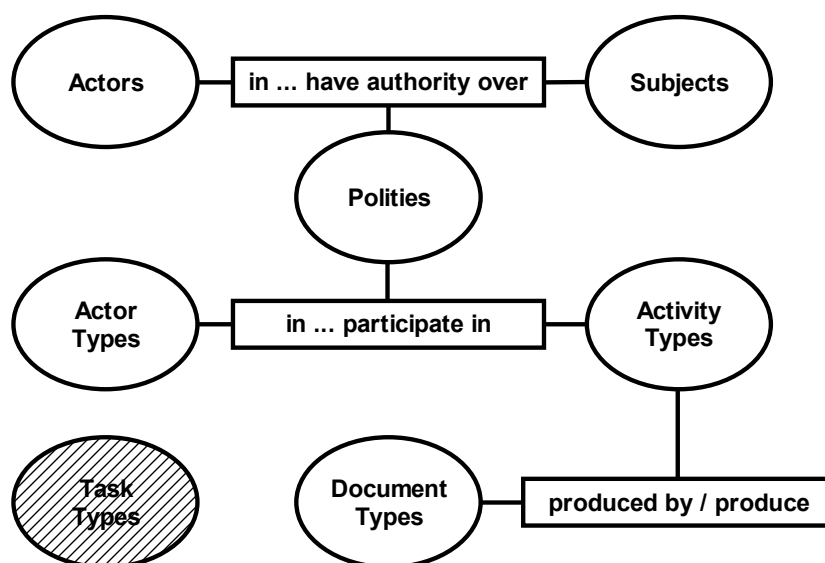
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<sup>51</sup> An overview and screenshots are available in Virpi Lyytikäinen, Pasi Tiitinen and Airi Salminen, "Challenges for European Legal Information Retrieval" in F. Galindo & G. Quirchmayer, eds. *Proceedings of the IFIP 8.5 Working Conference on Advances in Electronic Government* (Zaragoza: Seminario de Informática y Derecho, Universidad de Zaragoza, 2000), 121-132.

<sup>52</sup> John W. Fritch and Scott B. Mandernack, "The Emerging Reference Paradigm: A Vision of Reference Services in a Complex Information Environment" *Library Trends* 50(2001): 286-305.

demands of political literacy in a network society. Taken together, I believe that the EULEGIS and GIO projects point toward the types of services that can do just that. Briefly put, we need to build web-based reference tools that citizens can discover in their everyday lives online and which offer both mediated and unmediated opportunities for political learning. One way to do this is through the construction of *domain ontologies*.

I take the concept of the “domain” from the work of Birger Hjørland. To recall Schutz’s metaphor of the well-informed citizen, as public persons we are thrown into unfamiliar environments, crisscrossed by countless pathways, with no clear way forward, but through which we must nevertheless make our way. However, this landscape is not random; it is in fact highly and complexly structured. This is the domain. “Ontologies” are simply formal models that allow us to chart the relationships between the entities in a given domain.<sup>53</sup> My current research looks at ways we might use domain ontologies to help citizens re-contextualize the contemporary universe of political information and put that information to work. A simplified diagram of my prototype is shown below. The diagram uses a modeling technique called Object Role Modeling (ORM), in which the broad classes of real things or abstract concepts that populate the domain, called *objects*, are represented using ovals, and the relationships between these objects, called *roles*, are symbolized by rectangles.<sup>54</sup>



Very briefly, I have identified seven objects as central to the domain of political information: actors, actor types, document types, activity types, polities, subjects and task types. At first glance, this seems to be quite similar to the ontology developed by the EULEGIS project. I differ from their approach in a number of ways, however. First, I see much more isomorphism in the political landscape, the tendency for otherwise heterogeneous political

<sup>53</sup> Birger Hjørland, “Domain Analysis in Information Science” *Journal of Documentation* 58(4): 422-462 (2002).  
Lars Marius Garshol, “Metadata? Thesauri? Taxonomies? Topic Maps? Making Sense of it All” *Journal of Information Science* 30(2004): 378-391.

<sup>54</sup> Terry Halpin, *Information Modeling and Relational Databases: From Conceptual Analysis to Logical Design* (San Francisco: Morgan Kaufman, 2001).

regimes to develop similar political structures and processes.<sup>55</sup> I indicate this in the model by distinguishing between *[object] types* (such as legislatures or legislative bills) and *[objects]* (e.g. The Knesset or Missouri House Bill 93-432), which are unique manifestations of those types. In addition to allowing citizens to compare objects across regimes, the addition of these types also allows them to recognize patterns in the roles played by these objects.

1. *Actor Types* in *Polities* participate in *Activity Types*
2. *Activity Types* produce *Document Types*
3. *Actors* in *Polities* have authority over *Subjects*
4. *Task Types* are associated with *[objects]* and *[roles]*

For at least one of these roles, this leads to an even stronger claim. I take the view that document types or genres are “typified communicative action[s] invoked in response to a recurrent situation[s]” and that similar types of activities, when they occur, will inevitably produce similar types of documents.<sup>56</sup> Of the four roles in the ontology, this is the only one where I make this kind of global claim. All of the other roles are dependent upon the context in which they occur, although there will be clusters of regimes that exhibit strong similarities. For two of the roles, the *polity* object represents this context. In the model, *polities* are institutions with a certain amount of rule-making authority over a specified domain and this allows me to represent both political authority and political participation at a variety of governmental levels, from the local town council to the United Nations.<sup>57</sup> The political authority role did not exist in the EULEGIS model. I have added it to recognize the many types of political authority that operate in contemporary politics, from the formal jurisdictions of government agencies, to the knowledge-authority exercised by many nongovernmental organizations. The fourth and final role listed above is also new and is used to represent the many different ways that citizens can interact with the ontology. Some tasks would be available for all the entities in the model, such as a link to a definition or description of that entity. Others would be specific to particular entities. For example, the *document type* object will allow citizens to retrieve documents of a particular type from digital libraries or to conduct searches in library catalogs; the *actor* object would allow the citizen to retrieve a voting record, link to a web site or find contact information; and so on.

This ontology needs further testing to determine whether it can successfully model the complexity of the contemporary political environment. However, even if it proves successful in theory, there are number of other hurdles to its practical implementation. By way of concluding, I want to a point to some of these hurdles, as well as to explore briefly some possible solutions. The first challenge is perhaps the most basic: what in the world do we use this thing for? I’m not sure that I really have a definitive answer to this, but I can offer a couple of suggestions. It could be used, for example, to provide structure and context to popular subject portals such as FirstGov or GPO Access. In combination with services like GIO, this would significantly improve the usefulness of these sites for the average citizen. Another, perhaps grander, use would be to integrate elements of the ontology with the bibliographic metadata found in library

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<sup>55</sup> John W. Myer and others, “World Society and the Nation-State” *American Journal of Sociology* 103(1997): 144-181.

<sup>56</sup> Joanne Yates and Wanda J. Orlikowski, “Genres of Organizational Communication: A Structural Approach to Studying Communication and Media” *Academy of Management Review* 17(2): 301 (1992).

<sup>57</sup> Yale H. Ferguson and Richard W. Mansbach, *Polities: Authorities, Identities and Change* (Columbia, SC:University of South Carolina Press, 1996).

catalogs and digital libraries, enabling the delivery of rich, FRBR-like result-sets to users. That's just two, but I'm sure there are other potential applications. The second obstacle is the familiar one of interoperability. How do we make this thing work with all the other knowledge organization systems out there? How do we deal with multiple languages, vocabularies, classification schemes, thesauri and metadata schemas?<sup>58</sup> I'm going to defer the answer to this question by first raising a related issue, because I think that they might have similar answers. This is the question of scale: how do we even begin to build and maintain a resource that encompasses political information on a global scale? This is the problem that confronted the developers of EULEGIS, though on a smaller scale, and it is one of the reasons why that project remains a prototype. I think that a possible answer to this question can be found in some interesting new technologies.

The first of these technologies is an implementation of the Extensible Markup Language (XML), called Topic Maps (<http://www.topicmaps.org/>). Briefly, Topic Maps provide a way to represent the structure of information resources using elements called *topics* and the relationships between topics, called *associations*. The standard also allows topics and associations to be *scoped* or limited to defined contexts. In the past year or so, I've had some success in expressing my prototype as a topic map and then converting this map into a series of interconnected web pages (one of the virtues of XML-based standards is that they support these types of conversions). However, what is even more promising about Topic Maps is that they can be merged or combined into larger Topic Maps with no loss of information. This brings me to that second technology: the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). OAI-PMH (<http://www.openarchives.org/>) is an application-independent framework for harvesting metadata from repositories. These repositories can be full-fledged digital libraries or simply collections of metadata, and the framework places no limitations on the kind of metadata it will accept, as long as it can be expressed in XML. Together, I believe that Topic Maps and OAI-PMH will allow government information specialists to create relatively small, specialized ontologies, targeted to the needs of the local citizens who are their patrons, designed to work with local systems, languages etc., and to combine these individual modules into relatively large, robust, reference resources that can get at some of the complexity of our global interconnected world. At least that's my hope.

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<sup>58</sup> Marcia Lei Zang and Lois Mai Chan, "Trends and Issues in Establishing Interoperability Among Knowledge Organization Systems" *Journal of the American Society for Information Science and Technology* 55(2004): 377-395.