

Christine L. Borgman



University of California, US

Borgman@gseis.ucla.edu

Christine L. Borgman is Professor & Presidential Chair in Information Studies in the Department of Information Studies, University of California, Los Angeles. She obtained her MLS at the University of Pittsburgh and her Ph.D. in Communication from Stanford University. Her research interests range over scholarly communication, eScience, data, library automation, networks, human-computer interaction, information seeking behaviour, and bibliometrics, and she has published widely in these areas. She has extensive international interests having been a Visiting Scholar at the Oxford Internet Institute, a Fulbright Visiting Professor at the University of Economic Sciences and at Eötvös Loránd University in Budapest, Hungary, a Visiting Professor in the Department of Information Science at Loughborough University, and a Scholar-in Residence at the Rockefeller Foundation Study and Conference Center in Bellagio, Italy.

She is a member of the U.S. National CODATA (Committee on Data for Science and Technology), the Science Advisory Board to Microsoft Corporation, and the Advisory Board to the Electronic Privacy Information Center, and the Association for Computing Machinery Public Policy Committee. Her book, *From Gutenberg to the Global Information Infrastructure: Access to Information in a Networked World* (MIT Press, 2000), won the Best Information Science Book of the Year Award from the American Society for Information Science and Technology. Her next book, *Scholarship in the Digital Age: Information, Infrastructure, and the Internet*, will be published by the MIT Press in October, 2007.

GRL2020 Position Paper

Only a decade ago, this definition of a research library seemed adequate (Borgman, 2000, p.38):

Librarians tend to take a broad view of the concept of a library. In general terms, they see libraries as organizations that select, collect, organize, conserve, preserve, and provide access to information on behalf of a community of users.

Revisiting this definition today, libraries seem both broader and narrower in scope. The scope is narrower in that libraries are doing far less selecting and collecting of journals as they move from purchase to lease models. Research libraries rapidly are approaching the “e-only tipping point” (Johnson & Luther, 2007) for journals, and some predict that

the e-only tipping point for books is not too far away (Connaway & Wicht, 2007; Sandler, Armstrong & Nardini, 2007). Libraries also are doing fewer of the organizing tasks for their core collections, as digital catalog records accompany digital books, and as more printed books arrive “shelf-ready” with pasted-on spine labels and metadata records loaded into local catalogs.

The traditional roles of selecting, collecting, and organizing materials now focus on special collections, which have become the primary means for research libraries to distinguish themselves from each other. These special collections and rare materials are being digitized, doubling the requirements for access and curation.

Thus the “access vs. assets” pendulum (Higginbotham & Bowdoin, 1993) has swung heavily toward access. But access to what? To the “collections” a given library can offer its registered patrons? The local library catalog never provided comprehensive access to all the individual journal articles, books, documents, records, and other artifacts in local collections. Federated searching methods across library databases have proven to be far more problematic than anticipated (NISO MetaSearch Initiative, 2008). As a means to discover and retrieve content in one’s own research libraries, general search engines such as Google Scholar or Microsoft’s Live Search Academic, combined with OpenURL links, are often more effective. Research library patrons want access to far more content than that “owned” by their own institution, of course. Some of what they want is free on the Internet, and more easily integrated through broad search engines. Other items of interest may be “owned” or accessible elsewhere. The “long tail” issue for libraries, as Lorcan Dempsey (2006) noted, is how to match supply and demand. Aggregation by search engines is one means. Aggregation by globalizing union catalogs is another, such as the emergent Worldcat Local (<http://www.oclc.org/worldcatlocal/>) that is being pilot tested by a number of research libraries, including the University of California.

Conversely, the role of research libraries is broadening as “data” become first class objects to be retained and curated for reuse, long after research results have been published. Some data have a home in disciplinary repositories, but in most fields, data reside on the disks, shelves, and in the refrigerators of the investigators who produced them. As the U.S. National Science Foundation (NSF's Cyberinfrastructure Vision for 21st Century Discovery, 2006), National Institutes of Health, the Wellcome Trust, and their counterparts in Europe and elsewhere begin to require investigators to make their data available, many eyes are turning to research libraries for leadership (Borgman, 2007). At present, data curation (which includes organization), appears to be an unfunded mandate. However, policy and research on sustainable models continues apace.

Providing access to an array of content well beyond publications, and well beyond those of local collections, requires new ways of thinking about the role of libraries. Similarly, curation of print and digital resources, whether documents, data, or various combinations thereof, requires new kinds of infrastructure, new kinds of skills, and a deep engagement with research communities. Research libraries, librarians, academicians, university leaders, and library and information science educators all must address the changing infrastructure, human resources, and economic requirements of the digital age if libraries are to remain at the intellectual center, whether or not the physical center, of the campus.

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