Enabling Noncompetitive Collaboration at Web Scale

On March 25, 2011, the Digital Public Library of America (DPLA) Steering Committee posted a statement describing how the DPLA efforts could move forward. The DPLA is an ambitious undertaking, not just for the technical infrastructure and coordination required but, more notably, for the scale of collaboration and trust needed between cultural heritage institutions, content providers, funders, and other contributors. A community-driven trust network will have to be established that supports and sustains the organizational vision of the DPLA. This community of the commons will be the key driver for the long-term success of establishing and maintaining this national-scale library cyberinfrastructure endeavor.

The vision of the DPLA is an “open, distributed network of comprehensive online resources that would draw on the nation’s living heritage from libraries, universities, archives, and museums in order to educate, inform and empower everyone in the current and future generations.” The DPLA will engage a community of diverse partners to utilize the best in cyberinfrastructure, web science, and semantic technologies to build a new kind of web-enabled community, supporting access to the digital cultural commonwealth of U.S. libraries, archives, and museums. At its core, the DPLA will be the ultimate library created for a world that works at web scale.

The idea of creating libraries at “web scale” or of pushing library services to the network level is not new. Lorcan Dempsey writes often about how “scalar emphasis has become an important question for libraries,” and the increasingly socially networked world demands a change in library operations, most of us hesitate or decline to work in a dynamic collaborative environment in which we rely on others for services. There is a tension between local priorities and contributions to the greater good; we lack metrics to measure the value of collaborative effort. Current metrics that measure service quality and library value encourage competition between organizations and undermine the network-scale effort. A competitive environment does not facilitate the development of trust networks and is often a causal condition of distrust in large, complex collaborations.

In a recent EDUCAUSE Review E-Content column, Charles Henry stated: “The characteristics by which libraries and higher education institutions are defined are fundamentally incompatible with broadly deployed digital tools, resources, features, and capacity. As presently conceived, neither libraries nor universities are structured, organized, or funded to achieve the kind of federated and collaborative enterprise that the digital environment can provide and, in a sense, insists upon.” This attitude needs to shift if libraries, university presses, and others in the university information infrastructure want not only to survive but to thrive in today’s data-intensive, ubiquitously networked environment. In fact, two current National Science Foundation Datanet projects—DataONE (http://www.dataone.org) and the Data Conservancy (http://www.dataconservancy.org)—clearly demonstrate that a collaborative interdisciplinary approach is required in order to maintain, preserve, and add value to digital research data throughout its curation lifecycle. MacKenzie Smith describes this interdisciplinary approach as “data curation ecology.”

A good analogy for this shifting information environment is one from an ecological framework that can be found in the TED talk by Dan Barber: “How I Fell in Love with a Fish.” In this presentation, Barber discusses an alternative approach to aquaculture. The Veta La Palma fish farm in southern Spain is located on an island in an estuary 16 kilometers from the Atlantic Ocean. This farm is different for many reasons, but the most notable is that Veta La Palma measures its success by
the health of its predators. Because the farm is also the largest private bird sanctuary in Europe, 20 percent of the fish and fish eggs are lost to birds each year. This is good, says the farm's biologist, Miguel Medialdea. “We farm extensively, not intensively. This is an ecological network. The flamingos eat the shrimp. The shrimp eat the phytoplankton. So the pinker the [flamingo] belly, the better the system.”

Veta La Palma provides an alternative to the more common agribusiness model, which tends to be monoculture (farming only corn, only soybeans, or only salmon, for example) and resource-intensive, relying on high-touch intervention through chemistry and machines. In this story, success is measured in terms beyond the current best-practice realms: the model succeeds and thrives because old metrics have been discarded and newly aligned components have become the norm. Academic research libraries need to take a similar tack and change how we approach and organize around large-scale, complex challenges.

Creating new organizational models in light of today's highly networked, socially linked environments is nothing new for the Canadian Partnership for Children's Health and the Environment (CPCHE); their constellation model of collaborative social change was developed in this vein. The model offers an innovative approach to organizing collaborative efforts in the social-mission sector and shares various elements of the open-source model. It emphasizes self-organizing and concrete action within a network of partner organizations working on a common issue. Instead of a traditional hierarchical structure, with an advisory board, standing work teams, and defined roles, the constellation model comprises self-organizing action teams that operate within the broader strategic vision of a partnership. These constellations are outwardly focused, placing their attention on creating value for those in the external environment rather than on the partnership itself. While serious effort is invested into core partnership governance and management, most of the energy is devoted to the decision making, resources and collaborative effort required to create social value. The constellations drive and define the partnership. The National Digital Stewardship Alliance (http://www.digitalpreservation.gov/ndsaa) uses the constellation model to inform its development. The Digital Library Federation (http://www.diglib.org), a program of the Council on Library and Information Resources, is transitioning its organizational model to follow this emergent form. As Margaret Wheatley and Deborah Frieze explain:

Emergence is how life creates radical change and takes things to scale. . . . In nature, change never happens as a result of top-down, pre-conceived strategic plans, or from the mandate of any single individual or boss. Change begins as local actions spring up simultaneously in many different areas. If these changes remain disconnected, nothing happens beyond each locale. However, when they become connected, local actions can emerge as a powerful system with influence at a more global or comprehensive level. 10

In his story about Veta la Palma, Barber acknowledges that when he discusses this unique farm and other smaller, family-farm efforts, often he is challenged: “But how are you going to feed the world?” He counters that the question should be, “How can we create conditions that enable every community to feed itself?” And he answers: “To do that, don't look at the agribusiness model for the future. . . . It's high on capital, chemistry, and machines.” Instead, he says, look to the ecological model, to “farms that aren't worlds unto themselves,” to “farmers that are not just producers but experts in relationships.” 11

To address large-scale challenges such as providing open access to the nation's digital cultural and scientific heritage or curating massive amounts of heterogeneous digital research data, we need to think differently about how we engage and organize around the challenge itself.

Notes
11. Barber, “How I Fell in Love with a Fish”