

Dan Cohen's Digital Humanities Blog » Blog Archive » The Vision Of ORE



One form of serious intellectual work that could use much more respect and appreciation within the humanities is the often unglamorous—but occasionally revolutionary—work of creating technical standards. At their best, such standards transcend the code itself to envision new forms of human interaction or knowledge creation that would not be possible without a lingua franca. We need only think of the web; look at what the modest HTML 1.0 spec has wrought.

The Object Reuse and Exchange (ORE) specification^[1] that was unveiled today at Johns Hopkins University^[2] has, beyond all of the minute technical details, a very clear and powerful vision of scholarly research and communication in a digital age. It is thus worth following the specification as it moves toward a final version in the fall of 2008, and to begin thinking about how we might use it in the humanities (even though it will undoubtedly be adopted faster in the sciences).

The vision put forth by Carl Lagoze^[3], Herbert Van de Sompel^[4], and others in the ORE working group^[5] for the first time tries to map the true nature of contemporary scholarship onto the web. The ORE community realized in 2006 that neither basic web pages nor advanced digital repositories truly capture today's scholarship.

This scholarship cannot be contained by web pages or PDFs put into an institutional repository, but rather consists of what the ORE team has termed “aggregates,” or constellations of digital objects that often span many different web servers and repositories. For instance, a contemporary astronomy article might consist of a final published PDF, its metadata (author, title, publication info, etc.), some internal images, and then—here's the important part—datasets, telescope imagery, charts, several publicly available drafts, and other matter (often held by third

parties) that does not end up in the PDF. Similarly, an article in art history might consist of the historian's text, paintings that were consulted in a museum, low-resolution copies of those paintings that are available online (perhaps a set of photos on [Flickr^{\[6\]}](#) of the referenced paintings), citations to other works, and perhaps an associated slide show.

How can one reliably reference and take full advantage of such scholarly constellations given the current state of the web? As Herbert Van de Sompel put it, ORE tries to identify in a commonsensical way “identified, bounded aggregations of related objects that form a logical whole.” In other words, ORE attempts to shift the focus from *repositories* for scholarship to the *complex products of scholarship themselves*.

By forging semantic links between pieces entailed in a work of scholarship it keeps those links active and dynamic and allows for humans, as well as machines that wish to make connections, to easily find these related objects. It also allows for a much better preservation path for digital scholarship because repositories can use ORE to get the *entirety* of a work and its associated constellation rather than grabbing just a single published instantiation of the work.

The implementation of ORE is perhaps less commonsensical for those who do not wish to dive into lots of semantic web terms and markup languages, but put simply, the approach the ORE group has taken is to provide a permanent locator (i.e., a URI, like a web address) that links to what they call a “resource map,” which in turn describes an aggregation. Think of a constellation in the night's sky. We have Orion, which consists of certain stars; a star map specifies which stars comprise Orion and where to find each of them. The creators of ORE have chosen to use widely adopted formats like [RDF^{\[7\]}](#) and [Atom^{\[8\]}](#) to “serialize” (or make available in a machine-readable and easily exchangeable text format) their resource maps. [Geeks can read the full specification in [their user guide^{\[9\]}](#).]

In the afternoon today several compelling examples of ORE in action were presented. Ray Plante of the NCSA and National Virtual Observatory showed how astronomers could use ORE and a wiki to create aggregates and updates about unusual events like supernovas, as different observatories add links to images and findings about each event (again, think of Van de Sompel's "logical whole"). Several presenters mentioned our [Zotero^{\[10\]}](#) project as an ideal use case for ORE, since it already downloads associated objects as part of a single parent item (e.g., it stores metadata, a link to the page it got an item from, and perhaps a PDF or web snapshot). Zotero is already ORE Lite, in a way, and it will be good to try out a full [Zotero translator^{\[11\]}](#) for ORE resource maps that would permit Zotero users to grab aggregates for their research and subsequently publish aggregates back onto the web—object reuse and exchange in action.

Obviously it's still very early and the true impact of ORE remains to be seen. But it would be a shame if humanities scholars fail to participate in the creation of scholarly standards like ORE, or to help envision their uses in research, communication, and collaboration.

There has been much talk recently of *the social graph^[12]*, the network of human connections that sites like Facebook bring to light and take advantage of. If widely adopted, ORE could help create *the scholarly graph*, the networked relations of scholars, publications, and resources.

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References

1. [^ Object Reuse and Exchange \(ORE\) specification](#)
(www.openarchives.org)

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