# A map of relations: Three interfaces in the *Electronic Book Review*

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## Introduction

Over the past fifteen years I have been working both as an information system designer and as a practitioner and teacher of architecture. My role in the Electronic Book Review has therefore always been *architectural*. By this, I am referring to two things: first, the design of the principles underlying an information system; and second, a particular way of thinking about that design in which the logic of the interface is seen in structural terms.

There have always been between architecture and informatics strong metaphorical and literal connections. These have, however, tended to be asymmetrical: the information sciences have often used architectural tropes, borrowing terminology (such as "information architecture" or the recently revived archaic verb form of the word "architect" to mean the design of computing systems) and theory (such as Christopher Alexander's design patterns). On the other hand, architecture's use of information technology is for the most part literal. Where architectural tropes in informatics bring with them a degree of abstraction—a translation from practice to principles via metaphor—the incorporation of informatic tools into architecture through the techno-euphoric discourses of the design studio is strictly material. I am therefore concerned in my own research with how such a relationship might be made symmetrical, how information technology might be interpreted in such as way as to provide architectural thinking with new epistemologies. In particular, I'm interested in how one might do so by distancing both "information" *and* "technology" from their almost exclusive association with computing machinery, particularly in Anglo-American discourse.

Spatial information utopias such as the early 20th century Mundaneum of the information scientist Paul Otlet and the later Centre Pompidou in Paris suggest that architecture itself operates as an information technology: it acts as an interface to the information archive; it interoperates within a network of other information systems; it offers a framework within which new information can be produced. As part of an information system, then, the *ebr* interface is a fundamentally architectural problem, which is not simply to say to that it is organized by an "information architect" but rather that it participates in the organization and display of information at a deeper, structural level: it is about mapping relations.

Focusing on their "architectural" aspects, I would like to discuss three types of interface in *ebr*. I will focus on information retrieval problems, specifically those of "relevance" and "aboutness" and how these problems can be located within the logic of the interface's "thick 2-D" space (to borrow a term from the architect Stan Allen (Allen, 2001)). Our current research involves assessing Semantic Web technologies for the next version of *ebr*, and so toward the end of this short paper, I'll share some observations on the promises and limitations of the Semantic Web in achieving our goals.

## Interface 1: Between user and archive

The interface between user and database is concerned primarily with the relevance of documents—which set of documents from a database should be displayed to a user for a given condition. Relevance is both a canonical problem in modern information retrieval systems (of which *ebr* is a class) and a central concern of today's debates on bottom-up versus top-down approaches to classification. What has remained unchanged since the foundations

of digital information retrieval were laid in the 1960s is the tendency to locate relevance at the level of inherent semantics of documents and queries, whether the "semantic intelligence" used to identify it is modeled as knowledge representation at a high level or simulated statistically using low-level user-generated tags.

Our approach to the problem of relevance is unashamedly editorial, and is exemplified in the Weave page (http://www.electronicbookreview.com/action/Search?kw=brigham - fig. 1). Following the lead of digital mix and list culture, we shift the emphasis away from inherent document semantics and onto networks of discourse. The editor classifies essays according to primary and secondary threads and assigns to them unstructured, flat metadata tags. At the same time, guest curators are invited to build personal "mixes", which are personal collections of essays on a specific theme. We also maintain a measurement of editorial activity for each essay in the database. The more active an essay, the more relevant it is deemed to be. In this way, an old essay that suddenly enjoys renewed editorial attention (in the form of being newly posted, glossed, or incorporated into a mix) will find itself bubbling to the surface. In determining relevance we thus make no attempt to extract any essential "aboutness" from individual documents; instead, we determine relevance through relations established by editorial assertions interwoven by the reader. Put simply, our view is that relevance does not inhere in the text of an essay but rather in the relationships among documents across the archive.

A risk in any document map such as the weave is a reliance on indexical modes of display, by which I mean interfaces that passively visualize underlying data. Indexicality is one of the central visual topoi of New Media, perhaps the clearest example being the well-known StarryNight document map (http://rhizome.org/starrynight/) a surface upon which hidden structures of documents and data inscribe emergent patterns, in much the same way that we might perceive the topography of the surface of the ground defined by hidden geological processes. The visual patterns are ontologically dependent on a hidden process, without which there would be simply an empty screen, but at the same time bear a passive relationship to it, a one-way information flow in which the display does not feed back in any way into the underlying process that generated it. The art historian Rosalind Krauss has described indexical signification in artworks as substituting "the registration of sheer, physical presence for the more highly articulated language of aesthetic conventions" (Krauss, 1985). In Starry Night, the reader is witness to a spectacle of information accumulation that, despite the night sky metaphor, is perfectly in keeping with the more general preoccupations with indexicality in New Media.

In the Weave, we extend the logic of the indexical interface launched by such projects as StarryNight, but add to its passive data visualization function a kind of agency: on the one hand, the editors and weavers use this map to build additional mixes and to inform editorial classification of future essays; on the other, the map does not so much display current relations but suggests new connections between texts. By mapping on two axes the interrelated activities of three types of user (editor, guest mixer, and reader—see fig. 2) the *ebr* Weave tries to go beyond the simple registration of the archive's presence to project new configurations. In this way, it is like the kind of map described by the landscape architect

James Corner, in that is not simply a passive tracing of a terrain but has "agency" through its production of new territorial configurations (Corner, 1999).

## Interface 2: Between user and document

Where the Weave is an interface between a user and the archive as a whole, glossing—the ability to add commentary in the margins of essays—links an individual commentator to a single essay (fig. 3).

From a technical point of view, glossing is simple. We have borrowed the basic architecture of the W3C's Annotea project (http://www.w3.org/2001/Annotea/) in which annotations are stored externally to the annotated document and are linked to specific locations in the target XML using XPointer (fig. 4).

More interesting are the questions glossing raises about the annotated text itself. Ideally, a commentator would freely create annotations at arbitrary locations in the text. To design a usable hypertext interface, however, required an a priori segmentation of the text into discrete units; how could glossing operate without predefined units with which the commentator interacts? Moreover, how would a reader navigate an arbitrarily complex nested structure of textual segments, each referenced by an annotation, and still preserve the integrity and flow of the original text? Both of these questions concern breaking down the text into lexias, or units of reading, a well-known structural problem described by Roland Barthes in 1970, and one of the canonical themes of hypertext theory (Barthes, 1974; Landow, 1994). The lexia, according to Barthes, "will include sometimes a few words, sometimes several sentences; it will be a matter of convenience: it will suffice that the lexia be the best possible space in which we can observe meanings".

For lexia, we decided simply to use paragraphs, defined by P elements in the markup (fig. 5). The structured nature of XHTML, along with the fact that *ebr* essays are authored according to strict guidelines, means that this paragraph-based approach poses no particular technical problems in modeling documents. More troubling, however, is the resulting friction between the structural logic of the paragraph and the critical logic of annotation, for, according to Barthes' definition, one can easily imagine a lexia transgressing paragraph boundaries (fig. 6). Clearly, it is problematic to constrain to such a degree the act of interpretation with the paragraph's logic of authorial composition.

## Interface 3: Between archive and archive

The final interface that I will discuss involves no human user but only collaborating information systems. We see *ebr* down the road as part of a distributed federation of collaborating web applications, a model now commonplace in enterprise computing but, sadly, rare among the information silos that make up humanities computing. Fig. 7 shows only a hypothetical example, the integration of *ebr* with The University of Virginia NINES project (http://www.nines.org/) and the Electronic Literature Organization Directory (http://directory.eliterature.org). The former project itself argues for this type of collaboration.

We have taken our first steps into this arena through what we call "enfolded" essays (http://www.electronicbookreview.com/thread/enfolded - fig. 8). These are remote web resources wrapped in the same metadata schema as *ebr* essays, allowing them to be displayed in the *ebr* interface (see, for example, http://www.electronicbookreview.com/thread/enfolded/collaborative). One of the promises made by the Semantic Web, the W3C's proposal for structured metadata, is to solve this type of use case. Unfortunately, even a brief introduction to the Semantic Web is beyond the scope of this paper. I'd nevertheless like to consider it here, both as an architectural pattern for a small set of collaborating applications (as opposed to the universalizing ambitions for which the initiative is rightly criticized) and a protocol for building shared conceptualizations ("ontologies" in Semantic Web language) within a narrow, well-bounded domain. I'd like to do so by considering a more straightforward, almost trivial, use case that is well within reach.

Currently, we store all author names and biographical data in the *ebr* database. At the same time, the Electronic Literature Organization maintains a directory of author biographies with citations of their works. A simple web service could serve this data, making it available to client applications such as *ebr*. Reciprocally, *ebr* could publish a web service, effectively an RSS feed, that would notify subscribing applications such as the Directory about newly published essays. In technical terms, this type of collaboration is simple. Moreover, authority records for data such as author biographies are relatively easy to model and to come to agreement on, compared with more complex ontologies (fig. 9). Yet, even this trivial use case remains unrealized, partially because, in my opinion, justifiable criticisms of the Semantic Web's totalizing ambitions have stifled investigation at a more semantically restricted, local level.

In contrast to the simplicity of the ELO Directory integration, a more ambitious Semantic Web application might allow the automatic generation of mixes. In the spirit of iTunes' "smart playlists", a reader could configure such "Smart mixes" based on parameters such as date of publication, similar *ebr* essays, common keywords, works by a certain author, etc. The application would then monitor a set of Semantic Web-based registered services for new essays to enfold.

## Conclusion

This last example raises the question of what should be automated and what should remain under editorial control, a question that has dogged us throughout the project. Even if automation were technically possible, the construction of a universal, semantic ontology for the domain of electronic literature seems unlikely, if not undesirable. Instead, I would like to see ontologies for structural aspects of the archive. At the Experiential Technology Center at UCLA, we have recently completed another project, a database of Ancient Roman architecture, built on simple types of RDF-based reasoning that use ontologies of spatial relations (near, adjacent, facing, etc) combined with ontologies associating ancient authors with topographic locations and defining categories of historic periodization (see http://dlib.etc.ucla.edu/projects/Forum). Similarly, in the domain of electronic literature, common languages for representing document lifecycle and workflow, biographical data, etc

would allow a certain amount of ontological reasoning at the structural level of the archive, allowing for new types of Weaving.

Such local, domain-specific ontologies are more achievable and, happily, more productive than the "world brain" (to borrow from H.G. Wells) promised by the Semantic Web. At the same time editorial control should not be relinquished to what Jaron Lanier, in recently criticizing today's collective online practices, has called "digital Maoism" (http://www.edge.org/3rd_culture/lanier06/lanier06_index.html). But I would suggest that the folksonomy versus ontology debate is founded on a shared fallacy: both fall prey to the Sisyphean problem of identifying and representing the essential aboutness of documents, ignoring the more accessible and productive meanings residing in patterns of use and conversation.

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## Figures

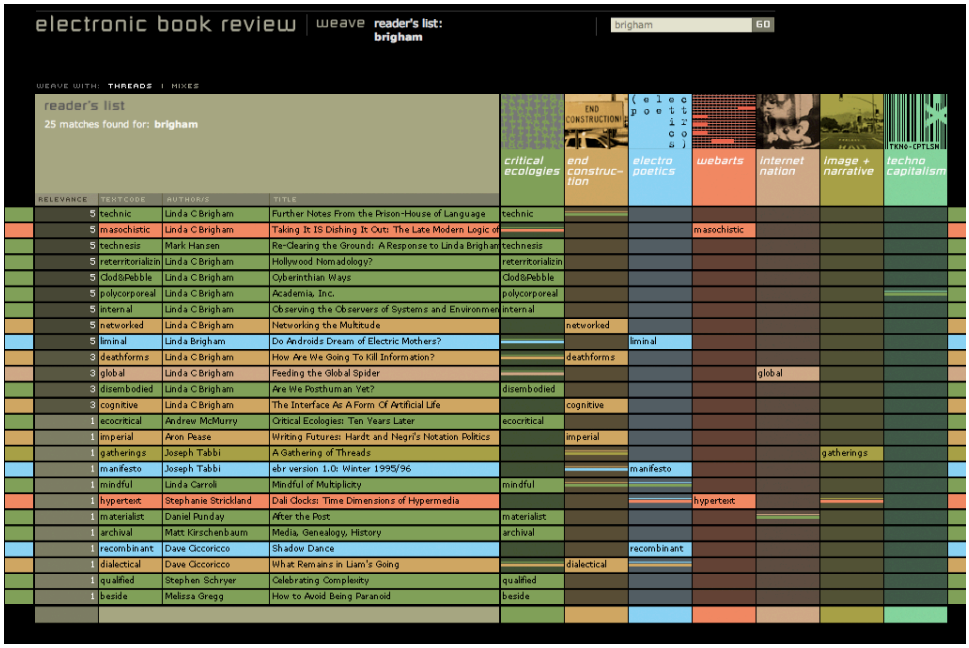



Figure 1

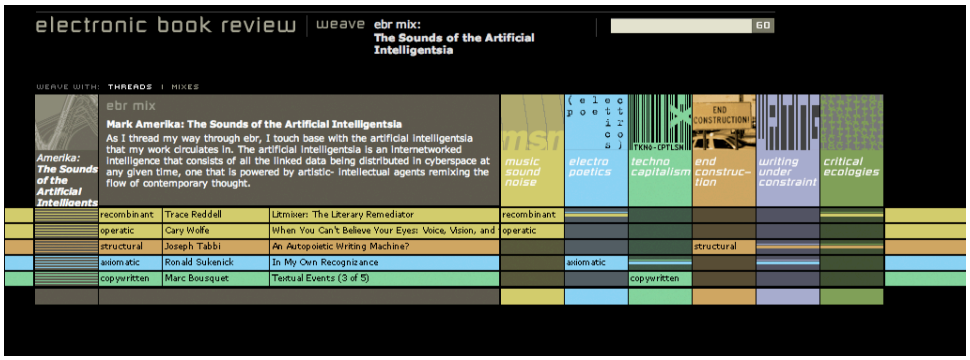



Figure 2

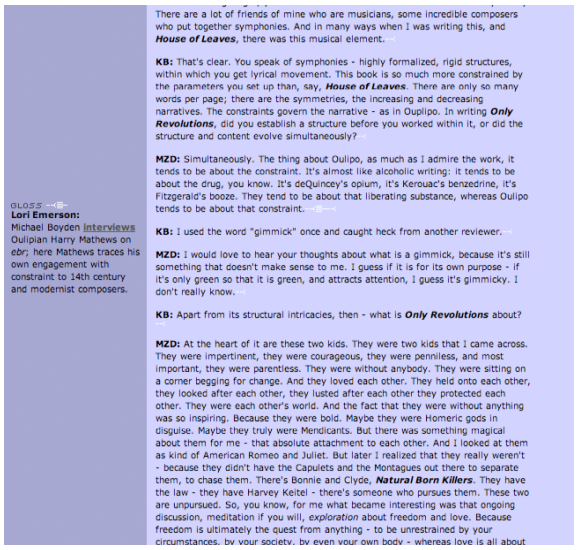



Figure 3

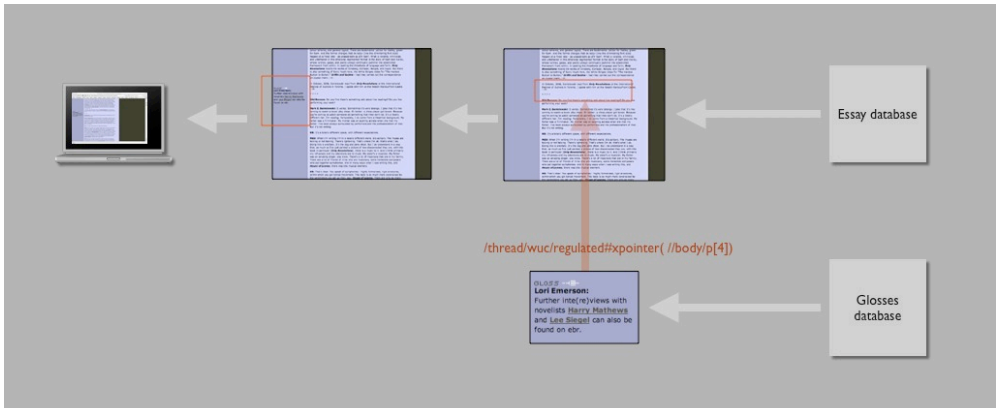
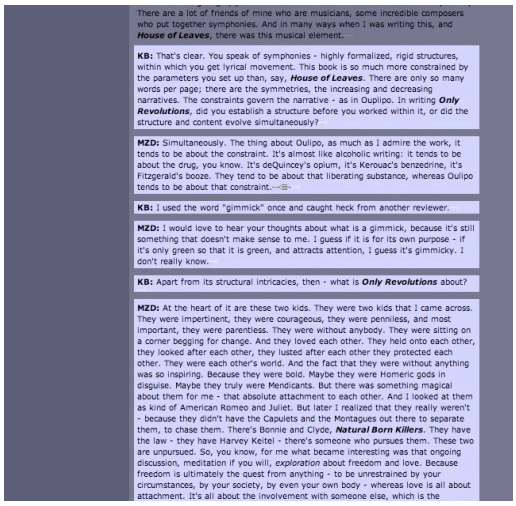



Figure 4



There are a lot of friends of mine who are musicians, some incredible composers who put together symphonies. And in many ways when I was writing this, and ***House of Leaves***, there was this musical element.

**KB:** That's clear. You speak of symphonies - highly formalized, rigid structures, within which you get lyrical movement. This book is so much more constrained by the parameters you set up than, say, ***House of Leaves***. There are only so many words per page; there are the symmetries, the increasing and decreasing narratives. The constraints govern the narrative - as in Oulipo. In writing ***Only Revolutions***, did you establish a structure before you worked within it, or did the structure and content evolve simultaneously?

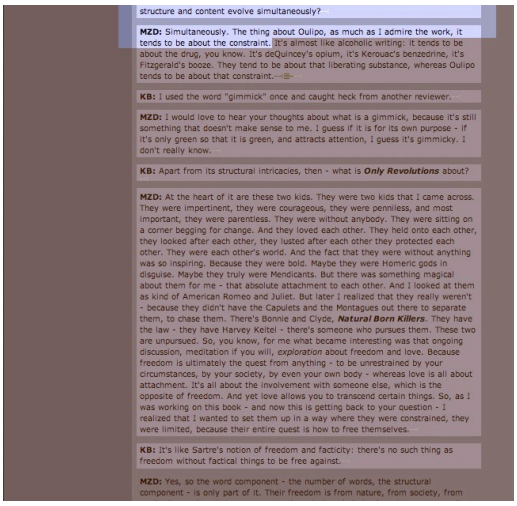
**MZD:** Simultaneously. The thing about Oulipo, as much as I admire the work, it tends to be about the constraint. It's almost like alcoholic writing: it tends to be about the drug, you know. It's deQuincey's opium, it's Kerouac's benzedrine, it's Fitzgerald's booze. They tend to be about that liberating substance, whereas Oulipo tends to be about that constraint.

**KB:** I used the word "gimmick" once and caught heck from another reviewer.

**MZD:** I would love to hear your thoughts about what is a gimmick, because it's still something that doesn't make sense to me. I guess if it is for its own purpose - if it's only green so that it is green, and attracts attention, I guess it's gimmicky. I don't really know.

**KB:** Apart from its structural intricacies, then - what is ***Only Revolutions*** about?

**MZD:** At the heart of it are these two kids. They were two kids that I came across. They were impertinent, they were courageous, they were penniless, and most important, they were parentless. They were without anybody. They were sitting on a corner begging for change. And they loved each other. They held onto each other, they looked after each other, they lusted after each other they protected each other. They were each other's world. And the fact that they were without anything was so inspiring. Because they were bold. Maybe they were Homeric gods in disguise. Maybe they truly were Mendicants. But there was something magical about them for me - that absolute attachment to each other. And I looked at them as kind of American Romeo and Juliet. But later I realized that they really weren't - because they didn't have the Capulets and the Montagues out there to separate them, to chase them. There's Bonnie and Clyde, ***Natural Born Killers***. They have the law - they have Harvey Keitel - there's someone who pursues them. These two are unpursued. So, you know, for me what became interesting was that ongoing discussion, meditation if you will, *exploration* about freedom and love. Because freedom is ultimately the quest from anything - to be unrestrained by your circumstances, by your society, by even your own body - whereas love is all about attachment. It's all about the involvement with someone else, which is the



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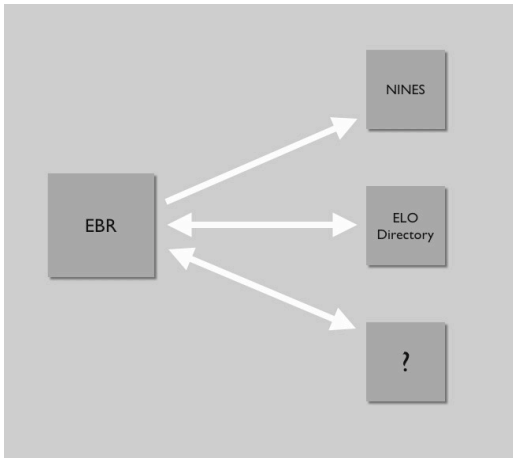
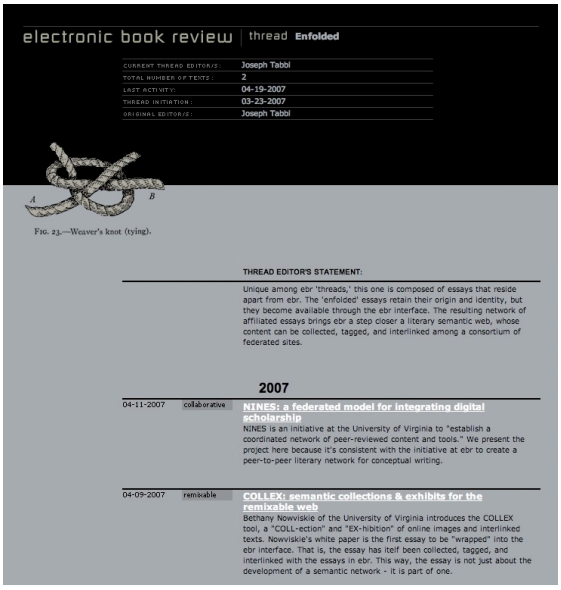
**KB:** It's like Sartre's notion of freedom and facticity: there's no such thing as freedom without factical things to be free against.

**MZD:** Yes, so the word component - the number of words, the structural component - is only part of it. Their freedom is from nature, from society, from

Figures 5 and 6




Figures 7 and 8

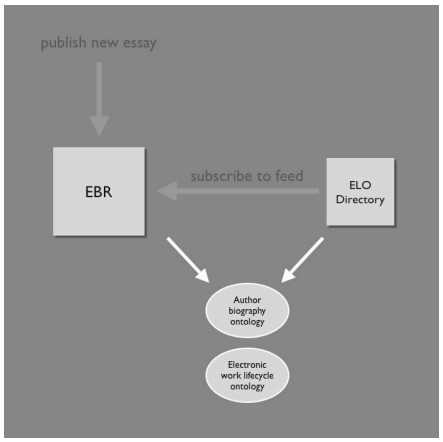



Figure 9