

## Third Commentary on “XML and the New Design Regime”

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### Abstract

*This article focuses on the distinction between the methodology and technology behind XML and the content of the information that it must convey. The author argues that XML, rather than being in an incunabula state of development, is a highly structured, controlled (by standards organizations) communication channel. The author concludes that Wilkes’s model is valid for representing how labor is divided in creating XML, but that it does not explain how the norms, standards, and conventions of the technology are determined.*

**I.7.2 Document Preparation**—Languages and systems, Markup languages

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Gilbert Wilkes, in his paper “XML and the New Design Regime: Disputes Between Designers, Application Developers, Authors, and Readers in Changing Technological Conditions and Perceptions of Social and Professional Needs,” attempts to identify a model that describes how norms and conventions are emerging from discourse networks and communities of practice regarding the use of XML in the production and consumption of texts. He bases his research on a discussion thread from a Usenet newsgroup that was sparked by an article in *Scientific American* in which the authors claimed that “the day of the self-trained Web hacker is not yet over, but the species is endangered.”

Using process modeling techniques, Wilkes identifies specific producers and consumers of texts as they appear in the discussion thread. He also identifies the types of work that the participants would perform and which activities are privileged in their communities of practice. The producers of texts perform work in the following five categories: “Gathering and Collating, Content Coding, Media Selection, Dividing Labor, and Channel Maintenance.” From this, Wilkes concludes that norms for each of the five categories are well specified except for “Channel Maintenance.” He writes, “there is one element, however, that remains somewhat under-specified; the notion of the channel, maintaining or policing the channel.”

Wilkes’ approach to examining how the norms and conventions of XML’s application on the Web are emerging is intriguing, particularly the notion of XML, and the Web itself, as incunabula forms of writing. He defines incunabula forms as “what get produced before the products of a writing system achieve a state of closure, before a literate community has achieved consensus regarding norms of use and meaning and standards of value.” Wilkes posits that XML is in this stage of

development, and, in 1999, that might have well been the case. So the question for today is whether XML conforms to the model that Wilkes posits or whether another model better describes XML and associated technologies.

What is XML today, as it is used in communities of practice, and is it in an incunabula stage of development? XML, as a language, was designed so that it could stand alone. The XML working group of the W3, which determines the formal protocol and direction of the XML language, writes that XML documents should be understandable as stand-alone documents. However, in practice, an XML document is not the end product of a communication transaction. The XML document is a piece of a suite of technologies. These technologies include a data storage system, a DTD (document type definition), an XML parser/interpreter, an XML document, and a translation utility for a data consumer, either another system or a human end user.

Wilkes writes “we often specify what is signal or noise—and we often do so not on descriptive grounds, or on grounds of what we find in the world, but on normative grounds, on grounds of what we consider right or standard or preferable” in a channel or discourse network. In a discourse community that uses XML-based technologies as the primary means of data exchange, which in today’s environment are primarily business to business data transfers, the grounds on which what is specified as signal or noise is primarily descriptive. The business relationships and technological hand-offs are pre-negotiated and rigidly defined. Additionally, they are not pre-negotiated solely by the entities participating in the exchange. XML as a standard is determined by the XML working group of the W3 organization. The data transmission is conducted over networks using established TCP/IP protocol. The DTDs, the component that is most likely to be influenced by norms, are specified not just by industry-specific organizations, but also by third party consortia that may not have input from a specific industry.

The argument could be made that DTDs are based on norms, but I would counter that the DTD must conform to all of the other constraints and standards first. In this sense, XML is not an incunabula form of writing as Wilkes has suggested. XML emerges as a

full-grown technology prior to its use in communities of practice. Participants in a discourse community may get more adept at integrating XML into their day-to-day activities, but XML—the core language and related technology standards—are pre-determined outside of the communities of practice and will tend to remain relatively stable.

This is the crux of the thing: Does a new and potentially disruptive technology change the basic nature of the thing communicated, or, what is considered “a good text?” XML is an information technology, but so is the quill pen and ink well. The means of communication, the how, is so much less important than the what, the content of communication. In his conclusion Wilkes writes, “It is important in that the materiality of the channel—its possibilities and constraints—condition any notion of what is a good text, and what is not.” It is not “the materiality of the channel”, but the material communicated via the channel that determines the value of that particular channel. This distinction is important as it privileges content rather than technology.

Is Wilkes’ model valid? I believe that it is a workable model for how labor is divided in the production of XML-based communication, but is not valid for how the norms, standards, and conventions of XML technology use are determined. XML is a more political technology. By political, in this case, I mean that many industries have a vested interest in the development of new technologies. Individual industries and industry-sponsored groups lobby to influence the direction or form that a standard will take. Viewed in this context, while there is a certain degree of organic growth and self-determination regarding the division of labor, the technologies themselves and the parameters and constraints of their use are held in check by the governing bodies of those technologies and industries.

To sum up, Wilkes’ model provides a good view of how labor is divided in a discourse network when it is confronted with a new, potentially disruptive technology. He has also identified a valuable area for further study, the channel. However, he neglects to place the model in the larger context of how the disruptive technologies emerge and are introduced into the communities of practice. This greatly influences what is possible for the discourse community.