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# Digital Scholarship and Interactivity: A Study of Commenting Features in Networked Books

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## Comments

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## Digital Scholarship and Interactivity: A Study of Commenting Features in Networked Books

**Abstract**

Digital scholarly publishing is moving toward the use of commenting features, which allows readers to contribute to the knowledge production of the publication and establishes a community of readers within a digital text. In this article, I use theories of interactivity in order to articulate some of the potentials as well as challenges that are inherent in using commenting features within digital scholarship. In using interactivity as the main theory through which scholars understand their decisions about commenting functions, this article argues, digital scholars will better be able to frame the interactions that can occur among readers and the author within the online scholarship.

*Keywords:* interactivity; digital scholarship; networked books; commenting features; annotation; reader feedback

**1. Introduction**

The practice of annotation has often been traced back to medieval manuscript cultures. Medieval scholars used margins as spaces to share knowledge and interpret texts (Wolfe, 2002). Along with the rise of print culture, too, a rich tradition of reader annotations developed—most popularly discussed under the term *marginalia* (Jackson, 2005; Yale, 2011). Digital innovations, as J. Elizabeth Clark (2011) reminded readers, now offer authors the chance to fuse the “creativity of the individual monk illuminating a manuscript” with the “power of digitally distributed knowledge,” transforming reader annotations from scribbled marginalia in a printed book to typed comments that are the “property of shared community” (p. 28). Indeed, scholars publishing online have begun to open their books up to readers for marginal comments using annotation technologies, creating communities of discussion and interpretation. In this article, I examine the opportunities and challenges for authors who want to integrate these types of commenting features<sup>1</sup> into their online scholarship. This article employs theories of interactivity to analyze these commenting features, discussing the structural, interpersonal, and social decisions authors need to consider before implementing reader feedback technologies into their scholarship.

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<sup>1</sup> I use the term “commenting features” to stand for online reader feedback for two reasons: (1) To avoid emphasizing one technology over another, as I am more concerned with how commenting features function. (2) Most often, when users click to give feedback in online scholarly texts, the button is titled “comment,” thus making *commenting features* an apropos term. The term also helps to distinguish this online practice amongst competing terms such as print marginalia or reader reviews while still recognizing a connection.

While scholars have worked to categorize and theorize the scholarly activity happening on the web (Barton, 2005; Burton, 2009; Purdy & Walker, 2010; Warner, 2007), commenting features have received relatively little attention. In a study of digital scholarly work occurring in various online spaces including webtexts, blogs, Twitter, and discussion forums, James Purdy and Joyce Walker (2012) went so far as to code for “dialogic exchange,” looking at when scholarly works encouraged and enacted direct or indirect dialogue, and they concluded that these spaces often served as a direct outlet to more formal scholarly productions because the ideas developed there found their way into other scholarship. Yet, it was likely beyond the scope of their excellent and extensive analysis to carefully theorize the types of exchanges that can happen. To extend and complicate their analysis, I analyze the scholarly activity happening on the fringes and in the margins of digital scholarship and suggest that this work, too, should be considered worthy scholarly activity. “When we disregard the knowledge-making practices and rhetorical moves possible and happening in digital spaces, we risk disenfranchising a whole generation of knowledge producers,” Purdy and Walker (2012) argued. To take up their argument, I analyze one such rhetorical move—commenting features. I agree with William Wolff (2013) that computers and writing researchers need to pay more attention to the interactivity “embedded in and afforded by” Web 2.0 (p. 211), and one obvious place to start is by looking at these interactive commenting features.

I focus specifically on the commenting employed in the genre of digital scholarship—in particular, the networked book, described in section 2. Following Cheryl Ball (2004), I use the term *digital scholarship* when describing networked books in order to delineate online scholarly texts in which the written word is prominent; the argument is linear; and standard print conventions are conformed to, such as the use of a table of contents, chapters, and page numbers. *New media scholarship*, on the other hand, “uses modes other than only written text to form an argument” and “and break[s] away from linear modes of print traditions” (Ball, 2004, p. 405). Steve Anderson and Tara McPherson (2011) have instead used the term “multimedia scholarship,” suggesting these are

works that employ “multiple media...user interactivity, a networked or database structure, nonlinear components, and a heightened attention to aspects of design, aesthetics, or form” (pp. 137-138).

Networked books do not typically constitute the multimodal, performative, experimental publications discussed by these researchers. Yet, it is exactly this field’s use of new media (or multimedia) scholarship that demonstrates there is something at stake in the issue of reader commentary. In other words, I make the distinction between new media scholarship and digital scholarship here not to say that commenting features should not be employed in both (as I think they should), but to point out that our field explores many innovative possibilities in the design of our online journals and manuscripts, but commenting features are rarely among those choices, even though authors of networked books, more traditional online compositions by our standards, are taking this chance. The computers and writing community is publishing excellent new media scholarship in the pages of *Kairos* and *Computers and Composition Online* (see, for example, Anderson, 2011; Johnson-Eilola, 2012; Kleinfeld, 2012), but, as such, it is surprising that commenting functions are rarely used, given the field’s penchant for innovation and experimentations with multimodality. Similar sites available for book-length works, such as the Computers and Composition Digital Press and Open Humanities Press, also do not offer commenting functions. These decisions could be due to technological concerns or the preference of authors and editors. Sometimes, for example, online publications need access to the HTML files to host the publications on their server, which can limit authors from using platforms like Blogger. Either way, my aim is not to critique a particular publication’s methods but to suggest how to use an additional feature that has generative potentials for authors and readers.

In English studies (particularly rhetoric and composition), digital scholarship has gained status as a valuable form of scholarly production, although work still needs to be done. As Steve Krause argued in 2007, “few of us in English studies nowadays would label articles published [online] as ‘not scholarship’ for the purposes of tenure and review” (par. 4). The problem often lies with “new media scholarship” (Ball, 2004) or “multimedia scholarship” (Anderson & McPherson,

2011). Evaluating this scholarly work for tenure and promotion is a documented challenge. Purdy and Walker (2010) contended, “Though we are beginning to recognize the importance of digital work, discussions have tended to focus primarily on establishing digital work as equivalent to print publications to make it count instead of considering how digital scholarship might transform knowledge-making practices” (p. 178). A year later, Anderson and McPherson (2011) made a similar argument that while there has been progress, tenure and promotion committees are “not now well-equipped” to evaluate multimedia scholarship (pp. 137-138). To deal with these concerns, researchers have suggested that the field must build new values into its tenure and promotion guidelines (Braun & Gilbert, 2008) by disentangling assumptions associated with print from these guidelines (Day et al., 2013); rewarding faculty for using a more “comprehensive range of scholarly contributions” (Purdy & Walker, 2010, p. 192); and bringing together guidelines from a variety of fields in order to develop fair evaluation practices (Anderson & McPherson, 2011). As such, while there is work to be done, our field is moving towards finding ways to argue for the validity of new media scholarship.

As noted, commenting features have received fairly little attention, and this is intimately tied up in the tenuous relationship between new media scholarship and tenure and promotion concerns. Choosing to employ commenting features means more work for already busy authors, as they may choose to respond to comments or make revisions based on feedback, and this work, right now at least, is not likely to count towards their scholarly production record. If committees are often not equipped to evaluate multimedia scholarship, they are also not likely to be able to evaluate or value commenting features, which understandably would deter some authors from putting forth the effort required. Yet, as mentioned, progress is being made in the area of evaluating new media scholarship, and as such, I would argue that commenting features should be added to the list of affordances or capabilities computers and writing researchers consider using when designing their compositions. There are tangible benefits to this kind of interactive knowledge production. Computers and writing scholars should care to make their work interactive through annotation capabilities because they can

benefit from the insights of others, participate in lively, idea-generating discussions, and because the quality of their work can be improved. Understanding these discussions as “interactive,” should help practitioners to understand that effective commenting can be engendered by properties of the medium, interpersonal relationships that can develop, and the users’ subjective feelings toward the medium, all of which authors can influence, as discussed in Section 4 of this article. However, authors should theorize and critically consider their approaches to interactivity because the benefits of interactivity are not natural affordances of a given technology. The way commenting features are structured can positively or negatively affect the discussions in those spaces, which is why this article presents considerations that researchers should reflect on before employing interactive comments.

The reasons for using interactivity as my analytical frame are as follows: The term interactivity has often been used to distinguish between earlier mass media and new media (Lievrouw and Livingstone, 2006; McMillan, 2006), to the point that interactivity has become a buzzword to describe new media and new media texts (Larsson, 2011; Quiring, 2009; Wysocki, 2004). Likewise, the systems that power commenting, such as Disqus and CommentPress, are frequently described as *interactive* commenting systems (“Disqus Comment System,” n.d., para. 1). Reader commentary in particular is often deemed “interactive” (Carnegie, 2009). Yet, the term in relationship to commenting is rarely theorized. Instead, interactivity is simply assumed as a component of readers’ comments. This article takes existing theories of interactivity and extends them to commenting features to better theorize the opportunities and challenges inherent in opening scholarly texts up to reader commentary. As Sally McMillan (2006) argued, “[u]nderstanding interactivity can help practitioners create environments that promote interaction” (p. 205). By using interactivity as the main theory through which scholars understand their decisions about commenting functions, they can determine the best ways to frame these features to get useful feedback. Below, I define networked books and discuss why commenting has proved useful for these texts. Then, I will explicate the extant theories on interactivity, tracing these theories through three case studies of networked books,

demonstrating the opportunities and challenges of using interactive comments. In closing, I offer heuristic questions for scholars to use as they consider implementing commenting features into their digital scholarship, and I offer some practical next steps and recommendations.

## **2. Defining networked books**

I use networked books written by digital humanists as case studies for examining commenting features because computers and writing scholarship rarely uses annotation functions in digital or new media scholarship. We do compose wikis, blogs, and hypertexts, but it seems that by the time our work is published, commenting rarely makes the cut. Plus, most of the research on wikis and blogs is concerned with their implementation in the composition classroom (Liew, 2010; Lundin, 2008; Zhang, 2010) or with how ideas circulated in these genres eventually make it into published works (Purdy & Walker, 2012), and hypertext theory has not focused on reader comments. Instead, this study of networked books shows how commenting features work within published, peer-reviewed scholarly work. I trace interactivity through these case studies in a way that I hope will be productive for extending this practice to published scholarship by the computers and writing community.

Ben Vershbow (2006), past Editorial Director of the Institute for the Future of the Book, defined a networked book as an open (typically scholarly) book that is designed to be written and read in a networked environment. The terms “open” and “networked” mean the texts are available for the public to view and comment on through social feedback mechanisms. They are also considered open because they are free to read and use accessible programs such as WordPress. These texts are typically linear and print-centric; however, they exist online and provide forums and annotation features for reader participation. Because of the reader feedback potentials, these texts are considered interactive. Texts such as Kathleen Fitzpatrick’s (2009) *Planned Obsolescence: Publishing, Technology, and the Future of the Academy*, Noah Wardrip-Fruin’s (2008) *Expressive Processing: Digital Fictions, Computer Games, and Software Studies*, and McKenzie Wark’s (2006) *GAM3R*

7H30RY<sup>2</sup> are each considered networked books and include commenting features. Wardrip-Fruin published his *Expressive Processing* manuscript-in-progress in pieces on his co-authored blog, *Grand Text Auto*. This experiment was conducted at the same time as anonymous reviewers from MIT Press were reviewing the manuscript. Similarly, Fitzpatrick used CommentPress, an online plugin for the WordPress blogging engine, to invite readers to comment on her manuscript, relying on reviews from colleagues and the public to help her revise her text for future publication with NYU Press. Wark's networked book also sought out reader commentary to assist with revisions before the print text was released. The print version, *Gamer Theory*, was published by Harvard University Press in 2007. The online comments on these texts functioned similarly to "prepublication peer reviews" (Hawisher and Selfe, 2012, p. 673), in the sense that reader comments were used by authors to revise their texts before publication. Commenting was still available post-publication, but tapered off.

All of these scholarly, networked texts eventually became print versions, likely because tenure and promotion concerns were present for these digital humanists. As Anderson and McPherson (2011) argued in *Profession*, "D]igital humanities scholars appear to be held to a double standard, needing to produce traditional print work (typically a monograph) in addition to their digital work in order to be taken seriously for tenure" (p. 137). There is little doubt that these pressures may have influence authors to produce print-based texts as opposed to leaving their books solely online. It is likely that commenting tapered off post-publication because readers did not feel their comments would be used to reshape the texts after the print works were released. Computers and writing scholarship, though, is often "born digital," meaning it cannot exist outside of a multimedia environment (Hawisher & Selfe, 2012, p. 690), which implies that commenting could be even more

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<sup>2</sup> I have chosen these three texts to study in more detail because they are well-known networked books and present different ways of doing a similar thing—employing reader comment features. However, there other online books using commenting features. See, for example, The Book of MPub. Sophie (<http://www.sophieproject.org/>) is also a web-based digital platform that allows for commenting but is not associated with a press.



useful. Without a print text signaling a “final” version, readers can continue to contribute and authors can continue to revise as new ideas, scholarship, and studies emerge.

Networked book commenting features are typically associated with open peer review experiments (Pack Sheffield, 2013), and as such, the most cited benefit of these functions is that they serve a peer-reviewing role in which other knowledgeable individuals contribute their wisdom to the text. While it is beyond the scope of this article to discuss the pros and cons of open peer review, it is important to recognize that these projects stemmed from the common ideology that reader feedback can improve the quality of an author’s scholarship, and this benefit is one of the main reasons we should consider using these functions. Jesse Wilbur (2006), a colleague of Vershbow’s, asserted in an interview about *GAM3R 7H30RY*, “The commentary [in networked books] definitely has value. It definitely is on some level as important as the core text” (as cited in Berinstein podcast). In other words, if commenting features are structured appropriately, scholars can receive useful peer feedback that could be as important as the core text. Yet, commenting features can have negative effects, too, such as arguments ensuing or false information being disseminated. Thus, it is crucial to examine how to make these interactive features work best for an author’s goals. By examining the interactions readers have within networked books, I argue that extending existing theories of interactivity to online commenting features can help producers of digital and new media scholarship effectively structure their texts, creating an environment that is generative for their work.

### **3. Framework for discussing commenting features: Interactivity**

Research on interactivity stems from two main traditions: computer science and sociology. From the sociological standpoint, interactivity is concerned with the relationships that exist between two or more people who adapt their behavior and actions to each other (Downes and McMillan, 2000). The computer-science tradition is concerned with human-computer interaction. Some scholars have argued that interactivity is concerned with the properties of the medium that allow for interactivity (Jensen, 1998; Markus, 1987; Schneiderman, 1987), whereas others have suggested

interactivity is a subjective feeling that depends on the experience of the individual user (Larsson, 2011; Downes and McMillan, 2000; Quiring, 2009; Wu, 1999). A third view advocated by Sheizaf Rafaeli (1988) suggested that interactivity is located in the exchange among participants. Interactivity is thus a concept that deals with human-to-human interaction, computer-to-computer interaction, and human-to-computer interaction, and it has been viewed as an element of the medium, users'<sup>3</sup> perceived experience with the medium, and/or the ways multiple users can exchange information within the medium.

I argue that computers and writing scholars should take into account *each* of these manifestations of interactivity as they build online texts. In other words, to define interactivity, we must understand it as communication (human-to-human, computer-to-computer, and/or human-to-computer) that can be built into the medium, experienced by the user, and located in the interactions among users. Participants of the computers and writing community have long argued that technology is not purely a neutral tool for an individual's uses nor an autonomous influence of social/ideological change (Johnson-Eilola, 1997; Kimme Hea, 2002; Selfe & Selfe, 1994; Turnley, 2011). Rather, a technology should be situated in its "larger institutional and cultural contexts" (Turnley, 2011, p. 129). These recognitions open the potential for each of the above concepts of interactivity to play a part in an overall framework for interactivity. For instance, if, as readers, we view interactivity as purely concerned with the properties of the medium, we fail to recognize the sociocultural context within which it operates and instead view the technology as merely a tool for our uses. I use the above definitions as a starting point for my analysis of interactivity in the commenting features of networked texts, examining how reader interactivity functions based on:

- i. the properties of the medium,
- ii. subjective experience (the users' experience with the medium), and
- iii. interpersonal relationships (users' exchanges)

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<sup>3</sup> In this article, I use the terms "user" and "reader" interchangeably. "User" is an expression used by interactivity theorists to describe the individual who is interacting with a medium. In the context of this article, the individual who is interacting with the medium is the "reader" of—and potential commenter on—networked books.

As I trace these concepts through networked books, I will demonstrate the decisions digital scholars might consider in order to engender useful interactive practices in their texts and how to avoid the pitfalls of interactivity.

#### 4. Considerations and complications of interactive commenting

All three definitions of interactivity can play a role in how authors and publishers consider framing their commenting features, and none of these categories is mutually exclusive. For example, many of the reasons individuals *perceive* sites to be more interactive have to do with the *properties* of a medium. Thus, these elements overlap and extend one another. Below, Table 1 foregrounds my notion of an effective networked book employing commenting features. Each best practice an author should consider is grouped under one of the three main principles of interactivity. Below the table in sections 4.1-4.3, I explain these best practices in further detail and ultimately argue that an individual author's goals for reader feedback should shape these choices.

**Table 1: Best practices for commenting features in networked books**

Theory of Interactivity	Best Practice	Elaboration
<b>Properties of the Medium (Section 4.1)</b>	Universal Access	Commenting should generally be open to the public with few identifying requirements (such as user's name, email address, institutional affiliation, and so forth).
	Manipulability	User comments should be able to influence changes in the text, and users should be informed that their changes are sought and valuable.
	Structure (anchoring and base)	Interfaces should be structured such that it is easy for users to indicate where their comments belong within the text; users should be able to respond to each other through features like threaded commenting; authors should consider providing multiple approaches such as paragraph-level and longer forum commenting options.
<b>Subjective Experience (Section 4.2)</b>	Ability to exert influence	Readers should feel that their comments can have an influence on other readers and the author.
	Sense of place & social presence	Readers should feel a sense of community, which can be accomplished through profiles, forums, or the work being published on an already active community website or blog.
<b>Interpersonal Relationships (Section 4.3)</b>	Interactive conversation	Commenting should be set up to closely resemble conversation, which can be accomplished through styling approaches such as threaded commenting and avatars.
	Author's role	Authors should read comments and respond regularly so readers feel they are being heard; however, authors should be aware that too frequent or too quick responses can have silencing effects as well.

## Circulation

Authors should consider circulating their work among scholars in their field and interest groups first, circulating widely later.

#### 4.1 *Properties of the medium*

According to M. Lynne Markus (1987), “an interactive medium is a vehicle that enables and constrains multidirectional communication flows among the members of a social unit with two or more members” (p. 492). Her use of the phrase “vehicle than enables and constrains” assigns agency to the medium or technology, as though the technology is what controls the communication flow; thus, the properties of the medium are what allow for interactivity in her view. Looking at interactivity from this angle and applying it to networked books, there are numerous technological properties that can influence the direction and level of communication among the members of a networked book’s community. As shown in Table 1, the properties I discuss in this section include the level of access to the text that users are allowed, the ways in which the user can manipulate the text, and the structural options authors have when considering interactive capabilities.

##### 4.1.1 *Universal access*

Markus argued that “interactive media” have two main characteristics that set them apart as being interactive: (1) Widespread usage allows for *universal access* (p. 491). If universal access is disrupted, communication can break down. (2) Use of interactive media constitutes *reciprocal interdependence*, meaning earlier users can be influenced by later users and vice versa (p. 491). Reciprocal interdependence relates to interpersonal relationships and will therefore be discussed in section 4.3. Universal access, on the other hand, relates to the properties of the medium and is an important consideration. Communication can break down if authors and/or designers of digital scholarship fail to provide equal access<sup>4</sup>. Markus argued that communication breakdown occurs when the community becomes two subgroups—medium users and others (p. 492).

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<sup>4</sup> I am not using the term “access” as the computers and writing community commonly uses it—as an individual’s access to technology. In this context, it’s about an individual’s capability to access the text through commenting.

In networked books, communities are formed as readers interact; however, these books have varying levels of access in order for users to comment. Fitzpatrick's website requires a name and an email address before a reader can comment. There is also a space for a website link, but it is not required. *Expressive Processing's* comment section, while including input fields for name, email address, and website, does not require the user to submit any of this information before submitting the comment. Thus, while both of these websites have open access for commenting, *Expressive Processing's* requirements are a bit less restrictive. As a counterpoint, Fitzpatrick's other project, *In Media Res*, requires users to create profiles before they can comment on the curated multimedia pieces. "Institution" or "Organization" is a required field for readers to log in and interact. Requiring a user to associate with a particular institution or organization provides a less democratized space because it could deter some potential commenters who have valuable knowledge to contribute. Ultimately, requiring certain information in order for readers to participate can cause Markus' subgroups to form—those who can comment and the "others." It is then important for composers using commenting features to consider their access requirements for commenting. Some scholars might wish to require an institutional affiliation in order to lend ethos to the commenter's feedback; however, this requirement also has the potential to silence knowledgeable contributors. As such, the author's goals for the feedback should drive these decisions. The peer review process can also be a factor in determining these access decisions. For instance, an author may need to require institutional affiliation or other information to prove the credibility of commenters when coming up against tenure and promotion concerns. Yet, this is also why, as I will suggest in my closing, that open access commenting features might best be employed in addition to a double-blind review process.

#### 4.1.2 Manipulability

In considering the structure of the new media interface, Teena Carnegie (2009) suggested that manipulability, which is also a property of the medium, is an important element of interactivity.

Interactivity increases<sup>5</sup> as the user's ability to influence the content and/or form of the medium increases (Carnegie, 2009; Jensen, 1998). In networked books, readers can influence the content and/or form, although these changes are often indirect. This occurs when readers interact with authors and authors make subsequent revisions to their texts. These changes sometimes transpire in the digital text or they show up in the print version of the book. One simple example of this is when Nick Krebs wrote to Wark in *GAM3R 7H30RY 1.1*, suggesting a minor correction: "there is an error here: 'observes' in 'here is what you observes' should be 'observe'" (2006, para. 005). Wark thanked Krebs, and this small error was indeed corrected in the printed text.

What Carnegie was really after, though, when discussing manipulability, is what Lev Manovich (2001) termed "open interactivity," in which "the elements and the structure of the whole object are either modified or generated on the fly in response to the user's interaction with a program" (p. 40). While readers can indirectly modify the text by influencing the author's revisions, in the current formulations of networked books, readers cannot change the form and/or content "on the fly." An exception to this is Yochai Benkler's *The Wealth of Networks*, which Vershbow deemed a networked book. One can read Benkler's book as a wiki page. Readers can actually control, change, and make edits to the page, and conversations can be held within the discussion tab. A text like Benkler's is considered more interactive than the other networked books because manipulability is increased. This approach could establish a rich and insightful text because those with varying expertise are pooling together their knowledge towards a common goal, but it could also cause problems, such as readers including incorrect information or arguing in the discussion page about their contributions. In light of these concerns, digital scholars should consider the level of manipulability they want readers to have with regard to their texts. Most networked books do not

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<sup>5</sup> The word "increase" is used frequently in interactivity scholarship but rarely defined. It is used to indicate that interactivity exists in levels, with more potential for interaction, or for changing the medium, depending upon how the technology functions. When revisions are made to the text based on a reader's feedback, for example, interactivity increases because the reader has exchanged information and exerted some control over the text.

provide much manipulability, which gives authors more control over their work, but also gives readers less incentive to participate, as there is no guarantee their contributions will be used to change the actual text. Thus, in hoping for feedback, authors should consider that the more control readers have in manipulating the text, the more likely they will be to provide feedback. This is intimately linked to the users' subjective experience, as discussed in Section 4.2.

#### 4.1.3 Structural choices: Anchoring and the structure of the base text

As demonstrated in Table 1 under Properties of the Medium, other features important to interactive commenting have to do with how authors or designers structure the interface. Following Joanna Wolfe (2002), I use two concepts that have been used to describe annotation technology capabilities: *anchoring* and *base text*. Following Melinda Turnley (2011), I argue that aesthetic elements of digital media impact their rhetorical effectiveness (p. 136), and as Cynthia Selfe and Richard Selfe (1994) argued, computer interfaces are “non-innocent physical borders” (p. 77), making it key to examine interfaces for the features that can enable or constrain relationships and generate effective comments. Anchoring allows a reader to situate her comments by associating those comments with a particular paragraph or even a pixel position (Wolfe, 2002, p. 477). The networked books I am examining allow for different types of anchoring. Take, for example, the screenshot of Wark's online book in Figure 1:

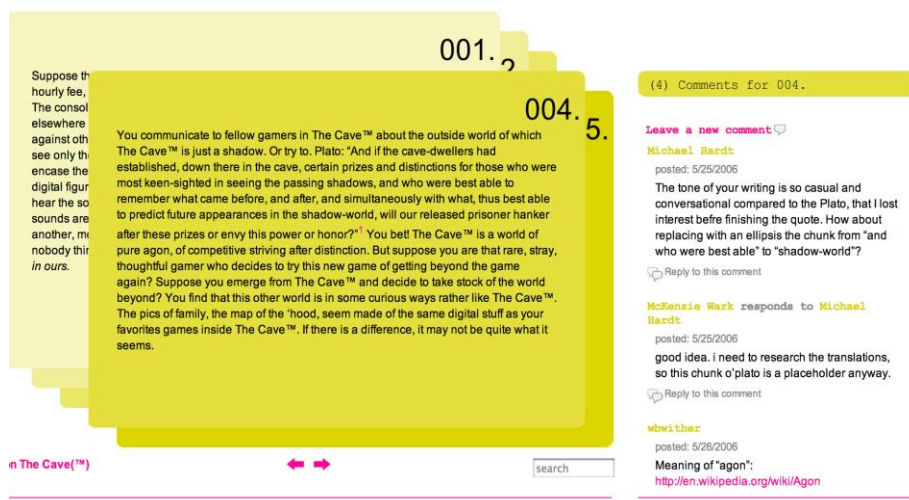


Fig. 1: Screenshot of GAM3R 7H30RY

Wark's text is written in numbered paragraphs, so readers can comment by paragraph, which helps readers anchor their comments to a specific portion of a text. This assists other readers and the author with understanding how a reader's comment fits in with the overall text. Fitzpatrick's text has even more effective anchoring, as shown in Figure 2:

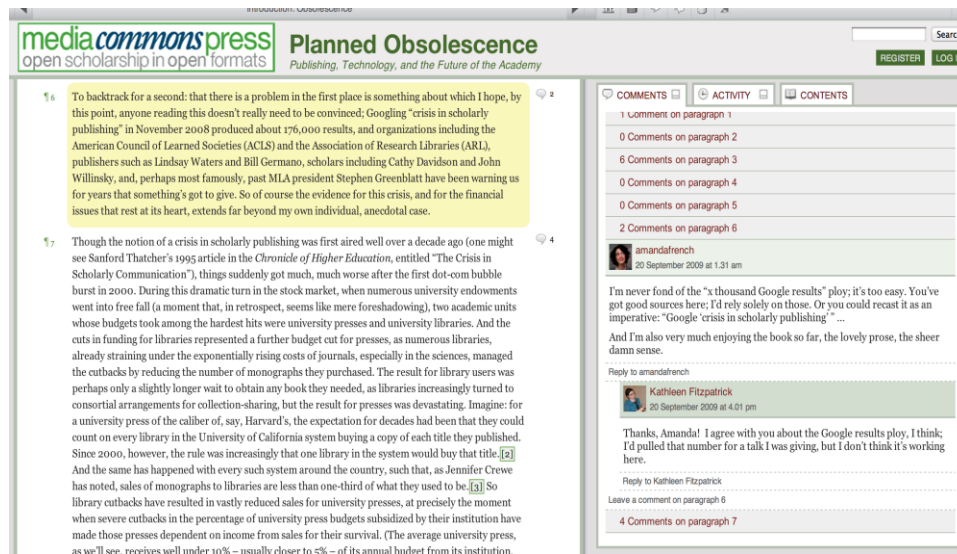
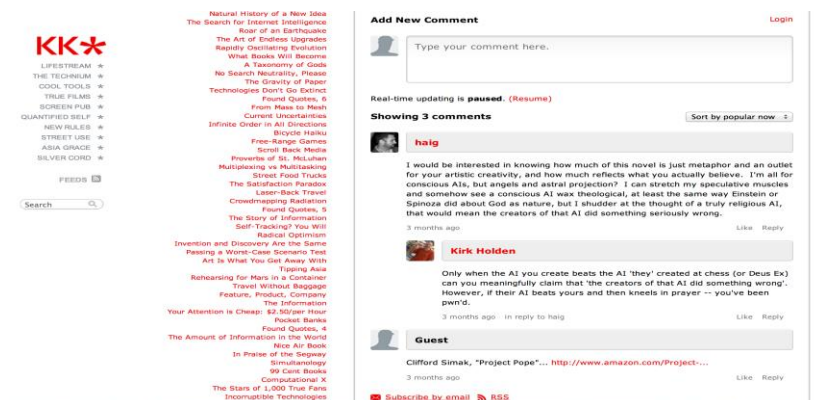


Fig. 2: The online interface of *Planned Obsolescence*

Here, one can comment on a particular paragraph, which appears in yellow when one clicks on a paragraph's comments. The main text stays in place as a reader formulates her response, allowing for easy reference, and the reader can see the surrounding paragraphs for context, as opposed to Wark's structure. In contrast, in Kevin Kelly's *Technium*, a website where Kelly worked through ideas for a book (like Wardrip-Fruin), the interface requires readers to move away from the text to make a comment. Figure 3 below shows what readers see when they add a comment:





**Fig. 3: A comment page from *Technium***

Here, readers cannot have the body of the text in front of them to annotate it. Granted, readers could pull up a new window, but it would be harder to reference part of the text. Carnegie (2009) has emphasized that interactivity increases through intertextuality, and Kelly's book does not allow readers to easily refer back to specific parts of the text, making it less interactive. Similarly, in blogs and online journals, commenting features are relegated to the bottom of the entire work. This layout choice makes reader commentary subordinate to the author's work and also makes it functionally more difficult to comment on a portion of a text.

Additionally, anchoring can be related to how one reader's comment is situated with relationship to another. In Figure 2 above from Fitzpatrick's text, one can see Fitzpatrick's reply to user amandafrench is indicated by the system-generated comment "Reply to amandafrench" and the subsequent indentation of Fitzpatrick's entry. Visually, this helps users see when one reader is replying directly to another reader. Wark's text has a similar function: In green above, in Figure 1, one comment entry reads, "McKenzie Wark responds to Michael Hardt." This is a feature that some networked books do not have, and efficiency is not a small issue when one wants to encourage readers to leave feedback on a text. When commenters can reply directly to a previous reader's comment, they do not have to spend the time indicating how their comment fits in. Oftentimes, without this feature, a reader will quote from another commenter's annotation first to indicate her comment is in reference to that reader's annotation. This makes comments longer, which could deter outside readers from reading through the entire thread or from commenting at all. This interactive ability of the medium to indicate who is responding to whom can help readers follow the conversation and learn from each other. Thus, anchoring options vary, and authors should reflect on these options when creating their digital texts. While some authors might *want* readers' comments to be subordinate to their own work, this rhetorical choice might indicate reader commentary is not as important as the author's words, which could ultimately influence a reader's decision to comment.

Similarly, the ease and efficiency of commenting depends on the anchoring capabilities. The more fine-tuned the anchoring, the more time and energy a reader is saved (from copying and pasting parts of the text into their comment so they can refer to the place on the page they want to talk about.) Hence anchoring, as a property of the medium, can influence interactivity through the reader's perceived level of ease and efficiency in being able to comment and the value they perceive the author to be placing on their commentary.

The structure of the base text is also an important consideration. For example, a reader can only access five paragraphs in Wark's text before having to navigate to the next page. While it is true that readers can skip around in a print text, Wark's online structure makes it particularly easy for readers to start and stop reading at any point—and not necessarily in a linear fashion. One of the problems with this is that readers critiqued his book before reading it in full. For example, the following conversation occurred in Version 1.1 of Wark's book: A reader who went by the name Sal announced, "I think this writing so far deploys tired old stereotypes about games and gamers...It may well be that some of this addressed later in the work, but for now it frustrates the hell out of me" (para. 011). Wark responded to Sal by saying, "Of course it starts with the 'stereotype', SO THAT IT CAN BE FLIPPED AROUND LATER, AS PEOPLE WHO CAN READ MORE THAN 200 WORDS AT A TIME WILL FIGURE OUT" (para. 011). Wark's message and use of all caps demonstrates frustration with Sal's reading practice. He is frustrated with Sal because Sal has admitted to not yet reading the entire text, and if Sal had read on, he would have realized that his criticism was indeed addressed later in the text. A user named Ray on Wark's site also noted difficulty reading the text in a linear fashion: "When the text is presented in these small chunks [sic], I find myself flipping through...reading bits and pieces" (par. 002). The base text's structure in this situation makes it difficult for the reader to follow the text, which can impede understanding. This can in turn cause negative interactive commenting to ensue between the author and a reader. While

negative or rude comments might still be generative and should not necessarily be considered bad or ineffective, they can also deter commenters, silence them, or influence their perception of the author.

Fitzpatrick (2011) also noted that her online readers frequently failed to provide her with the more holistic comments that traditional blind reviewers of her work had given (p. 192). She claimed this was because her blind reviewers read the whole text and then commented, whereas many online readers skipped around and did not read the entire work. A good base structure recommendation, then, if authors want holistic comments, is to provide a forum at the end of their book. Wark's book, for instance, used to have a forum in which longer conversations could occur. Especially for authors offering paragraph-level commenting, they need to consider the fact that readers might not choose to read their texts in a linear fashion. If they want to "force" readers to read their texts linearly, they could structure the text in such a way that readers can only access a page after they have visited the previous page. (This is essentially what Wardrip-Fruin did.) Yet, the notion of a forum would be a more open way of soliciting holistic comments. Designers of digital scholarship should consider what types of comments they are seeking from their readers (holistic, grammatical, paragraph-level) and structure their base texts accordingly. Providing multiple options (a forum for longer, holistic comments, as well as paragraph-level features) would be an effective way of signaling to readers that authors are looking for holistic and more specific comments.

#### *4.2 Subjective experience*

As shown in Table 1, the second theory of interactivity suggests that interactivity is a perception in the user's mind. Some of the significant criteria of interactivity from the user's point of view include: the ability to exert an influence on others; establishing a sense of place (McMillan, 2000); the navigation and perceived responsiveness (Wu 1999); and sense of spatial and social presence (Carnegie, 2009). It is difficult to trace personal sensations; however, certain comments by readers reveal users' appreciation of interactive commenting based on their subjective perceptions.

Below, I present some possibilities and challenges in constructing commenting features based on the elements of interactivity that have to do with users' perceptions.

#### *4.2.1 Ability to exert an influence on others*

Commenting features should help users feel that they are able to exert an influence on other readers and on the author. We can see an example of readers influencing one another in Wark's *GAM3R 7H30RY 1.1*. Reader Lucy Cade commented on a paragraph, asking, "Why are some people so conditioned by materialism that they extend it to virtual goods that only exist in a game environment...?" (par. 007). James Westbury responded directly to Cade, saying materialism is in itself a game. Then, a new reader, Dominik Marosi, responded to Westbury by suggesting an article to read on the subject. Westbury thanked Marosi for the suggestion and said, "I'll see if I can get a hold of [the article] somewhere around here" (par. 007). Here, a reader has potentially influenced another reader to seek out an article for information.

In turn, readers also often influence the author. Fitzpatrick made many changes to her print text based on readers' comments. One example is when Paul Gehl wrote to Fitzpatrick that a particular footnote about peer review labor should be "moved in text" (Fitzpatrick, 2009, p. 18). Fitzpatrick responded: "Yes, absolutely; that one *definitely* needs to come into the main text" (p. 18). Turning to Fitzpatrick's print text, this note from the online version became a full paragraph in the body of her book. The fact that Gehl influenced Fitzpatrick into changing the body of her text is likely to give Gehl a feeling that he has experienced interactivity if we view interactivity as a subjective experience of the user. Fitzpatrick's positive response to Gehl's comment could inspire Gehl to comment more often because he feels his contributions are useful, which Downes and McMillan (2000) have identified as a key element of interactivity. It is important, then, that authors

consider telling readers when they are going to make changes based on their comments, as this could encourage readers to interact (and could subside intellectual property<sup>6</sup> concerns.)

#### 4.2.2 *Sense of Place*

Downes and McMillan (2000) have also identified *sense of place* (shown in Table 1) as an important element of how users perceive sites to be interactive. One factor that influences this is “greater opportunity for interchanges among the participants” (p. 169). Thus, authors and publishers should consider how best to establish a sense of place so that participants will be more likely to communicate with each other. Many of the technological factors discussed in Section 4.1 can enable more or less interchanges among readers. For example, the networked books that allow readers to directly reply to each other through threaded comments will likely cause readers to feel the site is more interactive. Another thing authors can do to establish a sense of place is to tap into their own communities of interest. Wardrip-Fruin wrote his entries on his already-existing multi-author blog. Hence, visitors to the site were already established members of a community. According to the subjective theory of interactivity, this means that readers were more likely to feel comfortable interacting with each other and with Wark on the site. Another approach is to offer multiple ways to comment. Fitzpatrick’s and Wardrip-Fruin’s versions of CommentPress allowed readers to comment on an overall page *or* by paragraph, and Wark’s text even had a forum. These multiple options would provide, as Downes & McMillan prescribed, greater opportunities for interchanges.

Furthermore, Fitzpatrick’s system currently allows for users to include photos of themselves as well as links to their personal websites within their comment box. If a reader clicks on the commenter’s name, she will be directed to the commenter’s personal or professional website or blog. This functionality can help readers get to know each other and their disciplinary background, perhaps making them feel more comfortable in the environment. If a reader can, with one click, find a

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<sup>6</sup> While I do not discuss intellectual property in this article in detail, it is important to note that each of these authors gave credit in their print books to any commenters whose feedback they used in revisions.

commenter's personal website to view that commenter's disciplinary expertise, personal interests, and so forth, perhaps this original reader will make a more informed response to the other reader's comment. Because this serves as a way for individuals to credential themselves, one could also view Fitzpatrick's credentialing system negatively, but since the networked books, as well as scholarship produced by computer compositionists, are academic genres, credentialing can be an important rhetorical move. Scholars can gain a sense of place by seeing that they are engaging in a dialogic relationship with others of similar interests and/or in similar disciplines. Again, the scholar's goals should drive these decisions, but a useful approach would be to make such credentialing optional, balancing sense of place concerns with universal access issues.

#### *4.2.3 Social presence*

According to Carnegie, users perceive media to be more interactive if they embody social presence. Social presence refers to the "ways that the communication systems enable individuals to feel as if they are co-present" (McMillan, 2006, p. 218). This means users need to be able to gather enough "contextual and personal information" to be able to interpret situations and feel connected with others in the system (Carnegie, 2009, p. 169). In addition to users directly linking to their websites, some users on Fitzpatrick's site have created profiles. If a reader clicks on a commenter's name, in this case, the user's *Planned Obsolescence* profile will come up. User Julie Levin Russo, for instance, created a profile, so when a reader clicks on her name within a comment, the reader is taken to her page, which includes a picture, a short profile statement, her website, email address, and any posts she might have written. Thus, users could potentially perceive Fitzpatrick's site to be more interactive than the other two texts that do not have this feature since social presence is a more felt experience here—meaning that through profiles, readers can gather the contextual and personal information that Carnegie invokes in order to feel connected with others.

#### *4.3 Interpersonal relationships*

The third principle of interactivity concerns the interpersonal relationships among users. Rafaeli and Fay Sudweeks (1997) stated that interactivity should be akin to conversation and is “the extent to which messages in a sequence relate to each other...especially the extent to which later messages recount the relatedness of earlier messages” (Interactivity section, para. 2). They argued that fully interactive communication is when “later messages in any sequence” take into account both the messages that took place before and the manner in which those previous messages were “reactive” (i.e., one reader responds to another) (para. 3). In other words, commenting features would be considered more interactive if there are conversations in which two readers speak back and forth to each other and recognize that their current messages are related to earlier ones. In addition, Miles (1992) argued that interactivity depends on the responsiveness of the author. As delineated in Table 1, this section therefore looks at the author’s role, circulation, and conversation and how these elements relate to interactive commenting features on an interpersonal level.

#### 4.3.1 Conversation

Rafaeli and Sudweeks claimed that interactivity prescribes the ways in which conversation leads to jointly produced meaning (Interactivity section, para. 2). One of many such conversations occurs in *Expressive Processing*. A reader calling himself Barry started off with a short, conversational greeting: “Hi, Noah.” As he went on to ask (Noah) Wardrip-Fruin whether or not he should mention game studies in a footnote, the author directly answered his question, agreeing that he could add more in a footnote. By reading Wardrip-Fruin’s answer, Barry realized he made a mistake by misinterpreting what Wardrip-Fruin had meant and called himself an idiot, to which Wardrip-Fruin responded, “Barry, we all know you’re far from an idiot” (Wardrip-Fruin, 2008, Audiences and Processes section, para. 2). The informal tone, direct addresses by name, and focus on one topic make this reader-author interaction sound much like an everyday conversation. An interpersonal relationship is developing between the author and reader, and more importantly, they are generating

shared meaning on a subject—in this case, the author is helping the reader understand an initial confusion with his text. Meaning is produced through interactive conversation.

These interpersonal relationships can be supported by the properties of the medium. If a user visits the *Expressive Processing* website, she will notice that when one commenter replies to another, the reply is right-indented to indicate that users are in conversation with each other. This is a type of threaded commenting, an anchoring consideration, which helps readers and viewers follow the conversation. This is a property of the medium, as in section 4.1, which helps the comments resemble conversation. Other options are gravatars (which Fitzpatrick used and can be seen in Figure 2), which are small graphics or photos of users that sit alongside their comments. Authors can even change their comment boxes to look like speech bubbles. Each of these choices can make the commenting feel or look more like a conversation. While article does not study whether users feel more or less comfortable commenting based on some of these features, understanding interactivity as linked to conversation should encourage authors to pay attention to how they style their comments, recognizing that the structure, look, and feel of comments can influence interpersonal experiences.

#### 4.3.2 *Author's role*

The author's role is perhaps the most important in establishing effective interpersonal relationships in networked book communities. Miles suggested that the responsiveness of the author is key to interactivity, and Rafaeli and Sudweeks urged their readers to “[c]onsider the difference between those who write often and those who make only infrequent contributions... We expect frequent authors to produce more interactive messages” (Research Framework section, para. 4). Hence, as authors and publishers of new media texts consider the structure of interactive commenting features, the frequency of the author's responses is an important factor. Barry and Wardrip-Fruin's conversation above demonstrates how responsive authors can be in these environments (the exchange happened all in one day), as well how these conversations can be generative. What I want to point out here is that frequent author feedback can also be negative, essentially complicating the argument of



Rafaeli and Sudweeks. Wark's text, in particular, contains some snarky exchanges between readers and the author. For example, when Wark responded to Sal's rude comment (see section 4.1.3 in this article), he said to Sal, "Of course it starts with the 'stereotype', SO THAT IT CAN BE FLIPPED AROUND LATER, AS PEOPLE WHO CAN READ MORE THAN 200 WORDS AT A TIME WILL FIGURE OUT" (para. 011). Wark's agitated tone here could deter other commenters or perhaps even blemish his reputation as author. Because of the immediacy of online interactivity, Wark was able to respond to the reader's comment within a day of the original comment. This did not necessarily allow time for him to process his readers' objections and try to respond in an even manner. A beneficial reminder for authors, then, would be to consider the "degree to which timing responds to the demands of the situation rather than immediacy" (Downes and McMillan, 2000 p. 168). In other words, authors should consider the situation and the level of timing that situation requires as opposed to feeling they must respond immediately. De-emphasizing one's role as author or delaying comments, for instance, might actually garner more comments because readers would feel less fear about receiving a possible admonishment from the author like Sal did.

While authors who respond too frequently (dominating the conversation) or who respond rudely can discourage readers from being honest or commenting at all, there are many times when authors responding can have positive effects: They can clarify issues for readers, as seen in the instance with Barry, and they can invite more conversation. It would be difficult to prescribe one correct approach, but I urge digital scholars to contemplate how often they should respond to readers' comments, what types of comments do and do not need responses, and what they want to get out of their relationship with their readers, recognizing that the synchronous and asynchronous capabilities of digital scholarship can affect the interactive possibilities. The author's role in responding is important to her overall ethos established in the text and the potentials for interpersonal relationships.

#### *4.3.2 Circulation*

In order to establish effective interpersonal relationships, authors also need to know how to circulate their digital texts to garner comments, as digital scholarship today does not always garner many comments. For instance, of the nine colleagues Fitzpatrick (2012) invited to comment on her online publication, only two read the entire manuscript and commented on it “substantially,” while three others “read a chapter or two and left a few comments” (p. 173). Even when the online version was announced publicly via Twitter, email, Facebook posts, and blog entries, in the end, only 44 unique commenters annotated Fitzpatrick’s text prior to the print production of the text. So, the question becomes, what can scholars do to solicit comments?

While online books can circulate among a wide audience, the most active commenting still exists among scholars with common interests. Most (not all) of Fitzpatrick’s commenters were academics and librarians. Most of Wark’s commenters were fellow scholars, gamers, or people who had read his previous books, and Wardrip-Fruin’s commenters were mainly from his already-established blog. Wardrip-Fruin (2009b) even criticized Wark’s book for not having enough active commenting, which he said was because Wark did not have an already existing group of people in his discipline to solicit comments from and depended mainly on publicity. It is important to keep in mind, too, that more comments (hence, more interactivity) might not *always* be the goal to strive for. Authors will want comments that help them revise their work, and a smaller coterie of interested and knowledgeable readers within one’s field might be best for that—at least in early stages. After all, a bulk of unrelated or unhelpful comments would require time and effort to weed through. Yet, comments from others outside the discipline could be sought because they could help scholars with concerns outside their expertise. Perhaps Fitzpatrick’s model is the most useful, then, since she *first* tapped into her own community and *later* opened up her work to the public at large. This means that the public can benefit from seeing scholars’ thoughts on the work but can also still contribute their own knowledge. Readers who are afraid to contribute due to the public nature of these comments might feel more comfortable after seeing the reactions of scholars in the field first, and since those in

the field at hand are more likely to comment (as the networked book examples suggest), the activity already present when a broader public is invited might encourage commenting. Given these examples, scholars should likely consider tapping into their own communities first, as those are often the most interested and active commenters, and then reaching out more publicly.

## **5. Heuristic questions for new media scholars**

What is at stake in this discussion for the computers and writing community is the quality of their scholarship and their relationship with their readers. I am reminded of Henry Jenkins' (2006) notion of collective intelligence (appropriated from Pierre Levy), in which new media users pool together their knowledge and compare notes towards a common goal. Commenting features allow readers to compare and contrast their knowledge toward making a stronger argument. Additionally, scholars can improve readers' attitudes towards their work through the use of annotation options. Thinking critically about if, when, and how interactive commenting features should be employed is necessary in order for authors to establish an effective rapport with readers. None of this is to imply that interactivity is always an improvement or benefit to scholarship; instead, practitioners need to carefully think through the implementation and maintenance of interactive comments. By extending prior conceptions of interactivity, I have attempted to explore the most useful ways of circulating and structuring digital scholarship for useful reader feedback. In helping practitioners think about the rhetorical uses of interactive commenting features, then, I am offering questions that can serve as heuristics, which are formulated around the three main theories of interactivity. Digital scholars should think through the following:

### **Properties of the Medium**

- What are the opportunities for access? What types of information/credentials are required of commenters?
- Is the user given the potential to influence the author's revisions? The actual text?
- Can the user anchor her comments to a paragraph, a sentence, a word?
- Can the user reply directly to another user's comments?

### **User Perception**

- How feasible is it for the reader of the text to influence other readers and the author?

- Is the user already a part of the author's community or discipline?
- Is a sense of place able to be established through functions such as profiles?
- Should commenting features be open to the public at large or only a small coterie of interested colleagues or friends? If both, when is the best time to release the text to each audience?

### **Interpersonal Relationships**

- Do the commenting features allow for communication to resemble conversation?
- How often will the author respond to comments, and what types of comments will the author respond to?
- How will the author publicize her text to garner comments?

## **6. Conclusion**

This article presents these issues as questions and considerations because it would be difficult to suggest one right way to employ commenting features. However, the principles of interactivity discussed here do suggest some best practices for promoting active engagement. Authors, editors, and publishers wishing to add such a feature should likely use some sort of requirement such as an email address and a spam filter to avoid off-the-wall comments, but should be wary of requiring too much in the way of affiliation, as this could alienate readers who might not be a part of a university, for instance, making them Markus' others—those who cannot comment even if they have valuable insights. Readers should feel that their comments can influence the actual work as opposed to remaining in the margins. This can be accomplished when authors carefully monitor comments and thank readers for their suggestions, make updates to the actual text based on readers' suggestions, and so forth. In order for interpersonal relationships to be felt, authors must be willing to monitor and participate in conversations within their work, or these conversations will likely not be very active. Readers should feel that there is a community on the site, so that their comments will be read and responded to, and this can be achieved through features such as customizing with threaded commenting, anchoring techniques that highlight the paragraph or sentence being discussed, or allowing readers to create profiles within the webtext. To actually employ these commenting functions, authors have a variety of choices. While platforms will change, currently, authors can use and customize the built-in commenting functions in most blogging engines; they can use

CommentPress as a plugin for WordPress sites; they can power Tumblr, Blogger, or Drupal sites with Disqus or use Disqus' universal code option for websites they code themselves. More seasoned web designers can use HTML comment box codes (which will require an action page). Sites like Open Video Annotations are now allowing users to annotate video as well, which would open up new and interesting possibilities. Authors, editors, and publishers will also need to consider whether commenting should take place before or after publication. Fitzpatrick suggested that she gained different types of useful feedback from her blind reviewers and her online commenters and we can learn from the collective knowledge on our sites and from reviewers. Katherine Rowe (2010), guest editor of the well-publicized *Shakespeare Quarterly* experiment with a hybrid open reviewing system, suggested the process made it easy to "distinguish shared concerns from the idiosyncratic reactions of a single scholar" (pg. vii). Commenting features, therefore, do not have to subvert traditional systems but can be used to supplement them. Post-publication review, on the other hand, has useful affordances as well. Authors can address readers' questions; readers can point out errors or suggest an additional source, and authors can make quick changes. If authors keep commenting up and active after publication, then post-publication review would be an easy extension. While the case studies of networked books demonstrated that prepublication review tended to be more active than post-publication, this is likely because readers assumed their comments would not be used for revision after the print text was published and because authors were actively seeking reader feedback pre-publication. Since computers and writing scholarship is often born digital, we should consider both pre- and post-publication review because we can potentially continue to have conversations and update our work more so than these authors of networked books did.

I have used networked books as a case study because they frequently engage in commenting features, but I suggest that the above principles should be applied to both book-length works and journal articles online in the field of computers and composition. We should consider interactivity and its potentials for our scholarship because commenting features can keep texts alive, reflect new

findings, and reinforce that knowledge-making is an ongoing process. The problems may well be with *how* to get busy scholars to comment and the time commitments authors have to put into monitoring and responding to comments. Scholars will need to tap into their own communities of interest, seek feedback from colleagues, promote their scholarship via social networking, and support one another in these endeavors to ensure lively commentary. This work should be seen as scholarly activity, which, of course, requires a change in the way we view the production and circulation of knowledge around our scholarship and in the way we understand what “counts” as scholarly activity. Purdy and Walker (2012) argued that we need to develop “expanded categories of scholarly activity” so that non-traditional activities like commenting “might be identified and valued.” Investing in more nontraditional online scholarly activities will involve difficulties, but will at the same time “enhance and expand our ability to engage in stimulating, innovative, and valuable kinds of knowledge production—and to reward faculty members for a more comprehensive range of scholarly contributions to our institutions and discipline.” (Purdy & Walker, 2010, p. 192). If authors do decide that commenting features are worthwhile for a given composition, this article provides practical advice for thinking through the choices involved in using commenting features. Harkening back to McMillan’s assertion that understanding interactivity helps practitioners create environments that promote interaction, the authors, publishers, and designers of online books should consider the three main elements of interactivity and how their goals can fit into this framework. As with any choices we make in our scholarship, these decisions are rhetorical and our goals for reader feedback should therefore drive the way we structure our commenting features. My hope is that the considerations I have presented here will help authors think through the suitable choices for their digital scholarship and contribute to the field’s ongoing examinations of scholarly activities happening in digital spaces.

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