2015

The Trees within the Forest: Extracting, Coding, and Visualizing Subjective Data in Authorship Studies

Krista Kennedy
Syracuse University

Seth Long

Recommended Citation

Kennedy, K., and Long, S. "The Trees within the Forest: Extracting, Coding, and Visualizing Subjective Data in Authorship Studies." In Rhetoric and the Digital Humanities, edited by Jim Ridolfo and William Hart-Davidson, 140-151. Chicago: The University of Chicago Press, 2015.

TEN

The Trees within the Forest: Extracting, Coding, and Visualizing Subjective Data in Authorship Studies

KRISTA KENNEDY
SETH LONG

Authorship studies, or the study of practical and theoretical dimensions of writerly labor, intellectual property ownership, and cultural constructions of the author, is a vital subfield of rhetoric and writing studies. It also intersects with communication studies and legal scholarship on copyright as well as with subfields of English studies that include the history of the book and literary criticism and history (Porter 1996; Woodmansee and Jaszi 1994). In the decades since the Conference on College Composition and Communication Intellectual Property Caucus was first convened by Andrea Lunsford in 1994, scholars in this topical area have increasingly turned toward digital matters, including file sharing (Porter and DeVoss 2006; Logie 2006; Reyman 2009), authorship of metadata (Reyman 2013), pedagogical issues in digital environments (Ridolfo and Rife 2011; Ritter 2005; Walker 2011; Westbrook 2011), academic publishing (Galin and Latchaw 2010; Fitzpatrick 2011), and robot-written texts (Kennedy 2009) as well as student attitudes toward and rights regarding digital intellectual property ownership (Herrington 2010; Lunsford, Fishman, and Liew 2013), among other areas. Rhetoricians

in particular have devoted attention to issues of power and authorial agency in discrete textual contexts (Campbell 2005; Lunsford 1999; Howard 1999). The subfield continues to grow at a healthy rate, and calls for additional research include Charles Bazerman's assertion that one of writing studies' central concerns is further study of "the emergent historical picture of writing practices, genres, systems of circulation, and related institutions and social systems" (2002, 36). From the ecommunication studies side of rhetorical studies, Karlyn Kohrs Campbell calls for "synthetic, complex views of authorship as articulation, of the power of form as it emerges in texts of all sorts, of the roles of audiences in appropriating and re-interpreting texts when they emerge and through time, and of the links of all these to the cultural context, material and symbolic, in which discourse circulates" (2005, 8).

The methods and mores of the digital humanities have much to offer scholars of authorship and intellectual property. Cynthia Selfe's (1988) early work reminds us that digital work has been integrated into English (and, by extension, writing) departments for more than two decades now. In his examination of the intersections of digital humanities and English departments, Matthew Kirschenbaum (2012) points out that, since the 1980s, a broad variety of literary studies have incorporated digital methods in textual analysis, production of digital facsimiles, and corpus linguistics studies. Researchers are also harnessing and studying social media of all sorts as well as mining data from digitization projects such as Google Books. Data abound, and scholars of the written word in all its permutations are making good use of them.

We urge authorship scholars to continue this work through data-driven studies of authorship and authorial labor processes. In his response to Franco Moretti's *Graphs, Maps, Trees* (2005), Cosma Shalizi argues that a "materialist theory of literary form will ultimately . . . concern itself with the organic processes of reading and composition" and that "the way to do this is through empirical study of readers and writers" (2011, 128). In other words, while the study of authorship has benefited from traditional methods, it need not be limited to conclusions drawn exclusively from theoretical analysis, subjective intuition, and textual interpretation. One prominent example is the ongoing work of Howard and Jamieson's Citation Project, which demonstrates that data-driven study of composing processes can only enhance the already-rich discussions occurring in the field.

The methodologies discussed in this chapter enable researchers to test their theories against verifiable, replicable data. Distant reading

(see Moretti 2013) of broad corpuses can help develop a more complex view that is simply not possible to attain at a smaller scale. This work ensures that an emergent theory does not simply reflect a locally observed phenomenon but rather provides a robust description of how rhetorical aspects of authorship operate at a larger scale. Hypotheses concerning circulation, composing processes, distributed collaboration, or the legitimation of disciplinary authority can all benefit from large textual data sets. In particular, studies of collaborative compositional labor and its theoretical implications have much to gain by employing these methods. Such investigations involve extracting the traces of a text's compositional growth: capturing, sorting, and coding the initial data, mining them for patterns, and interpreting the results with the goal of understanding the time-elapsed construction of a digitized or born-digital text.

We focus here on the problems of analyzing large collaborative projects such as wikis, but many types and sizes of collaborative texts are ripe for this sort of analysis. While wikis remain the standard for large-scale, radically collaborative projects, collaboration occurs in diverse digital forms. Writers collaborate in Word documents, of course, but they also use Facebook Notes and Google Docs to develop position statements for professional organizations and Flickr Sets to document worldwide protests.[1] The tool development logs of piratical file-sharing communities contain histories of community-built digital archives (Lewis 2013). Version control systems such as Git or Subversion trace changesets, or iterative development histories of live digital projects. All these forms (and many others) contain metadata that may be mined for research purposes.

In this chapter, we sketch the basic stages of such research and provide an overview of digital tools that are applicable to each research stage. Since we assume that these studies will be undertaken by humanists working with variable, smaller budgets rather than large grants, we point to common desktop applications and open-source tools. We categorize these tools according to levels of expertise: basic, moderate, complex. (See the digital version of this chapter for this information: www.press.uchicago.edu/sites/rdh/.) Digital humanities researchers with minimal coding experience need not shy away from this sort of work; there are suitable applications for every level of expertise, although some may be more powerful than others.

Our focus is on manageably sized data sets that require hand-coding of subjective elements. Moretti's literary trees represent millions of in-

dividual texts, such as those found in *Wikipedia*, but studying discrete texts within larger ecologies allows us to view each one as its own tree, its own complex body of interconnected and situated data that allows us to reconstruct authorial processes. Throughout our discussion, we provide, as an example, analysis from Kennedy's ongoing comparative study of authorship in the 1728 *Chambers' Cyclopaedia* and *Wikipedia*, to which Long has contributed as a research assistant. *Wikipedia* in particular presents the challenges of a huge textual corpus built by hundreds of thousands of editors over multiple years. While all readers may not find it comparable to the texts they would like to study, *Wikipedia* is a useful example because its 4,151,386 current articles likely represent the outside limits of a site of study for textual scholars. It is often difficult to scale up from examples according to one's own needs but not necessarily equally difficult to scale down.

Extracting Data

Strategic sample selection and management are the first steps toward developing a successful data-driven study. As numerous Internet scholars have noted, the dynamic nature of live digital artifacts often means that working with digital texts is rather like trying to hit a moving target. The version you read today may very well not be the version that is there tomorrow. Cheryl Geisler (2004, 43) suggests that in some contexts the *version* of a text or page may be the most effective segment of analysis a researcher uses for her coding. This is particularly true with *Wikipedia*, where constant edits mean that a text can move through several iterations while one reads. Consequently, it is vital to preserve the study data in a static environment, either by downloading or through another means of stable data capture. Many systems provide procedures for extracting data: wikis and GoogleDocs both preserve revision and discussion histories, and *Wikipedia* renders its downloadable in multiple "dump" formats (Wikipedia:Database download). Both Git and Subversion produce downloadable changesets. Digital community materials may require membership or access permissions through a sysadmin but are likely available. On occasion, downloaded files may not preserve information in the format required for one's research objectives. Kennedy downloaded edit and discussion histories for individual *Wikipedia* articles but elected to use screen capture software for the articles themselves since the placement of elements such

as images, captions, and sidebars was an important part of her data. When capturing multiple iterations of a single artifact, it is essential to develop a careful file-naming structure that clearly accounts for each data capture's date and time.

A Note on Ethics

Subject privacy is an important factor in ethical decisions concerning data capture and should be determined by the nature of the artifact and the community culture. The Association of Internet Researchers (2012, 7) guidelines on ethics point to variable community norms as a central consideration for researchers, along with fundamental human subjects research principles of minimizing harm and attending to the contextual expectations writers may have for reasonable privacy. In our example, *Wikipedia* is a freely available site whose central purpose involves providing free access to every single person on the planet who wishes to participate or just simply read (Lih 2009, 1). Moreover, its interface produces a transparent document that is published in real time and purposefully leaves all levels of the work open to scrutiny through the History and Talk pages. Participants with sufficient digital literacy to contribute to the project typically understand that they are working in public and that anyone else might come along and read their notes, revert their edits, or simply add to the page. The Wikipedian community is also well aware of the numerous media articles and scholarly studies that examine its policies, procedures, and product ("Wikipedia:Wikipedia in the media"). Consequently, Kennedy treated Wikipedian texts as public texts and preserved the community norms of pseudonym use in her data.

Managing Data

Raw data sets will need to be trimmed to a manageable size, and appropriate methods of selection will depend on the specific needs of your initial research questions. You may choose to select *relevant text* or "passages of your [data] that express a distinct idea related to your research concerns" (Auerbach and Silverstein 2003, 46) and focus your analysis exclusively on them. Geisler (2004, 17–18) details multiple methods of sampling, including convenience sampling, focused on convenient

data; typical case sampling, which concentrates on a typical subject, object, or situation; best case sampling; criterion-based sampling; stratified sampling, which ensures inclusion of existing variations; and random sampling. Our example study used a criterion-based sample based on topics in *Chambers'* taxonomy of knowledge that had also retained comparable cultural meaning in the twenty-first century and had, thus, been given comparable *Wikipedia* entries. After the associated article pages, edit histories, talk pages, and contributor pages were captured, we moved on to coding this bounded but still ample amount of textual data.

Coding Data

The goal of coding is to convert textual or otherwise nonnumerical information into a form that can be analyzed quantitatively. More importantly, coding makes evident the orientations and methods that have guided a research project and through which the data are interpreted (Smagorinsky 2008, 399). In *Analyzing Streams of Language*, Giesler (2004) provides a detailed breakdown of coding processes that directly apply to research in rhetoric, composition, and other language-based disciplines. Her rich description deserves direct consideration, but we summarize it here in three steps. First, data are segmented into units of analysis, the precise nature of which depends on the phenomenon a researcher wants to study. Second, a coding scheme is created to arrange the different *types* of segments that exist in the data. Third, each segment type is assigned one (and only one) label that differentiates it from the other segment types. For example, the *Wikipedia* study focused on wiki entries' *edit histories*, which preserved every change made to a page since its inception. The edit histories demonstrate, among other things, whether editors' composition processes center on the contribution of original text or instead focus on tasks that are more curatorial in nature, such as including or deleting facts, tweaking links, making sure that images meet community intellectual property guidelines, and the like. To get a clearer picture of the types of writing deployed, Kennedy's segment of analysis was, therefore, the *edit*.

The initial review revealed general patterns of edit *types* or tasks appearing in the histories—from altering vandalism to adding images. Kennedy developed a grounded coding schema based on the tasks demonstrated in the data set. While the schema included original termi-

nology based on the activities we found being performed, it also drew from common terminology developed by other *Wikipedia* researchers. For example, Kennedy retained vandalism typologies from previous studies by Viégas, Wattenberg, and Dave (2004) and Priedhorsky et al. (2007). After these precoding steps were complete, we began coding individual edits first for editor type (human or robot) and then for task type.

Hand-coding is a labor-intensive process: reading and categorizing the thousands of edits in each *Wikipedia* article took between one and three minutes per edit. While the coding process itself is not particularly difficult, it is certainly time consuming, and a research assistant is valuable to the process. Working with a single research assistant, Kennedy was able to code the complete edit histories of multiple *Wikipedia* pages in a couple of months. However, collaborative coding also requires more time up-front for "norming" to ensure that each coder knows how to apply the schema properly. Although our coding scheme was carefully detailed, not all edits mapped clearly or unproblematically onto a single code. Coding is, of course, a partially subjective process, but, when more than one coder is involved, it must be a *consistently* subjective one. Norming ensures that most judgments will be the same, thus maintaining the integrity of the coded data. Smagorinsky (2008, 401–2) recommends initial training followed by asking the assistant to code 15 percent of the previously coded data. If the assistant codes 80 percent of that data identically, she is deemed to be sufficiently normed. However, Smagorinsky also writes that perhaps the best collaborative coding practice is to be truly *collaborative*, that is, to code in proximity and to have face-to-face discussions whenever questions arise.

Researchers are likely familiar with prominent, costly software packages for qualitative and quantitative analysis such as NVivo and SPSS. Happily, there are also a number of easily accessible, low-cost or free tools that handle most functions required for basic coding. We have found it useful to take a "Pareto" view of big data studies—the idea that 80 percent of what humanities researchers need to do good quantitative work can be found in 20 percent of the possible computing capabilities available to more advanced researchers (Harris, Rouse, and Bergeron 2010). In other words, even basic programs and program capabilities go a long way in aiding digital humanities work. Information on applicable basic desktop applications and open access programs is available in the digital version of this chapter (www.press.uchicago.edu/sites/rdh/), along with screencasts.

Visualizing Data

There are a variety of avenues for interpreting results, including steps as simple as sorting Excel columns by type. One of the most useful options is data visualization, which can be a powerful tool for making data workable. Of course, data visualization—data-viz—is nothing new. The simplest pie chart is a data visualization; so are bar charts, lines on a Cartesian plane, and the more recently popularized word clouds. Whenever quantifiable information can be represented fairly in graphic form, data visualization is an option. In some cases—for example, Google mapping projects (Tirrell 2012)—visualizations and data results are one and the same. In both cases, data *visualization* is central to data *interpretation*, which, as Lang and Baehr (2012, 189) note, often necessitates a return to the data to look for corroborating visual patterns—an iterative process, one that leads to discovery. Without this transformative step of rendering text visual, certain trends and patterns may go unnoticed, hidden within the textual or numerical aggregate. This visual analysis may remain textual, as in the case of collation programs, or the researcher may generate nontextual data visualizations such as graphs or network maps. (See the digital edition of this chapter for example visualizations.)

Derek Mueller (2012) demonstrates the importance of visual discovery in his study of the "long tail" of author citations, which analyzed works cited entries from every article published in the journal *College Composition and Communication* between 1987 and 2011, for a total of 16,726 entries. His method included separating multiple-author entries and single-author entries in order to "smooth" the raw works cited data into a comprehensive single-author list, which he counted and graphed. Exploring this citation list in graph form, Mueller discovered that, although the *most cited* scholars were few in number, *most of the citations* referenced an eclectic mix of many different scholars. "The long tail,"[2] he writes, "shows how an abstract visual model potentially elicits new insights and, with its descriptive acuity, raises new questions" (209). However, the ubiquity of this phenomenon remained hidden until researchers like Mueller began to visualize aggregated data with graphing tools. Visualization of data fosters interpretation and allows patterns to be detected—and patterns, as Franco Moretti bluntly puts it, tell us that "something needs to be explained" (2005, 39).

There are many data-mining and visualization tools available for humanities researchers to deploy in their search for explanations, and

we detail three in the digital version of this chapter. Data-viz tools allow researchers to discover these patterns quickly, easily, and accurately. They should, thus, hold a vital position in the toolkit of any researcher who wants to work with data sets and/or quantitative methods.

Conclusion

In this chapter, we have argued that theories of rhetoric and writing can benefit from a focus on the material, organic processes of authorship. We have also argued that an important method for studying authorial processes is a quantitative, data-driven inquiry into those qualitative processes. The ease with which texts can be digitized—and the ubiquity of born-digital texts—means that researchers almost always have sufficient data to trace the evolution of discrete texts as well as to unearth patterns in textual genres. Collaboratively written digital texts, such as the wiki entries we have discussed here, are particularly suitable for data-driven study because it is often possible to capture each rhetorical and stylistic move made by the writers involved, no matter how granular. It is precisely these writerly moves and practices that reveal the authorial life of the writer within the text as well as the development life of the document. That in itself is enough, but these quantitative stories in turn provide us with grounded ways of thinking about larger questions of performance, agency, and power—the larger questions of the discipline.

Tools

<> Coding Analysis Toolkit (CAT): http://cat.ucsur.pitt.edu
<> DeDoose: http://www.dedoose.com/AboutUs
<> Digital Research Tools Wiki: http://dirt.projectbamboo.org
<> Gephi: https://gephi.org
<> Juxta: http://www.juxtasoftware.org
<> Natural Language Toolkit: http://nltk.org
<> Pressure.to: http://www.pressure.to/qda

Recommended Resources on Qualitative and Textual Data

Auerbach, Carl F., and Louise B. Silverstein. 2003. *Qualitative Data: An Introduction to Coding and Analysis*. New York: New York University Press.

Bazerman, Charles, and Paul Prior. 2004. *What Writing Does and How It Does It: An Introduction to Analyzing Texts and Textual Practices*. Mahwah, NJ: Erlbaum.

Giesler, Cheryl. 2004. *Analyzing Streams of Language: Twelve Steps to the Systematic Coding of Text, Talk, and Other Verbal Data*. New York: Pearson Longman.

Priedhorsky, Reid, et al. 2007. "Creating, Destroying, and Restoring Value in Wikipedia." In *Proc GROUP 2007*, 259–68, New York: ACM.

Saldana, Johnny. 2009. *The Coding Manual for Qualitative Researchers*. Los Angeles: Sage.

Notes

1. See Feinberg's (2012) coordinated documentation of the worldwide protests against the incarceration of the transgender activist CeCe McDonald.
2. This long tail is a naturally occurring phenomenon across different domains, from economics to citations in scholarly journals (Anderson 2004).

References

Anderson, Chris. 2004. "The Long Tail." *Wired* 12.10. Last modified October. http://www.wired.com/wired/archive/12.10/tail.html.

Association of Internet Researchers. 2012. "Ethical Decision-Making and Internet Research: Version 2.0." http://aoir.org/documents/ethics-guide.

Auerbach, Carl F., and Louise B. Silverstein. 2003. *Qualitative Data: An Introduction to Coding and Analysis*. New York: New York University Press.

Bazerman, Charles. 2002. "The Case for Writing Studies as a Major Discipline." In *Rhetoric and Composition as Intellectual Work*, ed. Gary Olson, 32–38. Carbondale: Southern Illinois University Press.

Campbell, Karlyn Kohrs. 2005. "Agency: Promiscuous and Protean." *Communication and Critical/Cultural Studies* 2.1:1–19.

Feinberg, Leslie. 2012. "This Is What Solidarity Looks Like!" http://www.flickr.com/photos/transgenderwarrior/sets/72157631752126345.

Fitzpatrick, Kathleen. 2011. *Planned Obsolescence: Publishing, Technology, and the Future of the Academy*. New York: New York University Press.

Galin, Jeff, and Joan Latchaw. 2010. "From Incentive to Stewardship: The Shifting Discourse of Academic Publishing." *Computers and Composition* 27.3:211–24.

Giesler, Cheryl. 2004. *Analyzing Streams of Language: Twelve Steps to the Systematic Coding of Text, Talk, and Other Verbal Data*. New York: Pearson Longman.

Harris, Trevor M., L. Jesse Rouse, and Susan Bergeron. 2010. "The Geospatial Semantic Web, Pareto GIS, and the Humanities." In *The Spatial Humanities: GIS and the Future of Humanities Scholarship*, ed. David J. Bodenhamer, John Corrigan, and Trevor M. Harris, 124–42. Bloomington: Indiana University Press.

Herrington, Tyanna. 2010. *Intellectual Property on Campus: Students' Rights and Responsibilities*. Carbondale: Southern Illinois University Press.

Howard, Rebecca Moore. 1999. *Standing in the Shadow of Giants: Plagiarists, Authors, Collaborators*. Santa Barbara, CA: Praeger.

Howard, Rebecca Moore, Tanya K. Rodrigue, and Tricia C. Serviss. 2010. "Writing from Sources, Writing from Sentences." *Writing and Pedagogy* 2.2:177–92.

Kennedy, Krista. 2009. "Textual Machinery: Authorial Agency and Bot-Written Texts in Wikipedia." In *The Responsibilities of Rhetoric: Proceedings of the 2008 Rhetoric Society of America Conference*, ed. Michelle Smith and Barbara Warnick, 303–9. Long Grove, IL: Waveland.

Kirschenbaum, Matthew. 2012. "What Is Digital Humanities and What's It Doing in English Departments?" In *Debates in the Digital Humanities*, ed. Matthew K. Gold, 3–11. Minneapolis: University of Minnesota Press, 2012.

Lang, Susan, and Craig Baehr. 2012. "Data Mining: A Hybrid Methodology for Complex and Dynamic Research." *College Composition and Communication* 64.1:172–94.

Lewis, Justin. 2013. "The Piratical *Ethos*: Textual Activity and Intellectual Property in Digital Writing Environments." Ph.D. diss., Syracuse University.

Lih, Andrew. 2009. *The Wikipedia Revolution: How a Bunch of Nobodies Created the World's Greatest Encyclopedia*. New York: Hyperion.

Logie, John. 2006. *Peers, Pirates, and Persuasion: Rhetoric in the Peer-to-Peer Debates*. Lafayette, IN: Parlor.

Lunsford, Andrea Abernethy. 1999. "Rhetoric, Feminism, and the Politics of Textual Ownership." *College English* 61.5:529–44.

Lunsford, Andrea, Jenn Fishman, and Warren Liew. 2013. "College Writing, Identification, and the Production of Intellectual Property: Voices from the Stanford Study of Writing." *College English* 75.5:470–92.

Moretti, Franco. 2005. *Graphs, Maps, Trees: Abstract Models for Literary History*. London: Verso.

———. 2013. *Distant Reading*. Brooklyn: Verso.

Mueller, Derek. 2012. "Grasping Rhetoric and Composition by Its Long Tail: What Graphs Can Tell Us about the Field's Changing Shape." *College Composition and Communication* 64.1:195–223.

Porter, James E. 1996. "Author." In *Encyclopedia of Rhetoric and Composition: Communication from Ancient Times to the Information Age*, ed. Theresa Enos, 54–56. New York: Garland.

Porter, James, and Danielle Nicole DeVoss. 2006. "Why Napster Matters to Writing: Filesharing as a New Ethic of Digital Delivery." *Computers and Composition* 23:178–210.

Reyman, Jessica. 2009. *The Rhetoric of Intellectual Property: Copyright Law and the Regulation of Digital Culture*. New York: Routledge.

———. 2013. "User Data on the Social Web: Authorship, Agency, and Appropriation." In "Western Cultures of Intellectual Property," ed. Rebecca Moore

Howard and Krista Kennedy, special issue, *College English* 75.5:513–33. http://www.ncte.org/library/NCTEFiles/Resources/Journals/CE/0755-may2013/CE0755User.pdf.

Ridolfo, Jim, and Martine Courant Rife. 2011. "Rhetorical Velocity and Copyright: A Case Study on Strategies of Rhetorical Delivery." In *Copy(write): Intellectual Property in the Writing Classroom*, Martine Courant Rife, Shaun Slattery, and Danielle Nicole DeVoss, 223–43. Fort Collins, CO: WAC Clearinghouse/Parlor.

Ritter, Kelly. 2005. "The Economics of Authorship: Online Paper Mills, Student Writers, and First-Year Composition." *College Composition and Communication* 56.4:601–31.

Selfe, Cynthia. 1988. "Computers in English Departments: The Rhetoric of Technopower." *ADE Bulletin* 90:63–67. http://www.mla.org/adefl_bulletin_c_ade_90_63&from=adefl_bulletin_t_ade90_0.

Shalizi, Cosma. 2011. "Graphs, Trees, Materialism, Fishing." In *Reading Graphs, Maps, Trees: Critical Responses to Franco Moretti*, ed. Jonathan Goodwin and John Holbo, 115–39. Lafayette, IN: Parlor.

Smagorinsky, Peter. 2008. "The Methods Section as Conceptual Epicenter in Constructing Social Science Research Reports." *Written Communication* 25:389–411.

Tirrell, Jeremy. 2012. "A Geographical History of Online Rhetoric and Composition Journals." *Kairos* 16.3. http://kairos.technorhetoric.net/16.3/topoi/tirrell/index.html.

Viégas, Fernanda B., Martin Wattenberg, and Kushal Dave. 2004. "Studying Cooperation and Conflict between Authors with *history flow* Visualizations." *CHI* 6.1:575–82. http://alumni.media.mit.edu/~fviegas/papers/history_flow.pdf.

Walker, Janice R. 2011. "Copy-Rights and Copy-Wrong: Intellectual Property in the Classroom Revisited." In *Copy(write): Intellectual Property in the Writing Classroom*, ed. Martine Courant Rife, Shaun Slattery, and Danielle Nicole DeVoss, 205–22. Fort Collins, CO: WAC Clearinghouse/Parlor.

Westbrook, Steve. 2011. "What We Talk about When We Talk about Fair Use: Conversations on Writing Pedagogy, New Media, and Copyright Law." In *Copy(write): Intellectual Property in the Writing Classroom*, ed. Martine Courant Rife, Shaun Slattery, and Danielle Nicole DeVoss, 159–77. Fort Collins, CO: WAC Clearinghouse/Parlor, 2011.

Woodmansee, Martha, and Peter Jaszi. 1994. *The Construction of Authorship: Textual Appropriation in Law and Literature*. Durham, NC: Duke University Press.