Textual Curators and Writing Machines:
Authorial Agency in Encyclopedias, Print to Digital

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whose financial support made my education possible:

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Abstract

Wikipedia is often discussed as the first of its kind: the first massively collaborative, Web-based encyclopedia that belongs to the public domain. While it's true that wiki technology enables large-scale, distributed collaborations in revolutionary ways, the concept of a collaborative encyclopedia is not new, and neither is the idea that private ownership might not apply to such documents. More than 275 years ago, in the preface to the 1728 edition of his *Cyclopædia*, Ephraim Chambers mused on the intensely collaborative nature of the volumes he was about to publish. His thoughts were remarkably similar to contemporary intellectual property arguments for *Wikipedia*, and while the composition processes involved in producing these texts are influenced by the available technologies, they are also unexpectedly similar.

This dissertation examines issues of authorial agency in these two texts and shows that the "Author Construct" is not static across eras, genres, or textual technologies. In contrast to traditional considerations of the poetic author, the encyclopedic author demonstrates a different form of authorial agency that operates within strict genre conventions and does not place a premium on originality. This and related variations challenge contemporary ideas concerning the divide between print and digital authorship as well as the notion that new media intellectual property arguments are without historical precedent.

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Introduction

The capital-A Author looms as a construct for many of us who study theories of writing, regardless of disciplines. This Author is a mutable colossus, alternately dead, reborn, deconstructed, distributed, reduced to a signature, anonymous, pseudonymous, feminized, *contemplated*. And yet, in spite of this plethora of manifestations, it remains strangely unified. When we consider the Author, the creature we most often refer to is the Poetic Author, creator of various forms of literature. Its value lies in the original genius of the novels, plays, poetry, or essays produced. The notion of *originality* is central: it's considered vital that the work be fresh, inventive, and unusual within its cultural context, lest it lack cultural value or be vilified as plagiarism. Martha Woodmansee deftly describes this Author is a "unique individual uniquely responsible for a unique product" (1994, 38). Lockean sweat-of-the-brow doctrine indicates that with originality comes ownership, in both senses of the word: responsibility for the legal and cultural consequences of the text, as well as

the right to compensation for labor. Western intellectual property theory and law are founded on the idea that the original genius demonstrated in these works carries with it these inherent property rights.[1] The existence of this proper-noun Author, then, becomes an incontrovertible cultural fact—even an essential attribute—and copyright law represents the institutional embodiment of that fact (Rose 1993).

Until late in the twentieth century, our Western notions oh authorship were reasonably static: an individual working in isolation, producing an original "voice" that was relatively consistent across time, space, and multiple works. In the late 1960s, post-structuralist critics[2] began to suggest that the Author is a social construct rather than an objective social fact. They and other critics began to reconsider the very definition of the Author: Is the Author a function rather than an individual? At what point in the cycle of textual production and circulation does an Author begin or cease to exist? Does our definition change in response to economic or political pressures? Their musings in turn became central works for literary and textual scholars of the past three decades.

More recently, the rise of the Internet has further confounded definitions of authorship. In many digital environments, originality and

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1 See Milton, *Areopagitica*; Locke; *Donaldson v. Beckett*; U.S. Const., Art. I, §8, cl. 8; U.S.C., Title 17, §102 and §106.

2 Most prominently, Barthes (1977), Foucault (1980). See Chapter 2 for discussion.

individuation are not always necessary, evident, or desired. Additionally, the anonymity and pseudonymity that are encouraged in digital spaces complicates traditional notions about identity, ethos and authority.[3] Here, particularly in blogs and wikis, we find a more unregulated authorship – unbridled, transgressive, and often radically collaborative. As wikis have gained attention, the forms of collaborative authorship they are designed to foster have also become a topic of interest in both the popular press and the academic sphere.

Considering the impact of specific genres in concert with material and technological affordances offers the potential for deeper insight into the intricacies of authorship and compositional processes. Broadly, technical communication offers an arena for examining authorship that is primarily collaborative and that does not rely on originality in the same ways that poetic texts do. Encyclopedias in particular are an especially rich site for exploration. In addition to their role as practical rather than poetic texts, they incorporate a long tradition of textual borrowing and broad collaboration. This genre also offers a long and unbroken history that enables comparison of both printed codex and digital texts, as I have done here.

This dissertation is a comparative rhetorical analysis of authorial agency in the Chambers *Cyclopædia* and *Wikipedia*. I explore the unique

3 See Hiltz & Turoff (1978); Rice & Love (1987); Van Gelder (1990); Turkle (1995); Gurak (1997); Miller (2001, 2004); and Warnick (2007).

agency performed by authors working within strict genre conventions that do not place a premium on originality. Both of these texts have relied on submissions from the public, and both have borrowed from and contributed to other encyclopedic texts. I also examine some of the ways that technology does and does not impact encyclopedic authorship. Taken together, these genre-based elements challenge contemporary ideas concerning radical differences between print and digital authorship as well as the notion that new media intellectual property issues lack historical precedent.

Plan of the Work

I begin this study with a situated overview of the two central artifacts. Dreams of a networked encyclopedia that could be edited in real time were documented early in the last century and likely quietly surfaced some time before that. I detail the proposed models that prefigured *Wikipedia*, and then explore its early development and three central media events that have driven public discourse about the authorship demonstrated within it. Then, I turn to the *Cyclopædia*'s development and its considerable influence. And finally, I conclude with an examination of subsequent Western encyclopedic projects and the ways that textual borrowing and collaboration have been both generative and detrimental for them.

Next, I turn to a consideration of authorial agency and the special theoretical problems associated with it. In Chapter Two, I explore the scholarly literature on rhetorical situation, particularly as it applies to the textual situation of the encyclopedia, and examine two factors other scholars have identified as either under-theorized or ignored: audience and agency. I posit that audience is particularly important in our consideration of the textual situation that is *Wikipedia*, where rhetors roles constantly fluctuate: we find them writing one moment, in the audience the next, and perhaps participating in backchannel discourse the entire time. Finally, I make special note of Karlyn Kohrs Campbell's schema for analyzing agency and authorship, which proves particularly useful for considering the complexities of rhetorical agency and the broader role authorship studies has played in the field of rhetoric.

In Chapter Three, I describe the methods employed in my project. I discuss my selection of these central artifacts as well as the assumptions I have made concerning technological determinism and our recursive understanding of technological developments. Special issues associated with studying digital texts -- specifically, their changeable and public nature -- influenced the study design. Finally, I describe the process of selecting random samples of articles in both encyclopedias for closer study and the coding schema that drives my analysis of them.

I present the my analysis of the central sample sets in Chapter Four. Here, I explore the concept and process of textual curation. I explicate Chambers' comments on the process of composing the 1728 edition of the *Cyclopædia*, followed by discussion of the data set and specific examples from parallel comparison of the codex pages as well as the editing histories *Wikipedia* articles. Following this consideration of the process of composing encyclopedias, I turn in Chapter 5 to the Reader, whose mutable role enables him or her to write the text in several ways: creating an individual experience of the text by following a path of cross-indexes or hyperlinks; by directly submitting text in both codex and digital forms; and through the perverse performance of vandalism.

In Chapter Six, I examine the special issue of bot-written texts in *Wikipedia*. These agents are an important example of the transformations enabled by technological affordances, and they represent a zero-level proving ground for theoretical discussions of rhetorical agency. I examine the particular agency they demonstrate through the actions they perform as well as the pragmatic legal aspects of considering non-sentient agents as authors.

Finally, I argue that the special textual situation represented by the encyclopedia and the ways that this situation consequently shapes the authorial agency demonstrated within it indicates that we must reconsider our current construction of a unified, capital-A Author. Instead, we must

recognize that authorship is situational, particularly within technical communication genres and digital contexts, and that its variable nature demands a finer-grained conceptualization of both The Author and intellectual property law.

Chapter 1: Encyclopedic Authorship in Context

In this chapter, I offer an overview of the two central objects of analysis for this study: the Chambers *Cyclopædia* and *Wikipedia*. I begin with a historically situated account of *Wikipedia*'s development, followed by discussion of recent public discourse about the encyclopedic author that was sparked by several mainstream media events. This discourse reveals public anxieties about the sort of networked encyclopedic authorship and review processes that occur in *Wikipedia*, which differs significantly from the common understanding of authorship I previously described. These collaborative elements are not without precedent, however: user-generated and "borrowed" content have long been significant elements of the composing process for encyclopedias, as the example of the *Cyclopædia* demonstrates. Accordingly, I next turn to examination of its development and influence, followed by an account of related authorship issues in the other canonical Western encyclopedias. Many of these were

built on textual foundations borrowed from the *Cyclopædia*, and also demonstrate other ways that collaborative authorship has been both instrumental and problematic in the construction of encyclopedic texts.

Networked Precursors to *Wikipedia*

I begin, then, with an account of early precedents (both imagined and realized) for a global, networked encyclopedia. The most commonly cited first glimpses of it came from a man well known for futuristic technological dreams: H. G. Wells.

The World Brain

In 1936 and 1937, H. G. Wells delivered a series of lectures on what he called "The New Encyclopedism," a centralized, curated collection of the world's knowledge that would enable mankind to enter a new age of peace. These lectures were later collected in a volume entitled *The World Brain* (1938). In it, he describes in some detail what such an encyclopedia might look like:

> A World Encyclopaedia no longer presents itself to the modern imagination as a row of volumes printed and published once for all, but as a sort of mental clearing house for the mind, a depot where knowledge and ideas are received, sorted, summarized, digested, clarified, and compared. It would be in continual correspondence with every competent discussion, every survey, every statistical bureau in the world. … This Encyclopaedic organization need not be concentrated now in one place; it might have the

> form of a network. Quite possibly it might to a large extent be duplicated. It is its files and its conference rooms which would be the core of its being, the essential Encyclopaedia. It would constitute the material beginning of a real World Brain. … *If such a thing is to really live it should grow rather than be made. It should never be something cut and dried. It should be the survivor of a series of trials and fresh beginnings – and it should always be amenable to further amendment*. (69-74, emphasis mine)

He pointed to microfilm, which the ALA had just endorsed in 1936, as the mostly likely physical material for such a project.[4] While he described the project as proletarian in scope and access, he still recommended retention of a "directorate and staff of its own type, specialized editors and summarists" (69). Still, it should differ from previous encyclopedias written "by gentlemen for gentlemen" and be distributed as widely as possible all over the world. The volumes would be in constant cycles of revision and replacement, and should be redeveloped and redistributed as textbooks, dictionaries, and shorter reference works for "individual and casual use" (70).

While Wells received numerous invitations to offer these lectures, I've not found any references to formal support for or production of his proposed system. He appears to have stopped speaking on the topic after 1937, and he continued to focus on publishing science fiction for a few more years. It was not long before another visionary offered a somewhat more compact model for a networked encyclopedia.

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4 The Library of Congress had already transferred 3 million pages of books from the British Library by 1935 (Saffady 2001).

The Memex

By the time Vannevar Bush published his 1945 proposal for the Memex, he had been considering the problems of managing substantial amounts of military information for some time. He began to formulate plans for a semi-automated system a few years before the war, when he served as head of the National Defense Research Council (NDRC) and later the Office of Scientific Research and Development (OSRD) (Moschovitis, Poole, Schuyler & Senft 1999, 25). The Memex, as he proposed it, was an infinitely expandable, interlinked series of microfilm cards projected onto slanted, translucent screens, was presented as a possible solution to information overload. The economics of production had finally advanced enough, he noted, that long-hoped-for machines such as calculators and computers could finally be produced on some scale in the near future. Such a cheap, reliable machine should be able to provide a solution to the problem of directly linking a primary text with the reader's ancillary notes. A simple algorithmic indexing system would connect the two and be controlled via a keyboard, buttons, and levers. The resulting system would be an "enlarged intimate supplement to … memory." It would also readily lend itself to hyperlinked cross indexing: "Whole new forms of encyclopedias will appear," predicted Bush, "ready made with a mesh of associative trails running through them, ready to be dropped into the memex and there amplified" (8). Users would be able to

purchase some contents – books, periodicals, and newspapers – from companies and drop them into the system. Business correspondence could be inserted as well, and "direct entries" would also be possible.

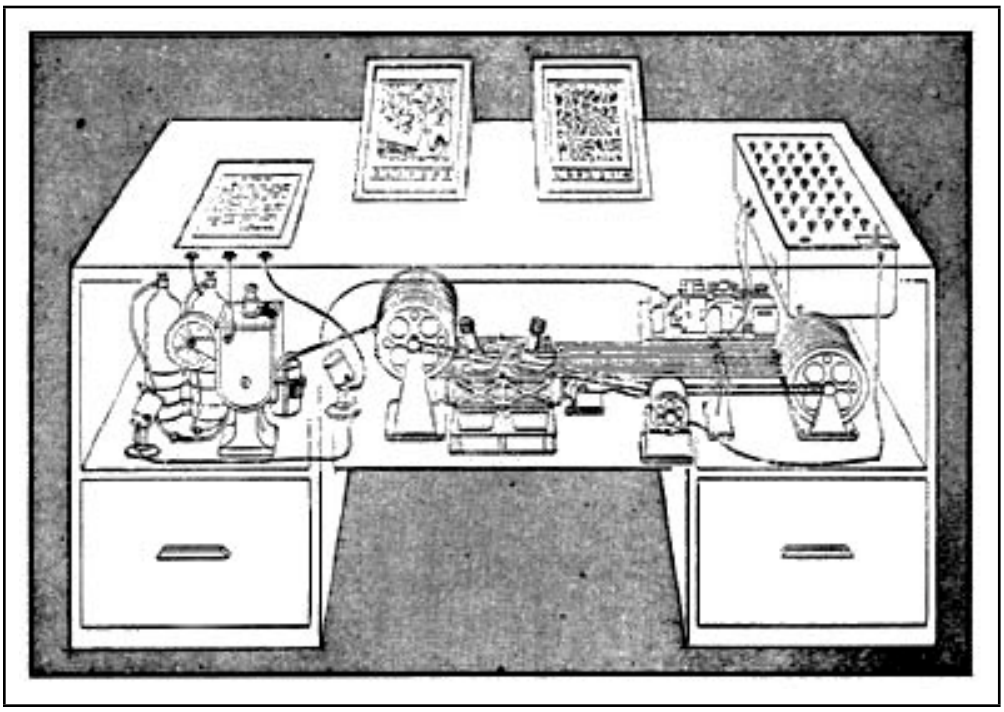

Figure 1: Illustration of proposed Memex design originally published in *Life* 19(11), p. 123. The caption read: "Memex is in the form of a desk that would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures, and letters, then files them in the desk for future reference" ("Memex").

The Memex was widely discussed but never went into production. Still, many historians have suggested that it clearly influenced early developers of computers and the Internet, particularly J. C. R. Licklider and the ARPANET research team, who continued military research that led to the

first digital transmissions.[5] One of those early adopters, Ted Nelson, launched what would become the most extensive (but ultimately unsuccessful) attempt at a digital encyclopedia prior to *Wikipedia*.

Project Xanadu

Nelson has been actively developing Xanadu since 1960, when he envisioned it as "a simple-to-understand electronic publishing system for the world, and a new technical way of simplifying and improving the world's storage data" (1993). Its name comes from the magical setting of Coleridge's epic poem *Kublai Kahn*:

> In Xanadu did Kublai Khan
> A stately pleasure dome decree,
> Where Alph, the sacred river, ran
> Through caverns measureless to man
> Down to a sacred sea. (1-5)

Nelson aspired to develop nothing less than a hypertextual system that would store, index, and facilitate publication of the entire world's literature, and his concept is alternately cited as an early draft for both the World Wide Web and *Wikipedia*. He was insistent that the project would also facilitate a system of automatic micropayments to authors/creators in exchange for reuse or quotation of their work. While his stance was vehemently anti-copyright -- he felt that anyone should be able to publish

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5 See the anthology *Memex to hypertext: Vannevar Bush and the mind's machine* (Nyce & Kahn 1991), which contains his relevant essays along with scholarship on connections between his work and then-current personal computing and information retrieval systems.

information -- it was just as vehemently pro-intellectual property in this requirement for payment. Tim Berners-Lee, in his account of meeting Nelson, suggests that this insistence on a pricing structure that was consistent world-wide was one of the reasons that Xanadu never succeeded (1999).

Most accounts of the project note the aptness of the project name, since the project has "failed to materialize as surely as the 'person from Porlock' drove Coleridge's dream beyond recall" (Segaller 1999). *Wired* magazine has described it as "the longest running vapor-ware project in the history of computing. ... Xanadu has set a record of futility that will be difficult for other companies to surpass" (Wolf 1995). Nelson put together a project team in 1979, made the preliminary design public in 1981, and pressed ahead with the database structuring. The project was acquired by Autodesk, which invested an estimated $5 million before discontinuing its sponsorship in 1992 (Moschovitis, Poole, Schuyler & Senft 1999). It has since languished, although Nelson continues as the project evangelist and maintains a project web presence at www.xanadu.net.[6] The next step in digital encyclopedias would be *Nupedia*, which became *Wikipedia*.

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6 Regardless of this failure, Nelson remains widely acknowledged as the inventor of hypertext, although he accepts credit only for coining the phrase in 1965 and making use of the concept: "Hypertext is obvious. I do not claim to have invented hypertext. I merely discovered it. It's like the telephone. The telephone, at the time, seemed to be an invention. To us, now, it's a discovery because it's obvious. Hypertext is like that. To me, it was simply the obvious next step of literature" (Segaller 1999).

The Rise of *Wikipedia*

The first wiki interface was developed in the late 1980s, and wikis have been in active use since the Portland Pattern Repository, the first working wiki, was established by Ward Cunningham in 1995 (Leuf & Cunningham 2001). Cunningham named his application after the Hawaiian term for 'quick,' "wiki wiki," and built the original wiki interface around design principles that facilitate what has become known as the wiki philosophy: open, organic, mundane (simple), universal, overt, tolerant, observable, and convergent ("Wiki Design Principles"). In keeping with these principles, the markup of wiki text does not require the user to know standard HTML or other markup languages. Instead, the contributor uses a simplified system of wiki code, which the program then converts to HTML and uploads. This low interface barrier invites constant updates by users. The web development community increasingly adopted wikis as collaborative tools over the rest of the decade, but wikis only began to receive significant media attention in 2003 – largely because of the burgeoning success of *Wikipedia*.

Defining Wikis

Wiki texts are commonly viewed as fundamentally networked, collaborative, anonymous, and dialogic. However, all wikis do not follow the same formula, even as all blogs cannot be described by a single

formula (Herring, Kouper, Scheidt & Wright, 2004; Rettberg 2008). All wikis are networked by design, but some are run by a single person who wishes to map the network of their research and thus places all or part of the text behind passwords or firewalls.[7] Other wikis employ the use of personal names as a standard practice (as in corporate wikis, which are also frequently behind firewalls) and some allow users to decide whether they will go by anonymous, pseudonymous, or real-world names.

Wikis are networked on several levels: the physical level, the intertextual level, and the personal level. Since they rely on a database running on a central server that supports access by multiple users, a wiki can only exist in a digital environment. A print document can never be a wiki. A roadside sign can never be a wiki. A series of post-it notes on a wall can serve as a quick and dirty wiki for the purposes of face-to-face discussion, but it will never be a true wiki because it demands physical presence and will never be truly hypertextual.[8] The users themselves move within a network of intertextual and interpersonal connections, particularly in larger wikis like *Wikipedia*.[9] In fact, wikis enable radical collaboration "because of [their] total freedom, ease of access and use,

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7 PbWorks, a popular public wiki system, has this functionality built in.

8 Hypertextuality enables the intertextual nature of wikis, created when contributors embed a dense series of links within text to other pages within and without the wiki structure, as in Landow's concept of lexias (2006, 13-22).

9 See Aigrain (2004); Bryant, Forte & Bruckman (2005); Ciffolili (2005); and Viégas, Wattenberg & Dave (2004).

simple and uniform navigational conventions, and apparent lack of formal structure" (Leuf & Cunningham 2001, 16).

Wikipedia's early success stemmed from its policies of openness and tolerance, which follow the larger wiki philosophy developed by Cunningham. From the beginning, the project has been directed, funded, and evangelized by venture capitalist Jimmy Wales. From 2000 to 2002, he was assisted by Larry Sanger. The text began as a project fork of *Nupedia*, an elaborate expert-written free encyclopedia that was finally abandoned in 2003 after a server failure. *Nupedia* employed a seven-level vetting process and included only expert-written content. When the project produced only 24 articles after 18 months of work and $250,000 invested, Wales and Sanger elected to launch a free-content version of the project (Sanger 2006, Lih 2009). The wiki environment seemed like a suitable way to manage such an endeavor. Small contributions by many editors have resulted in more than nearly 3 million articles as of this writing.[10] In October 2005, it grew at a rate of approximately 1,500 new articles per day (Giles 2005), a rate that has certainly increased since. More than 45,000 registered users write for and edit the project. Alexa, a web ranking search, listed *Wikipedia* as the 32nd most-visited site on the Internet on Jan 9, 2006; by November 1 of the following year it was consistently in the top 10. It has remained there ever since.

10 This number is over 2 million more than when I first began researching the project in the spring of 2005.

The open structure of wikis enables the sort of commons-based peer production that Yochai Benkler discusses at length in *The Wealth of Networks*. This means of production, Benkler says,

> relies on decentralized information gathering and exchange to reduce the uncertainty of participants. It has particular advantages as an information process for identifying and allocating human creativity available to work on information and cultural resources. It depends on very large aggregations of individuals independently scouring their information environment in search of opportunities to be creative in small or large increments. These individuals then self-identify for tasks and perform them for a variety of motivational reasons.

Commons-based peer production offers two distinct advantages, he says: it distributes decision making, which renders robust peer review an inherent part of the project. Secondly, it allows more individuals to scour more resources than any single firm or market would accomplish through traditional methods. Each contributor can contribute a small, manageable module that, when added to the whole, moves the entire project significantly forward.

The project has gone through a number of policy changes concerning levels of openness and decisions concerning content. What began as a completely open system that permitted any user to contribute without registering began to require rudimentary identification after the Seigenthaler Incident (which I will describe shortly). More recently, a battle over what constitutes appropriate encyclopedic content has been

waged by "deletionists" and "inclusionists," resulting in mass page deletions and much discussion on the article Talk pages about article requirements (Dee 2007, Baker 2008).[11] In early 2009, after articles prematurely reported the deaths of Senators Ted Kennedy and Robert Byrd at the Obama presidential inauguration, Wales proposed closing the system further by instituting a "flagged revisions" policy that would hold revisions until they had been reviewed by a "core group" of approximately 3,000 trusted Wikipedians (Cohen 2009a, Hattersley 2009). At this writing, the proposal is still under review.

The Encyclopedic Author in Contemporary Popular Media

Public anxieties about the radically collaborative authorship of *Wikipedia* have become evident in the constant trickle of media commentary since *Wikipedia* quietly went live on January 15, 2001. The networked Encyclopedic Author is not the same sort of author we're used to encountering in everyday reference texts.[12] While most of us are quite familiar with encyclopedic texts themselves, having used them since grade school, our research forays are usually for purely informational purposes. We haven't often paused to give thought to the composition process that produced these texts -- or didn't until *Wikipedia* came along and we began

11 I discuss this debate in detail in Chapter 5.

12 It's worth noting the similarities to another author of mundane texts who receives little consideration: the technical writer. When was the last time most people wondered about who wrote the instructions on the back of the soup can?

to wonder what this seemingly new digital reference was. Instead of the clear news story byline or perhaps two co-authors listed on the cover of a novel, we're faced with the byline above each article: "from *Wikipedia*, the free encyclopedia." How can a worthwhile text seemingly come from itself, or from everywhere and nowhere simultaneously?

Since then, we've done as humans usually do: we've muttered and experimented and poked at it. We've remediated, to borrow Bolter & Grusin's term: it looks like an encyclopedia and it contains the sort of information an encyclopedia should, so therefore it should indeed be an encyclopedia. But, we wonder, could it really be one if anybody can help write it and it's not immediately obvious who they are? What about the fact that it can and does expand to cover popular topics usually thought to be outside the scope of a "real" encyclopedia? Should an anonymously authored encyclopedia that covers topics such as contemporary Internet memes be trusted? Should it be used in classrooms? Should we help expand it or should we endeavor to suppress it?

Wikipedia received its first mention in the *New York Times* almost exactly nine months after its launch, on September 20, 2001 (Meyers 2001). Its early development proceeded without much notice from the popular press: the *Times* mentioned it in eleven times in passing over the next three years, but didn't devote another full article exclusively to the subject until February 2005 (Weiss 2005). Since then, it has published

regular reporting and commentary on the subject more consistently than other prominent U.S. newspapers.[13] Murmurings in the blogosphere, which began in summer 2004,[14] first began in response to *Britannica* editor Robert McHenry's description of *Wikipedia* as a public toilet -- that is, you never knew what unsavory individuals occupied it before you (2004). These blog discussions centered around the project's value and intent, along with related questions about how or whether to use it in the classroom. These and the conversations that followed have in common two basic questions: who writes this thing? And who vets or constrains these writers and their contributions? In other words: what sort of untold agency do contributors perform?

Examining the central concerns demonstrated by the three most prominent media incidents related to *Wikipedia* provides us with some insight into these anxieties and directs the focus of my study. Accordingly, I turn now to a synopsis of these events: The Seigenthaler Incident, the *Nature*/*Britannica* Debates, and the *Colbert Report* "Wikiality" episode.

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13 *The Washington Post*'s first mention of the project appeared on September 7, 2003 (Singer 2003) and one piece followed in 2004 (Walker 2004, Sept. 9). A search of the paper's site indicates that most articles it has published since then cite information from *Wikipedia* articles rather than address *Wikipedia* as a topic. *The LA Times* also appears to cite the project significantly more often than it directly covers it.

14 See Brooke (2004), boyd (2004, 2005a, 2005b), Doctorow (2004), Havalais (2004), Ito (2004), Felten (2004), Mayfield (2004), and Shirky (2004, 2005a, 2005b).

The Seigenthaler Incident

The Seigenthaler Incident, as it's come to be known, actually began in May 2004, when Brian Chase, a Nashville delivery service operations manager, edited the *Wikipedia* article on former *Tennessean* editor, publisher, and chairman John Seigenthaler.[15] Chase edited the *Wikipedia* entry on Seigenthaler to suggest that he had played a role in the assassinations of both John F. and Robert F. Kennedy before fleeing to Russia. A friend of Seigenthaler's alerted him to the changes in September. Shortly thereafter, Seigenthaler's official biography from the Freedom Forum website was pasted in and then quickly removed by Wikipedians as a copyright violation ("Seigenthaler Incident"). A brief, original biography replaced it. Seigenthaler contacted Wikimedia Foundation[16] chair Jimmy Wales, who on October 5 "took the unusual step of having the article history hidden in the *Wikipedia* version logs, in effect removing them from all but *Wikipedia* administrators' view," but the original text remained mirrored on Reference.com and Answers.com ("Seigenthaler Incident," Seigenthaler 2005).

On November 29, Seigenthaler published an op-ed article on the incident in *USA Today*, explicitly informing readers that "*Wikipedia* is a flawed and irresponsible research tool," and then published an expanded

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15 Seigenthaler's distinguished career in journalism included not only those positions, but also nearly a decade of service as the founding editorial director of *USA Today* and the founder of the Vanderbilt University Freedom Forum First Amendment Center. He also briefly served as an administrative assistant to Attorney General Robert F. Kennedy in the early 1960s.

16 Wikimedia is the nonprofit parent of *Wikipedia* and its sister projects, which include *Wiktionary*, *Wikibooks*, and *Wikisource*.

version in the *Tennessean* three days later. The *New York Times* picked up the story on December 4, baldly stating, "The question of *Wikipedia*, as of so much of what you find online, is: Can you trust it?" (Seelye 2005a). The following day, Seigenthaler and Wales appeared together on CNN, and the day after that they did a joint interview on NPR's "Talk of the Nation" (Phillips 2005). In that interview, Wales announced that *Wikipedia* would begin requiring contributors to register before editing pages ("*Wikipedia* to Require Contributors to Register"). This change marked an important turning point for the project: instead of allowing the unfettered anonymity that has been traditional on much of the Internet, editors would have to at least formulate a pseudonymous identity for themselves.

On Dec. 9, Brian Chase came forward. Seigenthaler had traced the IP address associated with the edits to BellSouth, who refused to identify their customer. The anti-*Wikipedia* site "*Wikipedia* Watch" (http://www.wikipedia-watch.org/) further traced it to Chase's Nashville employer, Rush Delivery, and contacted both Seigenthaler and the media with that information. After owning up to his actions, Chase resigned from his job and offered public apologies to both Seigenthaler and *Wikipedia*. (He was subsequently rehired.) The story received additional coverage from the *New York Times* on Dec. 11, and quoted Chase's description of his motivation:

> Mr. Chase said he thought *Wikipedia* was a "gag" website and that he had written the assassination tale to shock a co-worker, who knew of the Seigenthaler family and its illustrious history in Nashville. ... "It had the intended effect," Mr. Chase said of his prank in an interview. But Mr. Chase said that once he became aware last week through news accounts of the damage he had done to Mr. Seigenthaler, he was remorseful and also a little scared of what might happen to him. (Seelye 2005b)

In response to the controversy, the *New York Times* implemented a policy against using *Wikipedia* as a fact-checking resource, and several other newspapers followed suit. Seigenthaler has continued to speak publicly about his concerns regarding the extraordinary leeway granted to *Wikipedia* contributors, as well as about media transparency, trust, and regulation (Mangu-Ward 2007).

The Nature / Britannica *Debates*

Right on the heels of this negative media attention came the *Nature* / *Britannica* debates. On December 15, 2005 -- four days after the second *Times* piece on Seigenthaler appeared -- *Nature* magazine published the results of a blind study conducted on entries from *Britannica* and the English-language *Wikipedia* (Giles 2005). Subject-area experts assessed a number of scientific articles from both encyclopedias and concluded that *Wikipedia* was generally as accurate as *Britannica*. Only eight serious errors (four from each project) were detected within the 42-article sample. *Wikipedia*'s total error rate was 163 to *Britannica*'s 123, and participants often commented that *Wikipedia*'s entries

were somewhat less readable. This news was greeted warmly by the Wikipedian community, who were quick to point out that their project's medium afforded the swift correction of those errors, whereas *Britannica* would have to wait until the next printed edition. (Their rebuttals failed to acknowledge the *Britannica Online Encyclopedia*.)

The following March, *Britannica* countered with a 20-page report titled "Fatally flawed: Refuting the recent study on encyclopedic accuracy by the journal *Nature*." They disputed *Nature*'s findings, claiming that

> everything from the criteria for identifying inaccuracies to the discrepancy between the article text and its headline was fatally flawed ... We discovered in *Nature*'s work a pattern of sloppiness, indifference to basic scholarly standards, and flagrant errors so numerous they completely invalidated the results. (2-3)

Among their points of dispute was the fact that the study reviewed texts not from the core *Britannica* edition, but rather from the *Britannica Book of the Year* and *Britannica Student Encyclopedia*, in which writers were "given more latitude to express personal views than writers of encyclopedia articles" (4). They also accused the study designers of patching together various *Britannica* articles on a single subject and inserting their own connecting text. *Nature* defended itself quickly on March 23, saying that they rejected all of *Britannica*'s accusations ("*Encyclopedia Britannica* and *Nature*: A Response"). Their response argued that the study only purported to compare articles from the *Wikipedia* and *Britannica* websites rather than exclusively from the *Britannica* proper, and that

all the articles in question did indeed come from public *Britannica* web sources. Further, they accused the *Britannica* team of failing to discuss their specific concerns before publishing their response. The argument has bumped steadily back and forth between the two parties since then. These altercations usually receive minimal media attention, but major media outlets devoted much discussion to another flare-up in the summer of 2006. However, this one involved a purposeful stunt and a fake news commentary show.

The Colbert Report and Wikiality

Conversations about the authorial ethos and trust associated with *Wikipedia* reached an even wider public with the July 31, 2006, episode of the *Colbert Report*, in which Steven Colbert inaccurately edited *Wikipedia* entries on George Washington's slave ownership and elephant extinction rates during a broadcast, fanning the flames of an already contentious discussion. In the segment, Colbert compared "wikiality"[17] to his trademark concept of "truthiness".[18] A significant number of viewers took his words to heart – enough to crash the servers of *Wikipedia*, a site built for heavy traffic – and entered inaccurate data on the extinction rates of various types of elephants. The pages were swiftly protected by Wikipedians, the user name StephenColbert was banned from the system,

17 "'Truth by consensus' rather than fact, modeled after the approval-by-consensus format of *Wikipedia*" ("The Colbert Report : *Wikipedia* in Popular Culture").

18 "The quality by which a person claims to know something intuitively, instinctively, or 'from the gut' without regard to evidence, logic, intellectual examination, or actual facts" ("Truthiness").

and the commentary began (“Wikiality”; McCarthy 2006). It lives on in occasional media discussions that frequently focus on educational uses of *Wikipedia* and in parody sites such as *Wikiality: The Truthiness Encyclopedia*.

This incident demonstrated that the viewing public is familiar enough with the issues that anonymous, collaborative authorship poses for the encyclopedic authority that they find such a stunt to be both humorous and worth participating in. Indeed, specialized language for these issues has entered into the popular media lexicon: The *Global Language Monitor* named "wikiality" one of the top TV buzzwords for 2006, along with Colbert's concept of "truthiness" ("Truthiness, Wikiality Named TV Words of the Year").

Recent media attention

Since then, a number of articles on the project's authority as well as Wikipedian bureaucracy and internal squabbles have appeared in major U.S. publications. Often, these pieces interview individual Wikipedians and work to give a sense of their personal ethos, either pseudonymous or real-world. A lengthy piece in the July 31, 2006, *New Yorker* focused on the projects' internal and external issues of authority, profiling "Essjay," an editor who, after publication, was revealed to have invented not only a

pseudonym but also an entirely fictional identity[19] (Schiff 2006). An extensive piece in the *New York Times Magazine* in July 2007 detailed the deletionist/inclusionist debates (discussed further in Chapter 4) and examined once again the broader issues of ethos and authority presented by such a sprawling, collaborative project written by authors with unverifiable identities (Dee 2007).

At the core of all this public consternation are concerns about a single concept: authorial agency. If all it takes is a click of the mouse for any reader to become an writer working within an authoritative genre, can that text remain authoritative? If we have no obvious markers for sorting out which iteration of a text is written by experts, editors, casual readers, or robots[20] -- and no way of ascribing an identifiable level of agency to each of those agents -- can we trust the resource they create?[21] *Wikipedia*, with its radically collaborative composition process in addition to its

19 The author and editor have appended a note on this issue at the end of the online version of the article .

20 Robots (bots) consisting of simple bits of codes perform a wide variety of basic authorial functions in Wikipedia. I discuss these in detail in Chapter 6.

21 This information is, of course, available on *Wikipedia* history pages, but discerning who did what can be a painstaking task.

complex mix of composers, presents an obvious site for exploring varied aspects of rhetorical agency.[22]

However, it is only the most recent example in a centuries-long tradition of collaboratively produced reference texts. In the next section of this chapter, I provide background on the other primary artifact in my study: the Chambers *Cyclopædia*. It provides a perhaps surprising parallel comparison to *Wikipedia*, because it employed a similar method of composing articles and incorporating public contributions. I discuss those aspects in more detail in my analysis chapters; here, I explain the historical significance of this influential text.

Chambers' *Cyclopædia*

The western encyclopedic genre as we recognize it today -- alphabetized, cross-indexed, purportedly objective, devoted to ever-expanding range of the Enlightenment project -- stretches back nearly three centuries to the publication of Chambers' *Cyclopædia* in 1728.[23] In

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22 The related concept of authorial responsibility is also worth deep exploration, but it is outside the scope of my current project. The following relevant areas of inquiry have been explored extensively in relation to other texts, but not in relation to Chambers: the encyclopedist's responsibilities to the audience, the church, and the state (see the extensive literature regarding Diderot and the Encyclopédie's role in the French Revolution); the responsibilities of coherently ordering knowledge; and the encyclopedist's moral obligation to a consistent ideal of truth. See Foucault (1970), Eco (1997), Blom &2004a and b), McKitterick (2003), Jeanneney (2007), Weinberger (2007), and McNeely & Wolverton (2008), among others. Ritvo's *The platypus and the mermaid* (1997) offers a fascinating exploration of Victorian classification practices and relevant responsibilities to the public, but does not directly cover encyclopedias.

23 Although alphabetization may have made an appearance in the encyclopedic genre as early as the 1080 edition of the *Suidas* (Collison xiii) and then was intermittently used in reference texts, it did not become a common organizing schema until around 1600 (McArthur1986, 77). Interestingly, McArthur also notes that the term 'dictionary' was a latecomer to French and English, first appearing in Sir Thomas Elyot's 1538 alphabetized *Dictionary* (79). (It appeared in Latin in 1225.) Other encyclopedic texts prior to the *Cyclopædia* used alphabetization, but Chambers made it the standard.

the preface to this edition, Ephraim Chambers discussed the affordances and constraints the genre imposes upon the author of an encyclopedic text, as well as the implications for issues of authorship and ownership. He paid particular attention to the communal nature of the text: while he listed himself as its sole formal author, he disavowed ownership of the public knowledge he had collected from myriad sources. As he prepared the second edition, published ten years later, he placed magazine advertisements soliciting article submissions from the reading public, thus creating an early analogue version of the publicly-authored encyclopedia.

Chambers' reflections in the Preface may have been influenced by two larger events, one personal and one public. His 1714-1721 apprenticeship to the globe maker and publisher John Senex might have encouraged him to think about information in a broad manner, as several scholars have suggested. While there, he decided that Harris's *Lexicon Technicum* required an extensive update and expansion, and took it upon himself to gather information for this project (Espinasse, Collison 103-04). The long shadow of the Statute of Anne, passed in 1710, may have also pushed him to consider the complexities of textual ownership.[24] In the course of his career in letters, Chambers worked as a translator and editor

24 In his foundational account of the development of copyright, Lyman Ray Patterson writes, "The Statute of Anne is usually thought of as having vested the copyright of works in their authors; and, superficially, the language of the statute conveys the idea that the act was especially to benefit authors. It did enable authors for the first time to acquire the copyright of their works, and to this extent, it was a benefit to them. The radical change in the statute, however, was not that it gave authors the right to acquire a copyright--a prerogative until then limited to members of the Stationers' Company--but that it gave that right to all persons (1968, 145).

as well as an encyclopedist. [25] As an engaged practitioner of a variety of textual genres, he would certainly have had an interest in the publishing issues of his day, and his ruminations in the Preface demonstrate an acute interest in issues of authorial agency and its impact on textual ownership. (I explore this further in Chapter 4.)

Influence

The *Cyclopædia*'s significance within the Western encyclopedic tradition is considerable. Centuries after its initial publication, the project and its author still enjoy wide acknowledgement among historians of encyclopedias. The value of the project was immediately recognized: he was elected to the Royal Society in 1729, a year after the initial publication, and received an award of 500 pounds. (Collison 1966, Espinasse 2004). The considerably revised second edition, helped along with public contributions of text, followed in 1738. [26] Still, Chambers was never able to expand the print editions as much as he planned to, as is evidenced by the fact that he left enough material for additional volumes at his death in 1740. The amount of material varies according to accounts. Yeo notes that one Mr. Ayrey, who assisted Chambers from 1728 to 1833, confirmed that more materials existed for future inclusion:

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25 His translation projects included Herman Boerhaave's *A New Method of Chemistry* (with P. Shaw, 1741), and an abridged edition of the *Philosophical History and Memoirs of the Royal Academy of Science at Paris* (with John Martyn, 1742). He also edited and contributed to the *Literary Magazine … by a Society of Gentlemen.*

26 I discuss these public contributions further in Chapter 4.

> 'in that time he copied near 20 folio volumes, which, Mr. Chambers used to say, comprehended materials for more than 30 volumes of that size, though he at the time added, they would neither be sold nor read if printed.' Chambers directed his assistant Macbean that "I want all the apparatus that I used in correcting the new edition of my book, to be brought to Cambury-house ... particularly a number of books, I believe ten or twelve, and an index wrapped in thick brown paper. The bookseller, William Bowyer, also suggested an enlarged version, to which his correspondent (Mr. Clark) replied that this was a good idea 'but alas! who can execute it? You should have as many undertakers as professions; nay, perhaps as many antiquaries, as there are different branches of ancient learning' (2001, 143).[27]

The current location of these extra materials is not mentioned in the literature; one might assume they were integrated into the five subsequent editions that were published, but no concrete evidence exists to support this claim. A two-volume supplement was published in 1753, and five more editions followed in less than 30 years under the direction of various editors. Numerous minor encyclopedias were introduced in competition, but none saw the same success.[28]

The *Cyclopædia*'s influence in British and American print culture was far-reaching. Elements of the "Preface" and structure are recognizable in the preface to Johnson's *Dictionary*[29] (Espinasse 2004, Kolb & Sledd

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27 Yeo cites as his source 'Ephraim Chambers to Macbean,' *Gentleman's Magazine,* 55 (1785), 412-13. He also speculates that "here 'index' might refer to the list of additional terms given at the end of volume II in the second edition, not to a proper index to the work, which, in any case, had no regular pagination." (143).

28 Among the contenders were the *Dictionarium polygraphicum* (1st ed, 1735; 2nd ed 1758); the *New and universal dictionary of arts and sciences* (1st ed 1751; 2nd ed 1756) ;the *New and complete dictionary of arts and sciences* (1st ed. 1754-55, 2nd ed 1763); and the *Complete dictionary of arts and sciences* by Temple Henry Crocker and others (1764-66) (Kafker 1994). Note that all are designated as dictionaries rather than encyclopedias.

29 Kolb & Sledd also note that Johnson contemplated creating a revision of the *Cyclopædia* before embarking on his own ambitious project (181).

1953, Mack 2001). Several of its lengthy technical passages also appear in *Tristram Shandy*. Sterne's descriptions are only slightly modified, and might be regarded as plagiarism today (Greenberg 1954).[30] Scientific definitions from the *Cyclopædia* likewise appear later in Melville's work, with the most notable instances occurring in *Moby Dick* (Hillway 1974, Leonard 1980).

The *Cyclopædia* also influenced at least two of the American founding fathers. Although a young Ben Franklin immediately discontinued the practice of running excerpts from the *Cyclopædia* on the front page of the *Pennsylvania Gazette* when he bought it (Mott 1962, 26-27), he relied on it as a resource and continued to occasionally reprint entries. Franklin's December 1737 essay on earthquakes, which he published in the paper, includes a verbatim transcript from Chambers' entry on the subject. He also reprinted a number of other entries, including information on hemp, inoculation for smallpox, and Freemasonry (Aldridge 1950).[31] Jefferson's plans for the Montalto Observatory may also have been influenced by Chambers' entry on the topic (Donnelly 1977).

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30 Entries referenced include the circumcision episode (Darby 2003), the list of caesarian operations (Ehlers 1981), and references to "the divinity which stirs within" (Nagle 2003).

31 Aldridge charges that Franklin's use of Chambers was actually plagiarism of Jonathan Edwards' use of Chambers.

Successors of the *Cyclopædia*

The *Cyclopædia*'s influence on the encyclopedic genre spread relatively quickly: it formed the initial base of the French *Encyclopèdie,*[32] which in turn spurred development of Scotland's *Encyclopedia Britannica* (Kafker 1994).[33] A full port of the 1911 *Britannica*, which is in the public domain, served as the initial textual base of *Wikipedia*, effectively making the *Cyclopædia* its textual great-great-grandfather. In this section, I briefly examine the histories of these canonical texts, as well that of *Encarta*. (The latter represents the most prominent initial foray into the creation and distribution of a multimedia encyclopedia as well as the networked encyclopedias that are under development today.) All of these projects have relied on a network of contributors in order to keep up with the demands of expanding and revising their texts. While this practice is frequently generative and even essential, it has also caused a number of interesting complications in the development of these texts.

Encyclopédie

French publisher André Le Breton first commissioned the *Encyclopédie* in 1743, intending it to be a mere translation of the

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32 Collison muses that "the influence of Chambers' Cyclopædia has been incalculable: Diderot's *Encyclopèdie* would undoubtedly have taken a very different shape had it not been for Chambers' example" (104). Other accounts affirm the influence: see Blom (2004), 43; Kafker (1994) 9-10; Yeo (2001), 125-28.

33 While various important encyclopedias continued to be developed and published throughout the world -- notably, the German *Brockhaus* -- from this point on I focus only on the *Cyclopædia*'s direct successors.

Cyclopædia. However, the project did not proceed as he had hoped, and it went through two failed editors before hiring Jean Paul de Gua de Malves, who famously retained Denis Diderot and Jean d'Alembert as his editors. Diderot continued as primary editor for the quarter-century it took to bring the project to completion, persisting through persecution and imprisonment. The Council of State formally suppressed the first two volumes and ordered the rest seized in 1752 because of the project policies of citing and including contributors regardless of their religious affiliations as well as including coverage of the values and practical aspects of science and technology. In spite of the state's actions, the list of subscribers reached 4,000 by 1758, when additional volumes were suppressed.[34] Consequently, some historians have suggested the *Encyclopédie* played no small part in the cultural upheaval that led to the French Revolution, especially given Diderot's persistent challenges to the Catholic church's preeminence in philosophy and education[35] (Blom 2004, Donato 1992). Certainly, there was significant state and church discourse concerning what does and does not belong in a sanctioned encyclopedia. (Close examination of this discourse is outside the scope of my current project, however, and has been well-covered by many scholars of the *Encyclopédie*. See those mentioned in footnote 27.)

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34 A remarkable number, considering the chronological length of the project and the not-inconsiderable cost of subscription (280 livres at the outset, which grew to 850 livres by the project's completion).

35 See the *Pénsees philosophiques*, *Promenade du sceptique*, and *Lettre sur les aveugles*.

Charges of plagiarism plagued the project from the beginning, although a fair number of borrowings were officially arranged by Le Breton. The fifth edition of Chambers' *Cyclopædia* was contractually licensed in 1745 and his contributions were always publicly acknowledged. In 1748, Le Breton also licensed John Harris' *Lexicon technologicum* and Thomas Dyche's *New General English Dictionary* (Collison 119). However, the French Jesuit editors of the *Dictionnaire de Trévoux* accused the Encyclopédistes of pilfering their texts, and they were also accused of borrowing from Noël Chomel's 1709 *Dictionnaire oeconomique* (Collison 115-16). In his discussion of these recurrent allegations, Collison writes, "The truth is that new encyclopedias are always built on the structure of their forerunners, and thus reflect the process of the accretion of knowledge itself" (116). The incorporation of prior material is common. (While the use of fragments or individual articles is likely most common, entire texts have been incorporated, as noted above. Since the central goal of encyclopedias is to collect and render accessible the breadth of prior knowledge, originality is not a prized authorial attribute. Indeed, as the *Wikipedia* policies demonstrate, it is frequently explicitly banned.[36] I discuss this further in Chapter 5.) Diderot also significantly transformed the project through re-composition and careful additions over the years, moving it from a mere collection of translated reference works to a

36 Importantly, so is plagiarism. Original phrasing is in fact valued.

significant, broad philosophical project. A small army of more than 160 contributors assisted him.[37]

As they labored, Le Breton secretly censored the text. Collison summarizes the ease of such censorship, given the production process:

> When Diderot had passed the text it was sent to the printer (in the case of outside contributors, they very often sent their manuscript direct to the printers and Diderot's first glimpse of what they had written was in the galley-proofs). The printer who set the text up in type and sent the galley-proofs to Diderot corrected them meticulously. When the galleys were returned to the printer the chief proof-reader, under secret instructions from Le Breton, read through the text and marked 'doubtful' passages for Le Breton's attention. These passages were any which in the proof-reader's opinion laid the publisher open to action on the score of libel, blasphemy, treason, etc., ... As Diderot never saw his manuscript again, nor the final text until it was printed, this process had been going on for some time before he noticed it, although in fact there were very few articles apart from his own and Jaucort's which were subjected to this unofficial but no less efficient censorship. (129-30)

Diderot was so outraged by this betrayal that he deserted the project, supposing that a high level of censorship had been applied throughout the texts when the real impact of this unwelcome collaboration was not as extensive he thought.[38] He was eventually persuaded to return and completed 28 volumes. An additional five volumes were contributed by

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37 Collison notes that one of the most prolific was the Chevalier Louis de Jaucort, who was himself aided by half-a-dozen secretaries and contributed so much of his own money to the project that he was forced to sell his house in Paris (128). Royalty from a number of countries also supported the *Encyclopédie*; among them were Frederick II of Prussia, who offered asylum to the Encyclopédists, as did Russia's Catherine II. Significant members of Parisian society -- most prominently, Madame de Pompadour -- also patronized the project.

38 See Gordon & Torrey's 1947 book-length study on the topic, which examines the original proof sheets. Collison suggests that, based on their work, Le Breton's changes represented a level-headed response to Diderot's hot-headed tactics (131).

other editors, and by 1777 the *Encyclopédie* comprised 35 volumes of 71,818 articles,and 3,129 illustrations. It still stands as one of the most extensive codex encyclopedic projects in the world.

Encyclopedia Britannica

The Scottish *Britannica* continued the tradition of borrowing heavily from prior texts, and much later in its history it pioneered the development of online encyclopedias. Large selections from the *Encyclopédie* were translated back into English to form the textual basis of the first *Britannica* editions. From its first subscription offering in 1768, a rotating cast of editors and contributors has produced the encyclopedia. Its first three editors - Andrew Bell, Colin Macfarguhar, and William Smellie - put out a successful initial edition that comprised 100 parts. The three volumes were developed relatively quickly over the space of four years, beginning a tradition of fairly frequent editions along with innovation in genre features. The second edition, which appeared in 1784, was the first encyclopedia to include historical and biographical articles. Collison also notes that all the maps were grouped together in the Geography section, which represented a significant change (140). The number of biographies was subsequently expanded; Constable's six-volume 1824 supplement added approximately 170 biographies of people

who died during the previous thirty years (142), and future editions continued to add others.

Constable also introduced a significant change in authorial attributions for encyclopedic articles. Up to this point, all encyclopedic articles appeared without an authorial signature of any sort; only the editors' names were associated with any encyclopedic project. Constable began the tradition of including contributors' initials at the end of articles and also included a key to those initials (142). The use of initials (and sometimes full names and professional titles) persists in many contemporary encyclopedias. Later editions continued to expand the biographical entries and the 1842 edition also introduced a 187-page index in a separate volume. In 1889, entries on mundane technical topics were added, so that readers could learn how to learn how to make snowshoes and other useful items (145).

The 1911 *Britannica* is considered by many scholars to be the greatest edition produced, and Collison ranks it as one of the three greatest encyclopedias in the world (147).[39] It was the last edition produced entirely in Britain and the first to be issued entirely at one time instead of volume by volume. It represented a substantial revision of the rather disjointed ninth edition (the tenth having been only minimally revised), and returned it to a tightly organized, alphabetic compendium.

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39 The two others he lists are the *Italiana* and the *Espasa*.

Ninety years after its first publication, this edition would form the initial text port for *Wikipedia*.

The Digital Britannica

Britannica began to explore the viability of branded sub-projects in the 1930s with the introduction of the *Britannica Book of the Year*, *Britannica Junior*, concise editions, and special-topics editions such as the *Britannica Encyclopedia of World Religions*. In the 1990s it was one of the first -- and certainly the most prominent -- encyclopedias to branch into multimedia digital editions. Today, it continues to publish its printed editions as well as *Britannica CD* and *Britannica Online*.[40] In early 2009, a online edition that accepts user contributions to existing articles was announced (Hutcheon 2009, Sweeney 2009). The project continues the vetting process that *Britannica* has always incorporated, requiring that users register with real names and promising that their submissions would be reviewed by an editor within 20 minutes. The supervising editor, Jorge Cauz, continued *Britannica*'s longstanding criticism of *Wikipedia*, saying

> We're not trying to be a wiki. That's the last thing we want to do. ... we're not trying to be a tabloid or reality TV [type of product]. We are a different type of animal, catering to a different type of crowd. *Wikipedia* contributes to the spread of information and many people are happy with it as their only source of reference – as are many people happy to eat McDonald's every day. (Sweeney 2009)

40 See Alex Soojung-Kim Pang's account of developing multi-media versions at *Britannica* during the mid-90s.

As Cauz's statement demonstrates, *Britannica* continues to position itself as the more elite option which addresses only the most rigorously selected and important topics. In doing so, it creates a closed ethos that may connote rigor, but also implies that topics of common interest (such as those concerning current popular culture) are not valuable knowledge or worth preserving. The task and privilege of deciding what is and isn't worth including is reserved exclusively for accredited experts.

Encarta

Introduced in 1993 by Microsoft Corporation (a year before *Britannica*'s electronic editions), *Encarta* was the predominant multimedia encyclopedia throughout the rest of that decade and into the first few years of the next century. In order to develop the content, Microsoft purchased full texts from several lower-tier encyclopedias: *Funk & Wagnalls Encyclopedia* (in the 1993 edition), *Collier's*, and the *New Merit Scholar's Encyclopedia* (in the late 1990s).[41] The resulting digital text, released on CD, revolutionized the encyclopedic genre in several ways: first, by rendering cross-indexing fully dynamic through hyperlinks, and also by incorporating digital media such as 2-D and 3-D images, sound files, movies, and virtual tours. These, coupled with the encyclopedia's Visual Browser, dynamic atlases, and MindMaze trivia

41 Although all of them attempted to maintain print editions alongside *Encarta*, each failed. None are available in print today.

game, provided the reader a multimodal experience that was revolutionary at the time. The software edition of *Encarta* remains in circulation, and the last complete English edition (2005) contained more than 68,000 articles.

However, Microsoft announced in late March 2009 that the project would cease in October of that year, since it proved unable to successfully compete with *Wikipedia* (Cohen 2009b; "Important Notice: MSN Encarta to be discontinued"). Its demise came after a long and unsuccessful attempt to integrate user-generated content. In 2005, the online edition of *Encarta* announced plans to accept public contributions (Alt 2005). In a March 23 post to *Encarta Space*, the house blog, editor Gary Alt posted an announcement that the project would accept reader contributions and have a submission interface up and running the next month. On April 4, project manager Aaron Patterson posted, announcing the launch of the Article Editor interface as well as comment boxes below each article and the hiring of additional editors to oversee contributions (Patterson 2005). A month later, another editor, David Hirning, clarified the program goals, saying that the encyclopedia would only accept revisions to existing articles. The reasons for limiting contributions concerned information sprawl and topic acceptability, as well as the project policy of submitting each article to full review by the editorial team (Hirning 2005).

As the project managers and editors continued to update the blog over the next few months, the tone of their posts on these new initiatives became increasingly exasperated. One tried valiantly to clarify the proper use of the comment box:

> As I've mentioned on this space before, we get a lot of fascinating comments through our Encarta Feedback program. Some readers are very specific—to the point of asking us direct questions and providing an e-mail address for a response. ... We didn't instigate the program to answer individual users' questions, however. We just don't have the time and the staff to do that. I say "unfortunately" above, because many of the questions are quite serious and even heartbreaking. (Although, of course, there are many queries from users who just want us to directly answer a homework question!) Some are even more desperate, with the user describing ongoing health problems and struggles. One reader even left a comment on the Opium article recounting his or her long-term drug addiction, which was compounded by a motorcycle accident that resulted in a chronic back injury. It's not easy stuff to read. Obviously, the best person to ask is your doctor. Heck, ask someone else's doctor. Ask a doctor on the street if you must! (Hirning 2005b) [42]

The Encarta Space blog did not mention either the contribution or feedback programs after that, and the blog ceased updates after March 2006. At some point, the contribution program was quietly discontinued, and all of the relevant FAQ and interface pages were deleted.

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42 Asking questions on Internet reference sites is a common enough behavior that it has driven the creation of Yahoo Answers, which is currently second only to *Wikipedia* in reference site usage (Heffernan 2008). AskJeeves.com (now ASK.com), which simply linked to previously posted information rather than offering the question to a live audience, was a previous unsuccessful attempt at offering this sort of service.

Conclusion

In this introductory chapter, I have provided an overview of the two major artifacts in my study and their historical development. Both of them rely on the widespread practice of incorporating prior texts and public contributions into encyclopedias. In *Wikipedia*'s case, this has led to a number of public media events that have drawn attention to the complications of ethos and agency in encyclopedic authorship: the Seigenthaler Incident, the *Nature* / *Britannica Debates*, and the *Colbert Report* "Wikiality" episode. This discourse demonstrates public anxieties about authorial authority and responsibility in anonymously authored, networked texts. However, this sort of authorship is not entirely new, as the *Cyclopædia* and other canonical encyclopedias demonstrate.

Next, I turn to the primary theoretical literature that informs this study. I rely on Lloyd Bitzer's notion of rhetorical situation as a guide for identifying primary aspects of study, and on Karlyn Kohrs Campbell's five aspects of agency as a lens for shaping finer analysis. Additionally, I explore the current literature in the fields of Rhetoric and Writing Studies concerning intellectual property.

Chapter 2: Rhetorical Agency and Authorship

Here, I discuss the primary rhetorical theories that inform this study: a rehabilitated conceptualization of Lloyd Bitzer's notion of rhetorical situation as well as Karlyn Kohrs Campbell's recent work toward defining aspects of agency. My focus on rhetorical agency stems from current debates among rhetoricians concerning the construction and functions of agency, and these conversations provide both background and enhancement for Campbell's dictums. Additionally, I explore recent work by Rhetoric and Writing Studies scholars on authorship and intellectual property, topics which have received steadily increased attention over the past fifteen years.

Modern encyclopedias present a unique rhetorical and textual situation within which to analyze the fluctuations of authorship: they are pragmatic rather than creative, real-world rather than fictional, objective rather than subjective, and schematically arranged rather than narratively

structured. The pragmatic aspects of dealing with such a broad text necessitate collaborative authorship: since the information explosion of the Enlightenment, it has been impossible for a central reference text to be originally written and mastered by a single author.[43] Neither has it been necessary, since a wide range of previously published dictionaries, lexicons, and handbooks -- and eventually encyclopedias -- were available for "inspiration." The demands of the form encouraged an open tradition of textual borrowing that some might now identify as outright plagiarism. As I mentioned in the Introduction and will demonstrate further in Chapter 4, the construction of encyclopedias requires a unique compositional process that focuses on collecting past and present texts, assessing their quality, aggregating the best information, and, in the end, transforming the results into a new text through re-composition and arrangement. This process is almost directly counter to the usual conceptualization of the author as someone who creates an original text through her own individual genius.[44] In fact, original research has traditionally had no place in the modern western encyclopedic tradition

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43 If it was ever possible at all. Pamela Long (2001) points to Pliny's nephew's account of his uncle's devotion to assembling his encyclopedia. Extensive servant help with small daily matters enabled him to work continuously: for instance, books were read aloud to him while he ate a dinner prepared by others and took notes. He also studied or took notes while being bathed and while being transported about town on a litter to meetings. Additionally, he employed a secretary to assist him in the work while he traveled. Without the leisure time afforded by these mundane service contributions, the production time available to him would have been much more limited.

44 While it does resemble contemporary remix culture, it departs from it in its central aim, which is not to produce a new or original creative product through pastiche, but rather to produce a thorough and authoritative product through considered collection and filtering of pre-existing knowledge.

and is specifically banned in *Wikipedia* on the grounds that it runs counter to the project's Neutral Point of View (NPOV) policy ("Wikipedia:Neutral point of view").

This dissertation is a comparative case study grounded in rhetorical analysis. Many of the encyclopedist's compositional decisions are influenced by the demands of the encyclopedic form, which constitutes a discrete rhetorical situation. The encyclopedic genre is a response to the exigencies of information overload and public access, and influenced by broader cultural perceptions of what is important and worth knowing. Its very form demands an understanding of authorship and commensurate authorial agency that is specific to its rhetorical and textual situation. I begin by explaining my decisions regarding theoretical points of entry.

The Continental Critique of Authorship

Given the centrality of the Continental Critique within the field of authorship studies, it may seem curious that I've not elected to make it part of my theoretical stance. I've relied on it heavily myself in the past, as do many scholars of authorship studies, and in fact first began this project with the assumption that it would be pivotal. However, as I became more aware of the current work on rhetorical agency, it seemed important to

engage with emerging theories in my primary research field[45] and thus to explore alternate ways of approaching the problems of authorship apart from the oft-used postmodern approach. Additionally, the work of Foucault and Barthes seems less appropriate for this study because they examine the text and its author largely in relation to external factors -- among which is, in their view, the reader. In this study, my purpose is to look primarily within the small world of the individual text and its composition I do not substantially address related external elements such as juridical factors, for instance, or the role of the authorial signature within larger print economies. Relatedly, because of the encyclopedic reader's active contributions, I do not consider the reader an "external factor" or an entity that the text is bequeathed to after publication, especially in digital contexts. Still, postmodernist concerns are relevant and call for some discussion here.

The postmodern critique of authorship begins with Barthes' argument that the Author exercises agency only until the work is released to its audience--hence the aphorism, "the birth of the reader must be at the cost of the death of the author" (Barthes 1968, 148). In other words, once the audience enters the textual situation and brings their personal and

45 The work of Foucault and Barthes has been operationalized widely by both rhetoricians and literary scholars, and both are deeply engaged with issues concerning persuasion, textual economies, and textual functions. Both are frequently included in basic graduate coursework for both disciplines, and Bizzell and Herzberg's canonical anthology *The Rhetorical Tradition* includes Foucault as a central Postmodern critic. However, while Barthes was especially concerned with more philosophical forms of textual criticism, Foucault's focus was broader. His chair at the Collége de France was titled "History of Systems of Thought" and his oeuvre focuses primarily on critical study of social institutions rather than rhetoric or literary criticism per se.

cultural connections to bear on their readings, the emphasis shifts to the work itself and its interpretation, and the author is rendered largely irrelevant to the text. A published and distributed text is devoid of authorial agency or identity: "Writing is that neutral, composite, oblique space where our subject slips away, the negative where all identity is lost, starting with the very identity of the body writing" (142). The author's task, then, is to produce a text and send it out into the world: "The Author, when believed in, is always conceived of as the past of his own book: book and author stand automatically on a single line divided into a *before* and an *after*" (145). While this shift in emphasis from the author to the reader and text may at first seem productive for our topic, the notion of a terminal moment for the author and text does not map to wikis. The wiki is always in progress (or process). Its creation is ongoing; composers come and go, potentially returning to the text and altering it many years and many iterations after they first drafted their contribution. There is certainly no clear division between authors and readers in *Wikipedia*. Readers become authors become readers again, as I discuss further in Chapter 5.

Foucault responded to Barthes, arguing that while the separation of author and text was productive, it was not sufficient. He suggested that the Author exists not as a corporeal person or "real writer" (112) but rather as a discursive function created and perpetuated by state and cultural

discourse. Consequently, the construction of a capital-A Author enmeshed in her textual product is a cultural fiction so prevalent as to be unquestionably accepted as irrefutable fact. For Foucault, the locus of these discursive tensions is the authorial signature, which serves a purpose separate from that of proper, legal names: it is a "functional principle by which, in our culture, one limits, excludes, and chooses" (119). Considering this construction of the Author demands careful attention to the particular discursive properties situated cultures impose upon a textual genre and the signature associated with it, he writes. As a result of these external pressures, our understanding of this Author fluctuates according to genre expectations and historically situated mores: "We do not construct a 'philosophical author' as we do a 'poet,' just as, in the eighteenth century, one did not construct a novelist as we do today" (110). In Foucault's formulation, neither of these constructions necessarily refer to a real individual "since it can give rise simultaneously to several selves, to several subjects -- positions that can be occupied by different classes of individuals" (113).

Foucault observations about authorial constructions that fluctuate according to genre have influenced my thought in this project, but perhaps most pertinent is his observation that if the Author function is dependent upon a dynamic culture, it will change along with societal changes:

> [I]t does not seem necessary that the author function remain constant in form, complexity, and even in existence. I think

> that, as our society changes, at the very moment when it is in the process of changing, the author function will disappear, and in such a manner that fiction and its polysemous texts will once again function according to another mode, but still with a system of constraint -- one which will no longer be the author, but which will have to be determined or, perhaps, experienced. (119)

We may be experiencing these changes now as the affordances of wikis begin to transform what it means to 'author' a text in such a "burgeoning and palimpsestic" digital environment (Ray & Graeff 2008, 42). Or these concepts may have been with us all along, and are only now made explicit through digital environments.

I offer this summary of Foucault's essay for two reasons: any review of the authorship literature is incomplete without it, and it identifies specific central issues engaged in this study. However, my approach to the study of authorship is not fundamentally Foucauldian. A primary aspect in which I depart from the Continental Critique is my contention that we cannot escape the fact that real people contribute real labor to the creation of these texts, and they both exercise and are denied real agency in the process of textual production, albeit in situated contexts. Let me be as clear as possible: when I discuss the ways that authorship works within the encyclopedic tradition, I understand myself as examining *working encyclopedists and the ways in which they compose texts*. Rather than faceless networked subjects, they encounter individual pressures in addition to broader societal ones: for example, they are

married or not and therefore have the potential of extra available help, as I observe in a footnote concerning Chambers. Perhaps they are high school students desperate for local social capital, as some of the vandals discussed in Chapter 5 appear to be. Therefore, the signatures (or lack thereof, in nearly all *Wikipedia* cases) associated with these texts indicate traces of individual workers, whether they be human or robotic, not a theoretical "author-genius [subordinate] to the community that comprises these superempowered users" as Ray & Graeff suggest in their consideration of the Author function in wikis (45). Nor do I fully agree with Halbert's suggestion that networked environments shift the author function to an author dialogue (1999). While true, such a description does not go far enough; radically networked environments like *Wikipedia,* with their layers of simultaneous texts that preserve a fossil record of the collaborative writing process, allow us to observe all the spaces between cultural beliefs and actual process -- and, therefore, give a clearer view of the sort of agency possible in this specific textual situation. In my view, examining the individual primarily in the light of the institutional pressures imposed upon him or her does not leave sufficient space to account for the realities of individual agency and responsibility. However, given the constituted and constrained agency available to this author, especially with regard to the signature left behind, I also do not find this stance to be entirely at odds with Foucault's statements above. A single

author may choose to splinter his identity into "several selves, several subjects," each of which performs a different ethos and occupies a different space within the immediate community and the wider culture. The varied authorship demonstrated through these signatures is indeed subject to commensurately varied cultural pressures and appeals, as well as technological factors (Eisenstein 1979, Posner 2007, Woodmansee 1994). However, I also suggest that it is important to leave room for the individual in the midst of all of these influences.

The Rhetorical Situation

My central argument in this dissertation is that authorship is a fluctuating construct that alters according to textual and rhetorical situation. I rely on Lloyd Bitzer's model of rhetorical situation as a way of considering the ways in which central rhetorical factors are constituted and influenced by fluctuating external forces.[46] These elements shape my study by pointing to examination of not just the author, but also the audience. I suggest that a rehabilitated formulation can indeed be useful, particularly in light of the attention critics have given to two disputed elements in Bitzer's original model: the role of the audience and the

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46 I have elected to use Bitzer's concept rather than Burke's Dramatistic Pentad, which contains similar elements and directly includes both agent and motive as central elements. However, the Pentad was designed by Burke to direct investigations into motive. Since half of the texts I analyze are written by living authors, a study that sufficiently considered their motives/intent would need to incorporate interview protocols and address human subject concerns.

A very different study could be undertaken through Burke's work on persuasion and identification in *A Rhetoric of Motives*. Examining those rhetorical elements in light of the ways the signature functions in encyclopedic texts may yield interesting insights.

variable forms of agency available to both the audience and the rhetor. The complexities of fluctuating audience and agency are explicitly demonstrated in the swirling, constantly moving situation that is *Wikipedia*, where the writer becomes the audience and vice versa and back again, where meta-discourse about the text occurs simultaneously with the text, and where a bot begins an entry and humans build it out, only to have their typos edited by another bot. Campbell's elements of agency provide a finer lens through which to examine the specific functions of agency, and I discuss these aspects later in this chapter.

"The Rhetorical Situation" remains one of the canonical articles in rhetoric and composition, although it has been significantly challenged and rehabilitated over the forty years since its first publication. Bitzer defines rhetorical situation as

> a natural context of persons, events, objects, relations, and an exigence which strongly invites utterance; this invited utterance participates naturally in the situation, is in many instances necessary to the completion of situational activity, and by means of its participation with situation obtains its meaning and its rhetorical character. (219)

Exigence is "an imperfection marked by urgency; it is a defect, an obstacle, something waiting to be done, a thing which is other than it should be" (221). The primary exigence that encyclopedias respond to is that of information overload: their central concern is the accessible, concise arrangement of as much information as possible. The notion of *defect* in

the above definition is also a central factor in the encyclopedic situation, with its unending revision process. Entries are originally written to correct the defect of their absence, and then are constantly revised to correct the defects of typos, misinformation, incompleteness, timeliness, and appropriateness, among other issues.

Other primary elements of rhetorical situation are rhetor, audience, and constraints. Bitzer is frequently read as portraying the actors as being primarily at the mercy of the situation; indeed, he writes, "the situation dictates the sorts of observations to be made; it dictates the significant physical and verbal responses." That is, the rhetor's discourse arises from the exigence, not from the rhetor's internal inventional process, and is further shaped by constraints beyond his immediate control. The audience quietly awaits instruction and insight, never interrupting, arguing, or otherwise subverting their prescribed role in the situation, although they act as directed mediators of change after receiving the rhetors' message.

Bitzer's article has proved remarkably generative since its publication and has provoked a number of responses, particularly by scholars who are concerned with his conceptualizations of agency and audience. Vatz suggested that Bitzer had got it backwards, arguing instead that "I would not say 'rhetoric is situational,' but situations are rhetorical; not 'the situation controls the rhetorical response,' but the rhetoric

controls the situational response…" (229). Bitzer's model, he wrote, removes agency from the rhetor, along with personal responsibility. Rhetors are constantly faced with choices in the process of making discourse, and they express themselves in value-laden language. Finally, Vatz notes, all the participants in a situation are faced with ethical decisions about the production of discourse, since not talking about a situation does not make the situation go away. (In his example, not talking about hunger does not mean that hunger has ceased to be a problem.) In his view, rhetoric is not dictated purely by events, but is instead driven by the agency of both audience and rhetors. Scholarship that immediately followed Vatz's article also reinforced this argument that rhetors are "responsible for inventing and describing meanings surrounding an event," even to the point of creating exigencies themselves (Consigny 1974, 200; see also Hunsaker & Smith 1976).[47] These criticisms served to loosen Bitzer's original rigidly linear structure, and contemporary scholars began to rehabilitate it with an explicit focus on the rhetorical agency demonstrated by both rhetor and audience. This work decenters the original model, moving it from inherent determinism toward a framework that allows for the variables of a diverse, complex, increasingly networked

47 Bitzer responded to these criticisms with the little-cited 1980 article "Functional Communication: A Situational Perspective." He continued to argue that situations are objective, and that misunderstandings are caused by misperceptions of exigence, or by deliberate deceptions, and expanded his idea of the "controlling exigence," which directs the critic's attention to the most influential problem in the situation. He also introduced a structure of 16 additional factors (four to examine the congruence of individual perceptions, six influences to measure the degree of the audience's interest, and six factors to predict the response of the audience to an exigence.) I've not found any instances of this revised model being applied.

society: multiple audiences and exigencies, constraints both mundane and technical, and varied perceptions (Smith & Lybarger 1996, 210; see also Grant-Davie 1997). Room is also created for the study of power differentials and nontraditional rhetorics (Jarratt 2002).

Audience

Throughout most of these reconsiderations, the element of audience has remained undertheorized[48] -- always identified, but rarely defined or complicated beyond a group that receives a message and then perhaps mediates action based on the message's influence. Biesecker explores this complacency, pointing to Bitzer himself as a prime example when he writes, "'Audience' is standard; so are 'speaker,' 'subject,' 'occasion,' and 'speech.' If I were to ask, 'What is a rhetorical audience?' ... the reader would catch the meaning of my question" (qtd. in Biesecker 1989, 240). The consequence of artificially limiting our understanding of audience is to hobble rhetoric's potential, Biesecker writes:

> If we posit the audience of any rhetorical event as no more than a conglomeration of subjects whose identity is fixed prior to the rhetorical event itself, then ... the power of rhetoric is circumscribed: it has the potency to influence an audience, to realign their allegiances, but not to form new identities. (233)

48 With the exception of Jarratt, who draws on Biesecker's essay.

That is, if we only conceive of an essentialized rhetorical audience that consists of either the faceless individual or a banal mob, we don't create room for understanding rhetoric as a tool for creating real, personal, internal change that alters the way an individual conceives of themselves and thus affects change in the world. This element is particularly important for a study of modern encyclopedias as a textual/rhetorical situation, since it requires a means of considering audiences within the realm of the Enlightenment project's goals of developing individual reason and, consequently, agency.

Additionally, it provides a way to connect the internal exigences of a text with other circulating points of exigence and influence. The vitality of these connections is particularly apparent in considerations of ownership in the encyclopedic tradition. Chambers frames his non-ownership of the *Cyclopædia* as an ethical decision based on the public nature of knowledge, and *Wikipedia*'s policy decisions are a response to contemporary public discourse concerning intellectual property and copyright. These importance these policies place on using only public-domain images and media drives the visual content of the pages (and consequently composition and revision decisions).

The concept of rhetorical situation provides us with a macro terminology to describe the interdependent primary elements of persuasive discourse. This terminology maps well to the demands of

comparing authorship in codex and digital forms. However, mere mapping is not sufficient, as the ongoing arguments within the literature demonstrate. Rather than arguing over whether rhetor is influenced by situation or vice versa -- really, whether the chicken or the egg came first -- a rehabilitated model acknowledges complex, nonlinear rhetorical situations that influence and are influenced by all the participants involved. In particular, reconsidering the role of the audience within rhetorical situation moves the concept from a linear diagram of events performed by circumscribed actors to a model of multidirectional exchange and energy. That is, it makes room for varied demonstrations of agency.

Agency

The specific exigencies and demands of what we might loosely term the encyclopedic situation impose a paradoxical agency. First, the encyclopedic author's authority is partially derived from the particular, peculiar, and sometimes contradictory forms of agency imposed by the production process of a copia. From one perspective, this author has very little agency, since she works within a tight form with rigid expectations, recomposes unoriginal information gleaned from other resources, and works toward the strict goal of communicating and organizing information. But at the same time, this author exercises extraordinary

agency because, in the process of curating such a text, the encyclopedist wrestles with and decides what constitutes knowledge, what the reader is permitted to know (not just by the author but also by the publisher, church, and state, as the tale of the *Encyclopédie* demonstrates), and how the information will be ordered and presented. Further, the author also demonstrates considerable agency through conscious constructions of personal identity.

Rhetorical agency has figured prominently in disciplinary discussions over the past decade and a half. One of the four working groups at the 2003 Alliance of Rhetoric Societies conference devoted their attention to the topic (Clark 2004, Geisler 2004). Position papers were widely distributed online (www.comm.umn.edu/ARS/) and a special issue of *Rhetoric Society Quarterly* devoted to the conference included Cheryl Geisler's plenary talk on the topic. Scholars in rhetoric, technical communication, and writing studies have since focused on definitional questions (Geisler 2004, Campbell 2005, Lundberg & Gunn 2005), disciplinary and pedagogical applications (France 2000, Geisler 2005, Leff & Lunsford 2004), medical contexts (Angus-Campbell & Clark 2005, Koerber 2006, Stone 1997) scientific contexts (Kinsella 2005), organizational writing and communication (Martin 2004, Winsor 2006), community formation and action (Harter 2004, Procopio & Procopio 2007), labor (Greene 2004), digital environments (Ballif 1998, Miller

2003, 2004, & 2007), research methodologies (Spinuzzi 2005), and broader rhetorical theory (Kneupper 1985, Leff 2003, Walsh 2003).

Aspects of Agency

In a 2005 article entitled "Agency: Promiscuous and Protean," Karlyn Kohrs Campbell offers a coherent, interconnected structure for analyzing agency within a given rhetorical situation. By her reckoning, agency

1. is communal and participatory, hence both constituted and constrained by externals that are material and symbolic
2. is "invented" by authors who are points of articulation
3. emerges in artistry or craft
4. is effected through form
5. is perverse, that is, inherently protean, ambiguous, open to reversal. (2)

This schema represents a significant step within a literature that more often addresses individual elements of agency (for example, performance, responsibility, or bifurcation). In acknowledging the inherent difficulty and mutability of the concept, Campbell offers a means of framing a coherent examination of this complex issue.

Agency and the Individual

Throughout this study, I adopt Campbell's definition of rhetorical agency as "the capacity to act, that is, to have the competence to speak or write in a way that will be recognized or heeded by others in one's

community" (2). I also follow her acknowledgements of the historical and cultural fluctuations of the term, which necessitates cultural recognition of the individual and individual action. Agency, as understood by Hellenic society, centered around the collective action of the polis and was grounded in "*endoxa*, the beliefs that either constituted common sense or were accepted as true because of the *areté*, the 'excellences' or talents of those with demonstrated prowess" (3).[49] While the individual did indeed exist and act, he did so within the limits of the collective; Campbell is careful to point out that "independent actors" did not exist. In a somewhat related fashion, the Hellenic author was understood to operate within the limits of external inspiration drawn from Muses (Havelock 1986).

It wasn't until the medieval period that the authorial role performed by the *auctor* began to be recognized as "manifest[ed] by two facets of the author's individuality … his individual literary activity and his individual moral activity" (Minnis 1988, 27). Still, Campbell notes that the first usage of "individual" in English appears in 1425, "in the phrase the 'high and individual Trinity,' which, of course, refers to indivisible parts" (2). Cultural perception and then reification of the individual developed over the next few centuries.

Ong suggests that the contemporaneous rise of print drove a shift in perceptions of individualism and, consequently, individual ownership:

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49 A Greek term which might point to a finer-grained conceptualization is *dunamis*, which is frequently translated at "ability" or "capacity." Aristotle often renders it as "potential." My thanks to Richard Graff for clarifying this.

"The old communal oral world had split up into privately claimed freeholdings. The drift in human consciousness toward greater individualism had been well-served by print" (1982, 131). Inevitably, this newfound sense of individualism led to cultural upheaval. Ong also explicitly notes the connection between the development of print and the beginning of the Protestant Reformation: "The advent of print was immediately marked in Protestant circles by advocacy of private, individual interpretation of the Bible" (153). Certainly, it fostered Martin Luther's assertion that "knowledge is God-given and had therefore to be given freely" (Woodmansee 42). Luther's notions of faith as an individual matter were heretical to the Church's doctrine that knowledge was only available through intermediaries, that is, the priests who read and interpreted the Latin Vulgate.

Woodmansee describes the changing Renaissance construction of the author, which remained decidedly unstable throughout the first half of the eighteenth century:

> [The author] was first and foremost a craftsman; that is, he was master of a body of rules, or techniques, preserved and handed down in rhetoric and poetics, for manipulating traditional materials in order to achieve the effects prescribed by the cultivated audience of the court to which he owed both his livelihood and social status. However, there are rare moments in literature to which this concept did not seem to do justice. When a writer managed to rise above the requirements of the occasion to achieve something higher, much more than craftsmanship seemed to be involved. To explain such moments a new concept was introduced: the writer was said to be inspired--by some

> muse, or even by God. These two concepts of the writer--as craftsman and as inspired--would seem to be incompatible with each other; yet they coexisted, often between the covers of a single treatise, until well into the eighteenth century. (1994, 36)

This writer does not exert full individual agency as we understand it today. Rather, he is held to receive at least part of his inspiration from mystical sources and works in the service of his audience and the goals dictated by their patronage. Any true artistry displayed is credited to muses. But in spite of these associations, he is a discrete, individual entity who produces a product that emerges in craft -- one element of Campbell's schema that I discuss below.

By 1728, when Chambers' first edition was published, the increasing pervasiveness of print and the rise of the novel had fostered increased awareness of the individual author. Woodmansee describes this emergence as "writers who sought to earn their livelihood from the sale of their writings to the new and rapidly expanding reading public" (36). Eighteenth century theorists began to locate inspiration within the writer, describing it in terms of personal genius. Consequently, it became easier to understand the writer as an individual who exercised considerable agency and his product as property.

By necessity, early modern theorists of authorship were most often writers struggling to exercise some agency concerning their work. Milton was one of the earliest British authors to write explicitly on this topic,

publishing his *Areopagitica* (1644) "in angry response to the reinstitution of licensing by Parliament [and in the process defining] the figure of the autonomous author, the man whose authority is not based on public office or sanction but on personal experience, study, and deliberation" (Rose 1993, 28). He followed this effort with *Eikonoklastes* in 1649, musing on the "human right, which commands that every author should have the property of his own work reserved to him after death, as well as living." In spite of his efforts, the writer's individual rights remained largely unrecognized at the turn of the next century. Still, the imbalance began to correct with the rise of the Romantic construct of the originary, proprietary, and solitary author (Woodmansee 1994). These notions marked a turning point in cultural conceptualizations of authorship, since they removed God and the Muses as sources of inspiration and introduced the idea of internal invention processes. In a 1709 *Tatler* piece, Daniel Defoe compared the mind of an author to a prosperous estate: "His Brain, which was his Estate, had as regular and different Produce as other Men's land" (Rose 1993, 40). If the writer is responsible for his or her own inspiration -- and is culturally accorded this sort of agency -- then that writer is transformed from a conduit into "a unique individual uniquely responsible for a unique product" (Woodmansee 1994, 38). The *writer* is transformed into an *Author*.

The rise of the judicially-sanctioned authorial signature in the early eighteenth century forced legal recognition of and responsibility for creative products. At first, these laws were only incidentally related to the author proper, although they ratified ownership of creative property: the 1710 Statute of Anne was conceived as a trade-regulation device for breaking the monopoly of the Stationers' Guild, and it awarded copyright not to the author but to the publisher (Patterson 1968, 144; Rose 1993, 47). However, it did include a provision for an author -- and any other person -- to acquire the copyright. It was not until after the later Battle of the Booksellers (approx. 1739-1774) that copyright became an author's right and thus a formal acknowledgment of the author's agency (Patterson 1968, 151).

Five Aspects of Rhetorical Agency

In this section, I examine Campbell's schematic elements and offer concurrent discussion of how other rhetorical scholars' definitional work intersects with this structure. I employ these elements as the central analytic apparatus in my study, since they offer a more detailed means of examining specific ways that agency is constituted and functions -- and also the ways it does not.

1. Agency is communal, social, cooperative, and participatory and, simultaneously, constituted and constrained by the material and symbolic elements of context and culture (3).

This tenet is somewhat self-evident, as Campbell acknowledges; after all, "symbolic action presupposes others who know the words and syntax of a shared language and how to use them" (3). However, examining the ways that varied individuals exercise agency and the social factors that inform their actions is hardly simple, as the abundant literature in feminist and minority rhetorics attests. The performance of agency occurs within a complex network of cultural factors (Leff & Lunsford 2004), which include institutional and community pressures as well as genre expectations. While discussion of these complexities frequently arises in postmodernist theory, Leff reminds us that learning to negotiate the same factors was a central part of classical rhetorical education (2003). Miller sums up these tensions thus: 'the rhetor cannot be an autonomous originator and expect to succeed in persuasion---and never could" (2007, 146). Regardless of historical context, then, both agency and authorship occur in interactive processes that involve exchange between multiple agents, texts, and influences. The Encyclopedic Author must constantly negotiate all of these factors while performing the task of textual curation. In a textual situation like this, agency occurs somewhere in what Miller has called the "kinetic energy" of all these exchanges (2007, 146). This sense of energy

and flux seems particularly suited to the encyclopedic form, which is driven by an ever-broadening and deepening quest for knowledge. This is evident even in the Greek origins of the word, *enkyklios paideia*, which roughly translates as 'circle of knowledge' and conveys the idea that knowledge is without end.[50]

Finally, Campbell's inclusion of *material* elements is an important factor for this study, which considers technological factors that impact the performance of authorial agency. Digital affordances offer the rhetor a radically different playing field from codex texts. As Gurak argues, four central aspects of the Internet -- speed, reach, anonymity, and interactivity -- transform the potential actions of both individual rhetors and the communities within which they operate (2004). Indeed, these aspects even transform the individual's prospects for community, since a rhetor located in a remote or isolated area can, with access to the right technology, connect with others throughout the world. Mobile technologies further transform the speed and reach of agents, as demonstrated in the use of cell phones and Twitter to direct protesters during the recent Republican National Convention protests in St. Paul, MN, and the G20 protests in London (Beaumont 2009, Hooper 2009). The wired community of Wikipedians that has created a real-time encyclopedia that reaches more audience members than any other site on

50 The symbolism is similar to that of the ouroboros, the ancient tail-devouring snake, which implies cyclical re-creation and self-reflexivity.

the Net would simply not have been possible with any previous technologies.

2. Agency is invented by "authors" who are points of articulation.

Campbell suggests that because rhetors/authors must negotiate the wide variety of constraints and affordances described in the previous aspect, they are "best described as 'points of articulation' rather than originators" (5). Rather, they are

> 'inventors' in the rhetorical sense, articulators who link past and present, and find means to express those strata that connect the psyche, society, and world... In this sense, agency is invention, including the invention, however temporary, of personae, subject-positions, and collectivities.

In this formulation, agency cannot be separated from either the individual or the collective; none can exist without the other two elements. Agency, then, is "cooperative and collaborative" (6). In the process of fulfilling those roles, the author occupies a variety of subject-positions -- and frequently also demonstrates agency through the creation of variable personae. Writers have responded to cultural pressures by manipulating their authorial signature, working under real names, pen names, and the cloak of anonymity. Gender associations have not infrequently been manipulated, as in the case of George Eliot (neé Mary Ann Evans), who found that publishing under a male name helped her work be taken

seriously. Pseudonyms have also been used to deflect responsibility, as isdemonstrated by countless newspaper opinion contributors over the centuries. A parallel case is the remarkable number of movies credited to the director Allen Smithee between 1969 and 1999: in reality, these movies were directed by Hollywood directors who refused to be associated with their own films due to lack of creative control[51] (Braddock & Hock 2001).

3. Agency emerges in artistry or craft.

In this category, Campbell places "all the heuristic skills that respond to contingencies, and for which there are no precise or universal precepts... [including] strategem, flair, subtlety, and the like as well as the habits of mind learned through practice" (7). She is careful to align this definition with the Aristotelian notion of *techné* as *phronēsis* -- that is, practical wisdom -- rather than the Platonic association with *mētis*, or cunning manipulation. I follow this in my own study, since both the *Cyclopædia* and *Wikipedia* work to enact a rhetoric of openness and enlightenment,[52] albeit with varying levels of transparency and success. As I will demonstrate, the encyclopedist's tasks involve a great deal of craft knowledge. However, this knowledge is hardly contained in a "How to Be

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51 Smithee's more than 70 credits include *Death of a Gunfighter*, *Twilight Zone: The Movie*, *The Birds II,* and *Mighty Ducks The Movie* ("Alan Smithee").

52 A formulation more dependent on mētis might be particularly appropriate for analyzing the composition process of the Encyclopediè. However, that is its own project.

An Encyclopedist" manual; rather, it is learned through practice and the formulation of agile responses to a variety of contingencies.

4. Agency is effected through form.

"Agency is textual or, put differently, texts have agency," writes Campbell (7). This agency is demonstrated through familiar signals that guide the audience through processing the text. Campbell extends these aspects beyond mere genre expectations to include allusion, alliteration, assonance, and tropes. Form has "a power to separate a text from its nominal author and from its original moment of performance," she notes, and successful form leads to imitation. Continued imitation in turn leads to prevalent audience and genre expectations. In the case of the texts under consideration in this study, modern audiences expect all encyclopedias to be divided into discrete, topical articles. Print encyclopedias are expected to present these articles in alphabetic order, while digital encyclopedias must include a robust search engine and hyperlinked structure. Illustrations are not uncommon and usually appreciated. If an encyclopedic project fails to meet these expectations of form, its authority will be called into question regardless of the quality of the curation and composition demonstrated by its writer.

This distinction between human and textual agent is one I take up throughout this project. Textual form influences the project goals and

audience expectations that drive textual curation as a compositional process. The encyclopedic form, coupled with technological affordances, also renders *Wikipedia* an ideal environment for the use of bots to compose texts. These non-sentient beings, which are themselves lines of coded text, perform agency and effect change within the text. They represent a third sort of agent that extends Campbell's consideration of nonhuman agents.

5. Agency is perverse, protean, and ambiguous.

This final tenet reminds us that "agency can be malign, divisive, and destructive" (7). It is hardly a benign element in the world, but instead can lead to widespread horror, as evidenced in the successful persuasion that leads to "slavery, misogyny, homophobia, colonialism, anti-Semitism, and racism generally" (Campbell 7). Encyclopedic authors must take care with their contents, and this is a difficult road to tread when the project goal includes encapsulating all human knowledge. Ethical issues associated with bias, tone, and inclusive language must be taken considered and negotiated. And most particularly, the encyclopedist must take a considered position regarding censorship, both the sort performed in the process of curation and the sort imposed upon the text through external pressures. All of these perverse elements are both imposed by and imposed upon the writer.

This final category is quite broad, and other critics have suggested that the more specific quality of "bifurcation" be included in its descriptors (Lundberg & Gunn 2005). The notion that agent and agency are not always inextricably intertwined becomes important in my analysis of bot-written texts, as does Miller's significant prior work concerning automation and rhetorical agency. Since this literature applies specifically to that area of my study, I confine my discussion of it to the relevant chapter.

Authorship

These larger issues concerning rhetorical situation and rhetorical agency form the broad concerns my study seeks to address, and Campbell's schema forms the central part of my analytical apparatus. I turn now to an examination of authorship, which further serves to narrow the focus of this project and address the complexities of collaborative, networked, technical writing.

Agency and Legal Ownership

Agency is a central component of legal authorship status, as is illustrated in the 9th Circuit court opinion on *Aalmuhammed v Lee*. Spike Lee co-wrote, directed, and produced the movie *Malcolm X* in 1991. During his preparation for the starring role, Denzel Washington

contracted with Jefri Aalmuhammed as a subject-matter expert on both Malcolm X and Islam. Aalhuhammed reviewed the script and suggested a number of extensive revisions, most of which concerned religious and historical accuracy in the scenes that depicted Malcolm X's conversion and subsequent hajj, or pilgrimage to Mecca. Judge Kleinfeld's opinion in the case notes that the plaintiff submitted evidence that he

> directed Denzel Washington and other actors while on the set, created at least two entire scenes with new characters, translated Arabic into English for subtitles, supplied his own voice for voice-overs, selected the proper prayers and religious practices for the characters, and edited parts of the movie during post production. ("Aamhuhammed v Lee")

Aalmuhammed subsequently sued for co-authorship credit on the grounds that his contributions constituted authorship. The court ruled that the status of "co-author" required not only a mutual initial intention to enter into joint authorship but also that both parties have superintendence, or decision-making authority. In other words, demonstrable decision-making authority is a central, defining facet of authorship. In the case of *Malcolm X*, only Lee, the director, had such agency. In other words, while Aalmuhammed was indisputably an agent within the larger *Malcolm X* production, he did not possess sufficient agency to be legally considered a co-author.

Rhetoric and Authorship

Contemporary scholars in rhetoric and writing studies have produced a still-growing body of scholarship on authorship and intellectual property in the years since the first CCCC Intellectual Property Caucus convened in 1994. Four years later, two collections on the topic appeared: a special issue of *Computers and Composition* focused on intellectual property (eds. Gurak & Johnson-Eilola 1998), and an issue of *Kairos* addressed "Copyright, Plagiarism, and Intellectual Property." Book-length studies of intellectual property's intersections with classroom writing soon followed (Buranen & Roy 1999, Moore-Howard 1999, Spigelman 2000). Recent work has focused on digital complications of intellectual property issues applied to a variety of topics: the practices and ideologies of the field (Herrington 2001), rhetorical ethics (Porter 1998, 102-117), basic digital literacies (Gurak 2001, 121-127), distance education (DeVoss & Porter 2006, Reyman 2006), and the rhetorical dynamics of the peer-to-peer debates (Logie 2006, Reyman forthcoming). Concerns regarding the ease and frequency of digital copying and remixing have driven an increased focus on varied aspects of plagiarism (Edwards forthcoming, Eisner & Vicinus 2008, Moore-Howard & Robillard 2008, Marsh 2007). And work on productive classroom uses of open, collaborative, digital resources such as *Wikipedia* is beginning to appear (Barton & Cummings 2008, Cummings 2009).

The broader field of Writing Studies has not yet taken theoretically diverse approaches to theorizing the sort of authorship that occurs in either technical texts or intensively collaborative, networked, digital texts. Many contemporary studies of authorship and/or intellectual property theory and law often take our preferred versions of the "Author construct," be it Romantic or Postmodern, for granted. Our work frequently suggests the same sort of Author can be found in any number of textual genres, both poetic and pragmatic. This assumption presents a number of problems for scholars of scientific and technical communication, a field that frequently studies and produces collaborative and unsigned texts. Thankfully, the field is beginning to produce scholarship on the specific case of the scientific author, addressing questions of *knowledge-discovery* versus *knowledge-creation* (Biagolli & Galison 2002). Still, many of these studies focus primarily the problems associated with legal rights and/or controlled institutional writing situations rather than the process and ethics of textual production as it happens on the open Web. Other fields have produced fuller examinations of these aspects of collaborative production environments: law (Benkler 2006; Lessig 2008, Sunstein 2006), communications (Shirky 2008), media studies (Bruns 2008), journalism (Surowiecki 2005), and business (Howe 2008, Tapscott & Williams 2006).

These discussions about intellectual property and composition processes that are taking place both within and across disciplines dovetail with concerns that are specific to Rhetoric and Writing Studies. Bazerman's articulation of one of Writing Studies' central concerns suggests the necessity for further study of "the historical picture of writing practices, genres, systems of articulation, and related institutions and social systems" (2002, 26.) I also take as a central directive Campbell's call for situated studies of authorship and agency:

> What is needed are synthetic, complex views of authorship as articulation, of the power of form as it emerges in texts of all sorts, of the role of audiences in appropriating and reinterpreting 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)

My study has ties to both charges: first, through examination of the historical practices of authorship in the encyclopedic genre; secondly, by inquiring as to how we might re-envision our conceptualization of authorship and authorial originality to account for the demands that genre imposes upon textual production; and finally, by investigating the ways that authorial agency functions in a text produced through radical, distributed collaboration.

Authorial Ethos

Both digital and print authors demonstrate extraordinary agency in the rhetorical element of ethos, defined broadly as "character as it emerges in language" (Baumlin 2001, 263). I rely more specifically on the Aristotelian formulation of the term, which "takes as the fundamental aim of ethos the audience's conviction that what the speaker is saying is the truth… ethos may therefore be defined as the element of a speech that presents the speaker as trustworthy" (Wisse, 32-33.) It departs from the more morally-centered Isocratean and Platonic conceptualizations of the desired character of the orator (in which ethos is an outward display of character development based on the love of wisdom and virtue) by presenting ethos as a rational component of successful rhetorical argument. In the *Rhetoric,*[53] Aristotle explains that proof of character is located within the speech itself (1356a4). Correct use of ethos as a tool is of utmost importance to successful discourse, he claims, as it is the most potent means of persuasion.

This emphasis on trustworthiness is vital to analyzing ethos in the encyclopedic tradition, where audience perceptions of the writer and text's reliability and truthfulness determine the text's success. Baumlin notes, "while it is the speaker's task to display such qualities, any judgment as to

53 As opposed to his discussions of ethos in the *Nichomachean Ethics*, which largely focus on the moral citizen's active role within the polis. Hyde posits that this description relies more heavily on the secondary definition of ethos as habit or dwelling place (2004, xvi). For discussions and applications of this definition of the term, see the anthology *The Ethos of Rhetoric* (Hyde 2004).

their effectiveness belongs solely with the audience" (266). Consequently, establishing successful ethos depends on the individual rhetor's ability to speak, write, or otherwise compose in a manner that meets cultural expectations of trustworthiness. Aristotle identifies three culturally dependent qualities of ethos:

> for there are three things we trust other than logical demonstrations. These are practical wisdom [*phronēsis*] and virtue [*areté*] and good will [*eunoia*]; for speakers make mistakes in what they say or advice through [failure to exhibit] either all or one of these... . Therefore, a person seeming to have all these qualities is necessarily persuasive to the hearers." (2.5-7, 1378a)

Persuasive rhetoric, then, is consciously constructed to meet culturally assumed expectations of what is virtuous, what is wise, and what is best for members of the audience. The discourse itself "delineates a rhetorical community and consequently an ethos -- a *sensus communis* and a *locus communis* ... Those who dwell within a rhetorical community acquire their character as rhetorical participants from it, as it educates and socializes them" (Miller 2004, 198). Today, ethos in digital communities remains both personal and collective, as Gurak has found in her studies of Internet communities (1997, 13-14). Until very recently, the egalitarian, self-selecting Wikipedian community reflected a very specific ethos: open, radical, and collaborative. It remains proletarian: membership in the Academy is not privileged, and it is assumed that everyone, regardless of their level of formal education, has something valid to contribute about

their areas of interest. Rhetors who function within this community but violate culturally agreed-upon norms of *phronēsis*, *areté*, or *eunoia* have been publicly expelled.

Digital rhetoricians have noted that individual and community ethos in digital environments are also influenced by technology itself, and that this ethos has the potential to shape human-computer interaction (Miller 2004) and form a barrier for users (Banks 2005). This contention applies equally to wikis and the technologies that operate within them. The low interface barrier and basic wiki design principles influence and are influenced by the community ethos described in the previous paragraph. It also affords the capacity for nearly infinite project expansion and, consequently, community squabbles concerning the breadth and depth of content. This ethos has in the past been labeled anarchic (Lawler 2005, Reagle 2005), although that characterization has also been disputed (Sanger 2001). The proper label of the Wikipedian community ethos remains controversial, and has fluctuated significantly over the years as a core group of editors has emerged and new project policies have closed off the opportunity for just anyone to instantaneously edit pages. The longstanding anxiety about variable identities in online environments[54] presages current complaints about the often untraceable identity and lack of discernible credentials of Wikipedians. (Who writes this stuff, anyway?

54 See Baym 1997, Galegher 1998, Gurak 2001, Turkle 1995, Van Gelder 1990.

How do we know that they know what they're talking about?) The project made a move toward addressing this issue by banning the use of anonymous user names after the Seigenthaler incident in December 2005 (Seelye). However, this was a somewhat empty gesture – pseudonymous names don't provide more links to real-world identity than anonymity does, and has not lasted. Requiring that contributors create an account and log in does, however, remove the ease of anonymous vandalism. Requiring further identification and credentials would destroy the larger wiki community principles of openness and tolerance (see "Wiki Design Principles," 3). *Wikipedia* has continued to embrace this ethos even while narrowing its policies of open and immediate publication, and Wales has vigorously defended it in a number of interviews, as well as most recently in his introduction to Lih's history of *Wikipedia* (Lih 2009). It has been -- and still is, to a large extent -- a central part of the community ethos, and as it changes, the proletarian spirit of *Wikipedia* is slowly yet fundamentally being altered.

Conclusion

In this chapter, I have reviewed the relevant literature that informs my definitions of agency and authorship. Bitzer's concept of rhetorical situation provides guidance about central areas of inquiry, and more recent conversations about this theory point to questions about the sort of

agency it accounts for in its primary elements, particularly that of audience. Campbell's five elements of agency provide a means of further identifying specific aspects that contribute to performances of authorial agency. And finally, I have described the current conversations in the fields of Rhetoric and Writing Studies concerning authorship and intellectual property. Next, I turn to a description of my methodology for selecting and analyzing the samples in this study.

Chapter 3: Methods

My central goal, as I've mentioned in previous chapters, is to understand how the encyclopedic author functions and the consequences this construction might have for our understanding of intellectual property. Toward that end, I am guided by the following research questions:

- Given that most discussions of an "Author Construct" center on authors of novels or poetry, what is the nature of the encyclopedic author?
- How does this encyclopedic author function rhetorically ? (What sort of authorial ethos is indicated through the encyclopedic production process and the particular form(s) of agency it imposes? What service does this author offer? What audience do they offer this service to?)
- What constraints and affordances do technological transformations impose on this author? What other factors are introduced through contemporary technological culture?

In asking this last question set, I assume that technology is not a neutral cultural force driving human history, but rather that it is situated, integrated part of human life, as Pacey (1983) and others have argued.[55] Conceptualizing technology as *practice* allows us to see it as "the application of scientific and other knowledge to practical tasks by ordered systems that involve people and organizations, living things and machines (Pacey 1983, 6). In the case of the texts under consideration here, humans' development of codex binding and, later, printing technologies enabled them to reproduce large-format, multi-volume texts efficiently enough that they could be distributed to the literate public through paid subscriptions – as with the *Cyclopædia* – rather than limiting editions to handwritten manuscripts commissioned by the truly wealthy.[56] Nearly three centuries later, the development of the Web and of wikis as an open collaborative platform was swiftly followed by Wikipedians repurposing that platform as a development space for encyclopedic projects. These combined technologies better enabled that community to create and distribute *Wikipedia*.

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55 See also Heilbronner (1994), Licklider & Taylor (1963), Smith (1994), Smith & Marx (1994).

56 For more on the social impact of printing technologies, see Eisenstein (1979), Febvre & Martin (1976), Havelock (1986), Johns (1998), Manguel (1996), and Ong (1982). For more on the impact of digital texts, see Birkerts (1994), Bolter (1991), Gurak (2001), Levy (2001), and Selber (2004).

Rhetorical Criticism

This project is a rhetorical study of authorship practices in two historically situated documents. The tradition of rhetorical criticism stretches back centuries and has been used to analyze a wide range of textual forms, from oral to visual to print to digital. Its focus on effective persuasion and social action provides a means of examining the verbal communication in these documents as well as less-overt means of persuasion such as authorial ethos. Additionally, the rhetorical agency that shapes this communication provides clues into the ways authorship functions in this textual situation.

For more than a decade, critics such as Gurak (1997), Porter (1998), Welch (1999), Logie (2006), and Warnick (2007) have successfully employed rhetorical criticism in analysis of digital texts and contexts. Brooke examines each rhetorical canon and its transformation within digital contexts (2009). Several scholars have focused specifically on the ways the rhetorical element of ethos functions in such environments. Both Hunt (1996) and Warnick (2007) argue that ethos is a central element of establishing credibility in websites, while Miller (2001, 2004) and Banks (2005) demonstrate that technology imposes its own ethos on digital environments and the communication that occurs within and through them. Gurak suggests that ethos, along with delivery, is critical to the development and health of online communities (2007). Research

currently in progress is beginning to examine rhetorical dynamics in Wikipedia (Zachry, forthcoming). As I demonstrated in the previous chapter, there is also emerging rhetorical scholarship on agency in digital environments.

While there are a multitude of possible focuses in rhetorical criticism, I focus here on authorship. Within the broader field of authorship studies we frequently find work rooted in relevant policy and theory, with references to specific illustrative historical examples (Lessig 2004, Rose 1993, Woodmansee 1994, Vaidhyanathan 2004). This has also been true of prior studies of authorship from Composition Studies perspectives (Herrington 2001, Howard 1999, Lunsford & Ede 1994). More recently, though, authorship scholars in what is increasingly called Writing Studies have begun to produce examinations of authorship in instrumental case studies: Logie's (2006) and Reyman's (2009) studies of discourse in the peer-to-peer debates, Howard & Jamieson's Citation Project (currently in progress), employs corpus methods as well as case studies to study student citation practices, while Edwards' in-progress examination of authorship in military documents relies strictly on a case study approach. Focusing on specific cases allows us to more closely examine complex writing practices at work in discrete situations, thus grounding our theories in concrete examples of rhetorical practices and authorship dynamics at work (Yin 2003, 2; Stake 1995, 3). My work with

such discrete, unique examples is not an attempt to generalize, but rather to examine issues of authorship and ownership over time within a specific textual form.

Historical Comparison

In this study, I examine two bookends of the western encyclopedic tradition. Comparison of these two related texts provides a snapshot of the western encyclopedic form at its inception and most recent iteration. Examining sample entries and paratexts from the *Cyclopædia* and *Wikipedia* facilitates insight into just how dramatically similar or changed the conceptualization and practices of encyclopedic authorship are. In particular, such stark comparison of codex and networked texts lays bare the impact of technological developments, both in the compositional process and the topics that can practically be included in such a text. Racine's study on rhetorical aspects of consumer catalogues successfully employs this approach to examine genre features of the Sears, Roebuck and Company print catalogue against the web-based Lands' End catalogue (2002). She notes that similar historical comparisons have proved useful within the context of other professions, including librarians (Baker et al, 1998; Lang 1996; Lynch 1998; Metzl 1996) and other media, including newspapers (Leonard 1995) (48).

Such comparisons of print and digital artifacts illustrate a second assumption inherent in this study: that new textual forms and new media artifacts nearly always – if not *always* – have prior precedents. As Bazerman points out, "by examining the emergence of a genre, we can identify the kinds of problems the genre was attempting to solve and how it went about solving them" (63). Examining the *Cyclopædia* against *Wikipedia* provides a clear vantage point for examining the similarities and differences in compositional processes. While one might suppose a vast difference between a codex and digital text, that's not necessarily the case; Schryer notes, "All genres have a complex set of relations with past texts and with other present texts: genres come from somewhere and are transforming into something else" (208). The goals of the encyclopedic project remain the same, although the technical affordances have changed.[57]

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57 The *Cyclopaædia* is itself part of a long tradition of reference texts. As Longo, Long, and others have noted, the handbook tradition represents an important early development in both technical communication authorship and references texts (Longo 2000, Long 2001). This genre stretches back at least to the Phaedrus (370 BCE) and Protragoras, (380 BCE), which functioned as proprietary resources on rhetoric. During that same century, Iktinos, the architect of the Parthenon, collaborated with Kallikates on an architecture handbook (Long, 19). Collison notes the first Roman encyclopedia as Cato's *Paecepta ad filium*, introduced in 183 BCE (xiii), but Pliny the Elder's *Historia naturalis* (77 AD) is still widely considered the first major Western encyclopedic work. His nephew, Pliny the Younger, later described his uncle's activities to a correspondent, noting the multiple laborers that contributed by reading passages aloud to the encyclopedist, taking dictation and notes, and performing other secretarial duties (Long, 40; see also footnote 26). However, Collison points to the Ikhwan al-Safa's *Rasa'ulu Ikhwan al Safa,* which appeared in 980, as "the first example of collaboration in encyclopedia-making" (xiii). The collaborative nature of of both of these texts demonstrate the fact that from very early on, the immense work of composing large reference texts demanded the labor of more than one person.

As the centuries progressed, the major world cultures each produced their own extensive encyclopedias; perhaps the most prominent were the Chinese *Huang Ian* and the Arabic *Kitab 'Uyun al-Akhbar*. The British came rather late to the genre when the Scottish monk Richard of St. Victor compiled the *Liber excerptionum*. In 1380, the Strasburg abbess Herrad produced the *Hortus delicarum*, a scientific and theological compendium, which is commonly considered the first encyclopedia produced by a woman. The transition from scientific compendium to the modern encyclopedia was bridged in 1315 with the *Compendium philosophiae,* and the term 'encyclopædia' entered the lexicon with Paul Scalich's *Encyclopædia, seu Orbis disciplinarum* slightly more than two centuries later (Collison xiv).

Similarly, one technology does not necessarily replace another; rather, new technologies reinforce and reinterpret older technological forms (Bolter 1999, Gitelman 2006, Gitelman & Pingree 2003, Kaufer & Carly 1994, and McCorkle 2005). The telegraph, which enabled instantaneous, long-distance communication for the first time, was a nineteenth century precedent to the speed and reach of the Internet (Standage 1998, Stubbs 2003). Camera obscuras and panoramas were used as early virtual reality devices in the eighteenth century, as were zograscopes (Blake 2003). Later, stereograph cards and viewing devices afforded a similar experience (Schiavo 2003), and their widespread circulation through both independent and catalogue distribution served as an early, less democratic precedent to current image-sharing applications such as Flickr.

Digital Texts

Working with the multi-layered, real-time, digital text that is *Wikipedia* presents a unique set of methodological challenges. In this section, I examine means of dealing with two issues: the constantly changing, multi-layered texts of *Wikipedia* and the ethical issues associated with studying public, digital texts and conversations.

Moving Targets

As numerous Internet scholars have noted, working with digital texts is rather like trying to hit a moving target. This is particularly true with *Wikipedia*, where constant editing of the central article means that a text may move to its next iteration even while one reads it. An additional complicating factor is the fact that articles are associated with cognate Discussion and History pages. Taken together, these three pages form multiple layers of a single text. Obtaining a stable, complete sample for analysis involves capturing the central article text along with the related Discussion and Talk pages, as Emigh & Herring note in their comparative study of *Wikipedia* and *Everything2* (2005). *Wikipedia* offers a variety of downloads (or "dumps"), including page articles only, pages plus revisions, page abstracts only, pages titles only, and so forth (Wikipedia:Database download). These dumps are meant to provide raw data to researchers and a portable text for those who wish to use it for other purposes. However, a dump contains *all* articles from the project. (At this writing, there are more than 2,824,000 in the English-language version.) This sort of a dump is a convenient treasure trove for researchers who employ automated, quantitative analysis and corpus methods. However, it provides far more information than a single qualitative researcher working by hand could possibly make sense of. Consequently, I have captured only the single articles selected for this study. All the captures for an article and

its peripheral texts were taken as close together as was chronologically possible in order to produce a "snapshot" in time of the text.

I considered downloading the raw text of entries, but doing so would not visually preserve the layout and arrangement of the text, nor result in examples that could be included in my study. Given the multimodal nature of *Wikipedia* articles, which include images along with occasional media files, I elected to capture the pages using the Firefox browser's PDF capture function. While this method does not capture rich media such as video and sound, it does allow the researcher to document the placement of objects and grab entire web pages in one image without scrolling. (Many screen capture programs only capture the parts of the text that are directly visible on the screen.) Since the use of rich media is fairly rare in *Wikipedia* (and of course nonexistent in the *Chambers* editions), and since this dissertation will be presented as a codex text, I relied only on static captures. (As it happened, no rich media files were included in the pages sampled.) After the document capture, I named the files with the article title, date, and time. The reader will note that *Wikipedia* sample citations include both the date and time in order to precisely note which iteration of the article I refer to.

Privacy

I have not changed the names of the writers referred to in this project except where noted.[58] The public nature of *Wikipedia* points toward this decision. In one of the earliest rhetorical case studies on Internet-based communities, Gurak "treated material from a publicly accessible forum as published material," and other researchers have continued to do so since. The most recent ethical guidelines of the Association of Internet Researchers points to the varying public nature of sites as one of the central considerations researchers should take into account, noting that "the greater the acknowledged publicity of the venue, the less obligation there may be to protect individual privacy, confidentiality, right to informed consent, etc." (5). *Wikipedia* is a freely available site whose central purpose is described by its founder as providing free access to every single person on the planet (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 Discussion pages. Participants with sufficient digital literacy to contribute to the project through the Edit pages and participate in the Discussion pages 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

58 Of course, Ephraim Chambers allowed his name to be broadly associated with the *Cyclopædia* and accepted public awards and honors for his work. Even if he wasn't 270 years dead, it's unlikely that he'd object.

well aware of the numerous media articles and sociological studies that have been done of the project and its contributors ("Wikipedia:Wikipedia in the media")

Additionally, Wikipedian culture encourages heavy use of pseudonyms (as do both broader Web culture and the affordances of Internet [Turkle 1995, Gurak 2001]). Typically, User pages provide personal descriptions solely tied to the individual's chosen pseudonym. The ISP data associated with these contributor's edits provides little information, and citing their chosen names poses little to no harm to the contributor. All contributors to the articles studied have chosen to present themselves solely through pseudonymous identities, I have included these chosen names. (If a user had included a real-world name explicitly linked to a real-world identity, I would have assigned a pseudonym and noted it as such.)

Selection of Objects for Study

As we saw in Chapter 1, the encyclopedic tradition is deep and wide, even when considered solely within the confines of the Enlightenment project. This wealth of encyclopedic texts has not been deeply analyzed, and any of them might bring additional insight into the complications of encyclopedic authorship. Prior studies have typically focused on delving into the complexities of a single text; certainly, Yeo's *Encyclopedic Visions*,

the only in-depth study on the Chambers' *Cyclopaedia*, takes this approach. However, since I am interested in the progression (or stasis) of encyclopedic authorship over the past 300 years, I have elected to do a comparative study. My primary artifacts represent the earliest and most recent iterations of the modern Western encyclopedic form, and my interest in comparing these text stems from their genetic relationship, so to speak.[59]

The 1728 Preface

In the original preface, Chambers devoted considerable effort to pondering the construction and responsibilities of an author who composed primarily through what I will call *curation*, as well as what ownership claims such an author was entitled to. It is the earliest, most thorough, concrete text that constructs the western Encyclopedic Author at the dawn of the western encyclopedic tradition. Chambers offers careful consideration of the extensive process of composing a copia, the ways in which the encyclopedic reader enters into the creation of the encyclopedic text, and the implications these two aspects have for the ways we might in turn construct the Encyclopedic Author. Chambers' descriptions of and philosophical musings on his composing process have guided my consideration of the elements of textual curation and its implications for

59 In Chapter 1, I reviewed the canonical texts that appear between and link these primary artifacts.

ownership. I include reference to and analysis of his assertions as appropriate.

Sample Articles

I have selected articles from the 1728 and 1738 editions of *Chambers' Cyclopædia* alongside comparable articles from *Wikipedia*. I include the second edition in order to examine Chambers' revision process. (The 1738 edition was the last one he edited before his death in 1740). *Wikipedia*, of course, includes all article revisions in the corresponding article history.

Selecting a sample of articles is a particularly vexing process, since there are thousands of possibilities to choose from. As other researchers have concluded, a random sampling is the only efficient approach. In their comparative study of articles in *Wikipedia* and *Everything2*, Emigh & Herring "randomly generated a list of 100 nodes from each site and identified the nodes found on both lists. This resulted in 76 nodes…" (4). Unfortunately, selecting a random sample is not quite so simple when working with two texts that are not produced during the same societal era or with the same technologies. Possible random lists of *Wikipedia* entries might be generated through pulling the most popular articles, the articles with the heaviest viewing rates, or the most heavily edited articles. However, *Wikipedia*, as a contemporary, real-time encyclopedia, trends

heavily toward pages that deal with people, places, or events that are currently in the news. The 1728 *Cyclopædia* did not include entries on specific places, people, or news events, since the tediousness of gathering the information and the changeable nature of these topics were simply outside the purview of a laboriously compiled project that was printed and revised once every decade or so. (In fact, Western encyclopedias did not include articles on notable personages until the *Britannica*'s second edition, produced between 1777 and 1784.) In contrast, today's most popular topics on *Wikipedia* all include specific places, people, or cultural events (see Figure 2). Therefore, generating a list drawn from the most popular, most viewed, or most edited articles in *Wikipedia* would almost certainly be fruitless in guiding the researcher to possible comparisons in the *Cyclopaedia*.

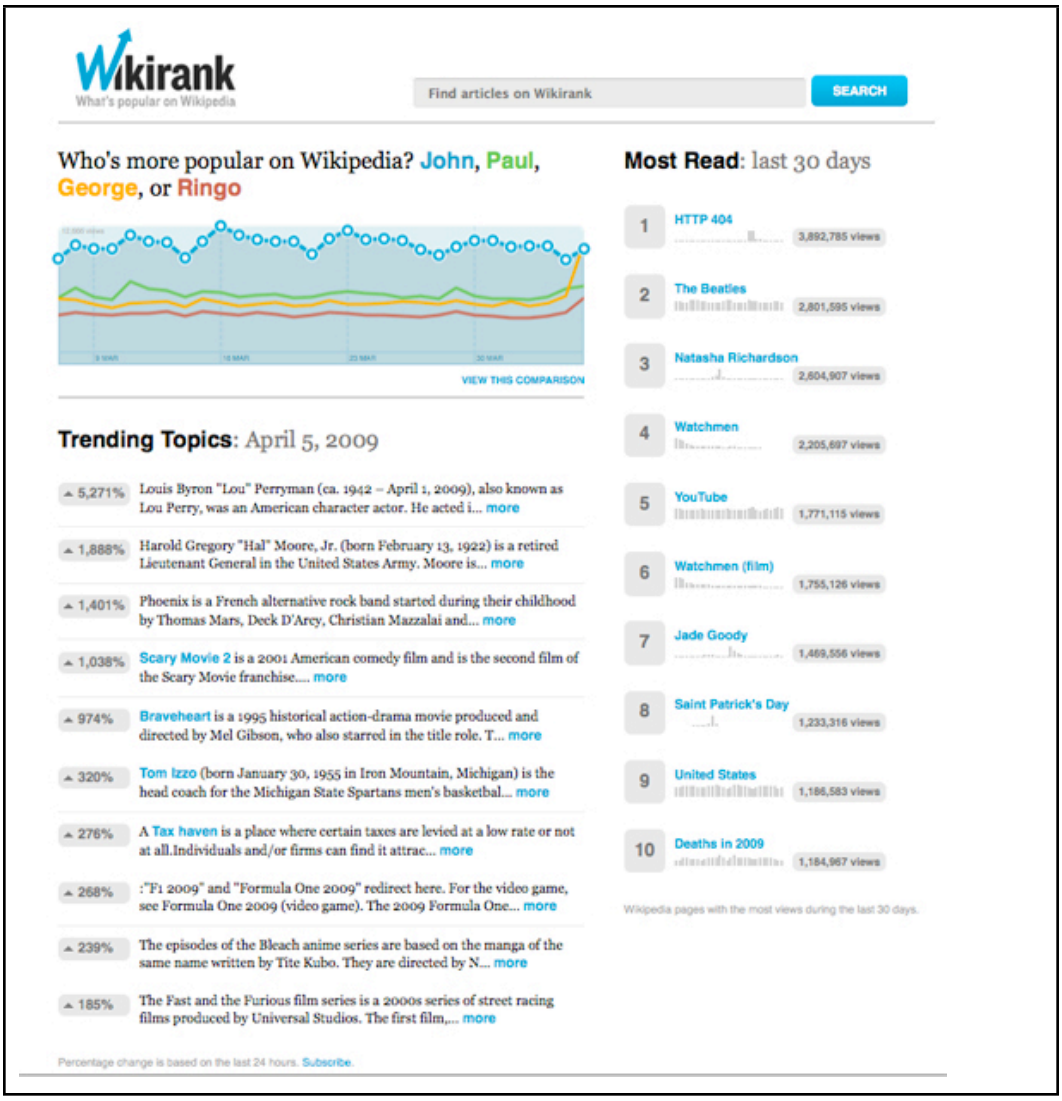

Figure 2: Wikirank site showing the most popular topics on *Wikipedia* for April 5, 2009.

However, Emigh & Herring note that they purposefully selected 15 nodes "to represent a range of topic categories, including people (e.g. Karl Marx), places (e.g. Kandahar), things (e.g. pizza), and abstract entities (e.g. corporation)" (4). This reminded me both that a similar range of topics would be desirable in my own study and that Chambers himself had

mapped out a careful (though highly subjective) taxonomy of knowledge in his 1728 Preface (see Figure 3). Rather than work with our contemporary categorical expectations, I began with the finest-grained categories of topics that Chambers constructed. (That is to say, those on the far right of his chart.)

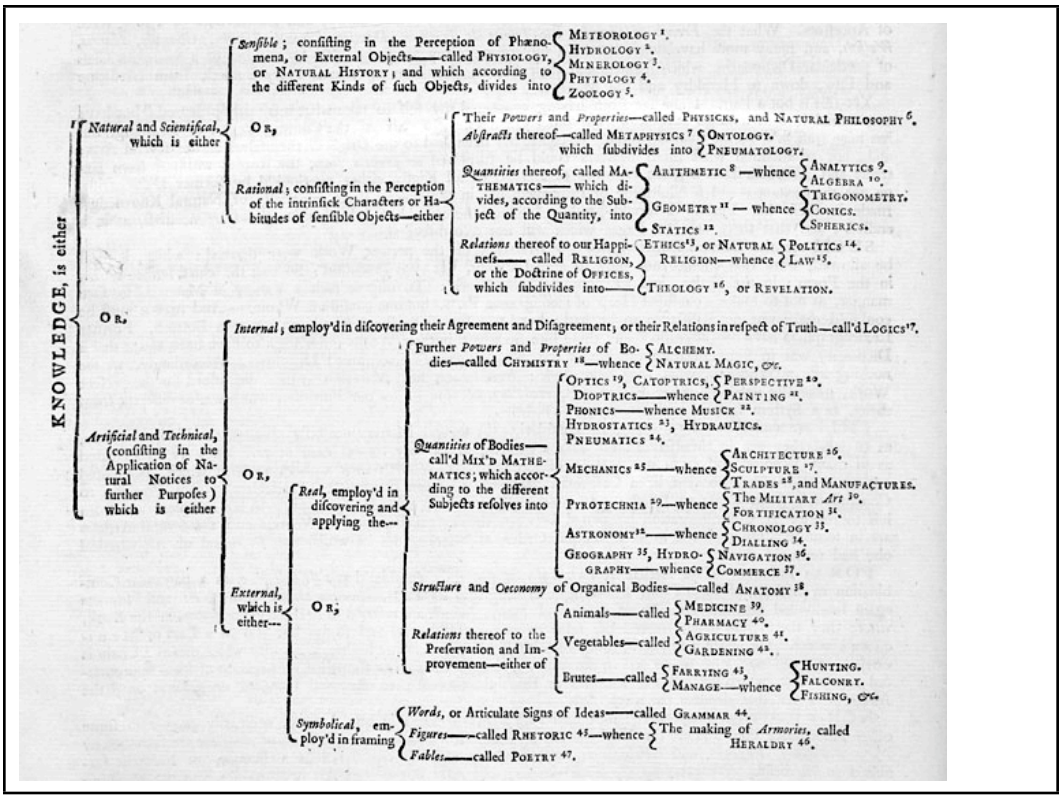

Figure 3: Taxonomy of knowledge (Chambers 1728, ii)

This provided 43 possible broad categories that might yield comparable entries. From that list, I immediately eliminated topics whose culturally-understood meanings had changed significantly over the years (as

evidenced by a redirect in *Wikipedia*[60]) or whose current meanings were so broad that they required disambiguation[61] in either the *Cyclopædia* or *Wikipedia*. This removed Spherics, Trades and Manufactures, Dialling, Phytology, Pneumatology, Heraldry, Perspective, and Conics from the list of categorical possibilities. I then searched the 1728 and 1738 editions as well as *Wikipedia* for articles that represented the finest-grained brackets of Chambers' taxonomy. (This is somewhat challenging since the first edition of Chambers includes a number of fruitless cross-references wherein the reader locates the alphabetic placement of a term only to be referred to different permutation. Upon turning to the corrected page, one finds oneself referred back to the page one began at.) Following Emigh & Herring's length criteria, I selected articles of at least 100 words, and I also instituted a requirement of at least 10 edits for *Wikipedia* entries. The five articles selected for analysis are Minerals, Trigonometry, Fortification, Falconry, and Garden.

During the preliminary stages of analyzing these entries, I noted that a number of edits were made by bots (robots). This seemed like a fruitful area for further inquiry, since bots represent such peculiar sites for rhetorical agency, and as I began to look into the topic I learned that one

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60 A "redirect" directs the user to another relevant page that has replaced the page being searched for. For example, the Wikipedia page for Phytology redirects to Botany.

61 "Disambiguation in Wikipedia is the process of resolving conflicts in Wikipedia article titles that occur when a single term can be associated with more than one topic, making that term likely to be the natural title for more than one article. In other words, disambiguations are paths leading to different articles which could, in principle, have the same title" ("Wikipedia:Disambiguation").

of the first and most interesting tasks for Wikipedian bots was the creation of entries for each city and county in the United States. Since one of the primary questions for this study concerns the ways technology has impacted authorship in encyclopedic projects, and since I surmise that the limits of codex production are at least partly responsible for the complete absence of place entries in the *Cyclopædia*, I chose to further examine the role of bots. While bots perform a wide range of tasks that are evident in my central sample, I also selected two entries on towns of varying size in order to study texts may be more heavily bot-written: Darwin, MN, and Syracuse, NY .

Parallelization

One of the methodological challenges I faced involved creating comparable samples of article iterations from a digital and codex text. Analyzing iterations in *Wikipedia* is fairly straightforward, since the system automatically creates documentation and artifacts via the article history and discussions. By selecting the appropriate radio buttons on an article history page, the researcher can easily produce a side-by-side comparison of page iterations with the changes automatically highlighted, as is seen in Figure 4:

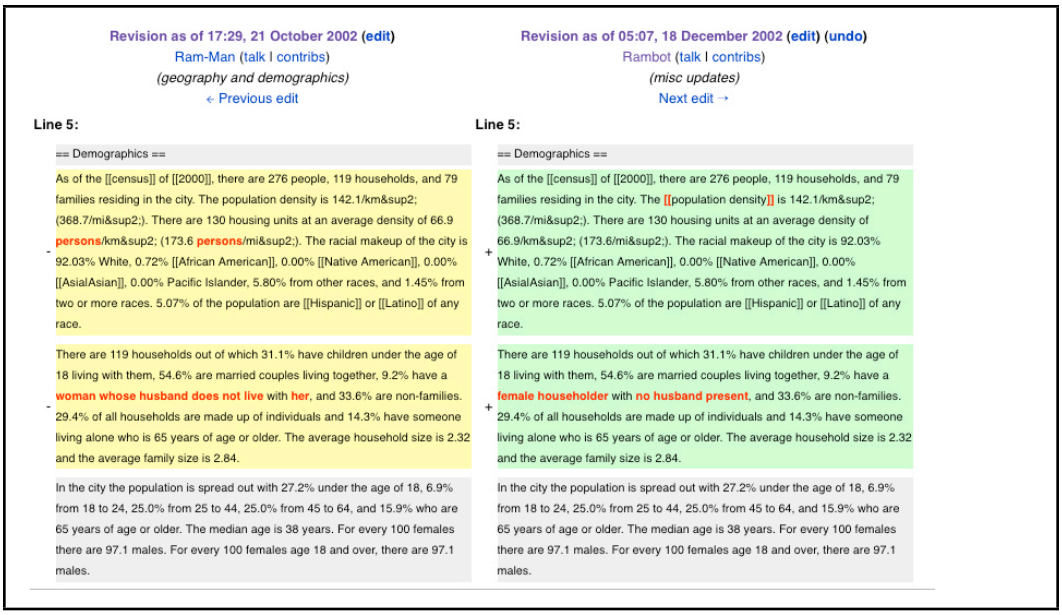

Figure 4: Article iteration comparison of the Darwin, MN, article in *Wikipedia*.

In order to create a parallel comparison of the codex texts, the obvious first step was to either create or obtain digital copies of the selected *Cyclopædia* articles. Fortunately, the *Cyclopædia* editions exist in several digital collections. The 1728 edition, which is the most famous, is available free online from the UW Madison Digital Collections History of Science & Technology site (http://digicoll.library.wisc.edu/HistSciTech/). The UWM libraries have not only digitized this old, fragile, large text and made it publicly available, but they've also put up multiple view options, OCR'd the entire text, and made the OCRs available for download by individual pages. The OCR is predictably messy, since modern OCR software has trouble with eighteenth century spelling and typographic conventions. I addressed this messiness later in the process.

The 1738 edition was more problematic. I worked with the proprietary Eighteenth Century Collections Online (ECCO) copy, which is, sadly, a poorly handled digital edition. The pages weren't always photographed or scanned flat, which frequently resulted in half of a column being lost to the binding curve. The preface and large sections of each volume are missing, and the scanned pages are frequently set to four feet wide. I requested the missing bits through interlibrary loan and ran the usable articles through Acrobat's OCR function. However, even the latest edition of Acrobat can't handle a page set to four feet wide. I solved this problem by importing the files to PhotoShop, resizing them, exporting them back to Acrobat, and then OCRing the re-sized version. After the selected texts from both editions were successfully converted to OCR, I copied and pasted the OCR'd text into Pages, since that's the processor I'm most comfortable in. I worked by hand to remove the errors that had resulted in the OCR process and then exported those files as .txt files.

The .txt format is required by Juxta, a comparator program that I used to create parallel texts and highlight changes between the two editions. It is open-source and available free on the internet (http://www.juxtasoftware.org/). I was delighted to find that Juxta worked as a sort of primitive eighteenth century spellcheck in this case: comparing the highlighted changes made it easy to spot mistakes, so I kept the .txt files open in another window and corrected them as I checked highlighted

changes in the parallel texts that Juxta created. Then I saved the corrected .txt files and re-imported them into Juxta, creating valid digital comparative samples, side-by-side, of the converted eighteenth century texts.

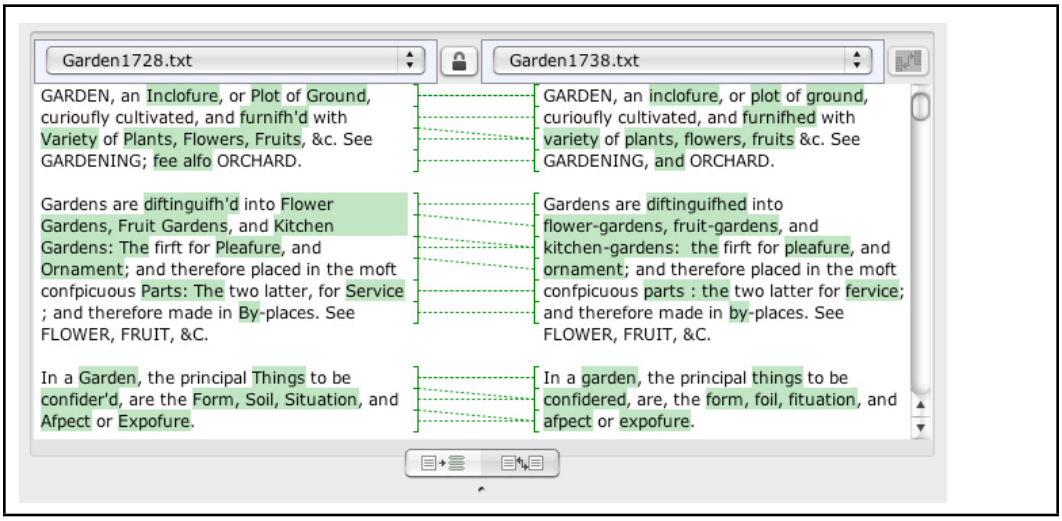

Figure 5: Screenshot of the 1728 and 1738 *Cyclopædia* articles on "Garden, analyzed in Juxta.

As seen above, the two texts are paralleled and collated, with all the changes highlighted. There are several options for filtering, and here I set the program to highlight capitalization changes. Juxta's visual analysis allowed me to better see the complete conversion of the text from Germanic capitals, among other typographical changes in the second edition. (I explore the rhetorical implications of this decision in the following chapter.)

Elements of Analysis

In my analysis of the Chambers articles, I noted article length and the nature of any significant changes between the two additions. Changes were coded according to the schema below. I focused my initial analysis of *Wikipedia* articles on the history pages and coded each edit according to the following criteria. Most *Wikipedia* entries had many, many edits -- sometimes reaching into the thousands. Therefore, I limited my analysis to the first 100 and last 100 edits on a page. First, I noted whether the user was human or robot. Then, I coded by task type. These types are not meant to reflect a formal linguistic schema; rather, they are intended to provide the researcher with a "heat map" of sorts that shows what sort of activities are taking place and how often. My edit descriptions for various acts of vandalism are drawn from previous studies by Viégas, Wattenberg & Dave (2004) and Preidhorsky et al (2007).

Category	*Description*
Minor edits	1a. typo fixes 1b. minor edits (readability) 1c. fact fix/update/clarification 1d. capitalization shift 1e. long-s shift 1f. contraction removal 1g. word combining (ex: it felf v itfelf) 1h. technical edits for clarity 1i. numerals to text
Structural changes	2a. addition of abstract 2b. addition of subtopics 2c. addition of significant text 2d. addition of subtitles 2e. visual formatting 2f. deletion of significant text

Category	*Description*
Significant Edits	3a. initial entry creation 3b. addition of approx. 25 words 3c. addition of new facts 3d. removal of facts 3e. reversion: simple 3f. reversion: revert war 3g. addition/change of information box 3h. removal of plagiarism 3i. fact tags 3j. citation improvement tag
Images	4a. addition of photo/drawing 4b. removal of photo/drawing 4c. removal of photo/drawing (IP) 4d. removal of photo/drawing (appropriateness) 4e. replacement of photo/drawing 4f. addition of map 4g. removal of map 4h. additional of charts / graphs 4g. removal of charts/graphs 4i. image: IP violation notice 4j. image movement on page

Category	*Description*
Citations	5a. addition of citations 5b. removal of citations 5c. correction of citations 5d. addition of citation links 5e. request for citations
Links	6a. insertion of interwiki links 6b. removal of interwiki links 6c. correction of interwiki links 6d. insertion of external links 6e. removal of external links 6f. correction of external links 6g. insertion of categorization 6h. removal of categorization 6i. correction of categorization 6j. insertion of codex cross-referencing 6k. removal of codex cross-referencing 6l. correction of codex cross-referencing
Vandalism	7a. deletion of text 7b. insertion/replacement of text 7c. revision with incorrect facts 7d. reversion of vandalism 7e. nonsense 7f. offensive

Category	*Description*
Deletionism	8a. flag entry for speedy deletion 8b. flag subsections for removal
Other Language Projects	10a. entry creation in translation 10b. entry deletion in translation 10c. entry modification in translation 10d. link to translation

Close examination of these edit histories provides insight into the forms of authorial agency demonstrated by these writers. The edit history reveals whether their tasks primarily 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.

Limitations

This study does not include two important encyclopedias that represent interim stages in the western tradition: the *Encyclopedié* and the *Britannica*. I have chosen to exclude them because of my interest in examining the stark differences (or lack thereof) between encyclopedic authorship in codex text and networked digital texts -- that is, the oldest and newest forms in the genre. While I do plan future study of these

interim stages, to do so at this stage would perhaps muddy rather than productively complicate the comparison of modes of authorship that I want to achieve in this project. For similar reasons, I have also excluded another significant interim text: the CD encyclopedia as represented by *Encarta*.

Another area for study that has been largely ignored in the literature on encyclopedias and reference texts is the smaller, popular encyclopedias that were available through mundane public venues such as grocery stores. Often, these texts could be obtained with coupons or trading stamps. They were an important reference for working-class families -- and often the only reference texts in the house except for perhaps a dictionary of similar origin. I have chosen not to include them here in order to focus on the canonical encyclopedias in the Western literary tradition. This choice is not merely based on the notion of canons, which are frequently arbitrary and influenced by social mores, but also on the considerable influence of my two primary artifacts as described in Chapter 1.

A particularly interesting area for study is that of identity presentation of Wikipedians, and I in fact originally thought this would be an element of my current study. However, it has become clear that it is outside my purview for two reasons. First, my interests focus on rhetorical agency as demonstrated through processes of composition and textual

production, not on the writers' signatures or construction of user pages. Secondly, in order to make any sort of definitive statement about ways this community approaches online identity, one needs to study a very broad sample of user pages. Analyzing the identity presented within only a few less-popular *Wikipedia* entries does not facilitate definitive analysis of the ways this very broad community approaches and performs identity. That sort of sampling is best done with automated analysis techniques, and in fact is currently being approached this way by Katie Panciera in the Department of Computer Science and Engineering at the University of Minnesota.

Conclusion

In the first three chapters of this dissertation, I have discussed the impetus and historical context of my study; the tradition of rhetorical analysis that informs it; and now my methodology for selecting and examining artifacts. At this juncture, I turn to analysis of my sample. In the next chapter, I analyze the unique sort of authorial agency that is demonstrated in the process of textual curation.

Chapter 4: Textual Curation

In the previous chapter, I described a methodology for analyzing the process of encyclopedic authorship in the *Cyclopædia* and *Wikipedia*. Examination of ancillary texts such as the 1728 Preface to the *Cyclopædia* as well as analysis of edit histories and article discussions can tell us much about the processes that drive this form of composition. In this chapter, I turn from discussion of background and methods to analysis of these artifacts. I begin by focusing first on the curator and descriptions of curatorial agency before turning to direct analysis of edit types and the elements of agency they do (or do not) demonstrate. My analysis shows that while both texts share a four-stage process of curation, the compositional life of the articles is very different. Chambers' articles were not expanded for the second edition, but instead were presented as fully drafted articles in the first printing and then left static as he turned his energies to expanding the breadth of the text. Conversely, all of the

Wikipedia articles articles in my sample began life as very brief "stubs" and then were expanded incrementally, sometimes through thousands of small edits.

Emergent Popularity of the Term "Curation"

"Textual curation" is a term I first began using two years ago in my descriptions of the labor of encyclopedic production. The term has also recently begun to appear in public discussions about large, collaborative, digital projects. The 2009 South By Southwest Interactive conference featured a panel on "Curating the Crowdsourced World" (Bekman, Johnson, McEvoy, Hostetler, & Trapani, 2009), and the term "community curated work" has begun to appear as an alternative to the older term "user-generated content" in online discussions about wikis ("Community Curated Works," 2008). Prominent digital media commentator David Weinberger has also used it to describe the emergent search engine WolframAlpha, which purports to be an 'answer engine' rather than a 'search engine' since it can construct answers based on multiple factors. Far from being fully automated, it relies on human intervention to

> decide what topics to include … which data to ingest, what metadata is worth capturing, how that metadata is interrelated … which correlations to present to the user when she queries it … and how that information should be presented. … Wolfram is as curated as an almanac. (Weinberger 2009)

In April 2009, the *Silicon Valley Insider* claimed that "curation is the new role of media professionals" (Rosenbaum 2009). The article described the work of curation as primarily one of filtering the immense amount of information available on the web: "Separating the wheat from the chaff, assigning editorial weight, and -- most importantly -- giving folks who don't want to spend their lives looking for an editorial needle in a haystack a high-quality collection of content that is contextual and coherent" (Rosenbaum 2009). This description is an apt a summation of the encyclopedist's work as any I've seen.

Each of these instances focus on two common rhetorical elements: the exigence of information overload and the unique agency demonstrated by the rhetor who labors to evaluate and re-compose huge amounts of information into a coherent and easily-accessible format for a broad audience. Simply put, the authorship is driven by what Campbell would call textual *form*. While these discussions of curation concern very recent digital developments, the concerns they address are not new. Nearly 300 years ago, Ephraim Chambers sought to address them in his *Cyclopædia*.

The Curator

In Chambers' estimation, identifying the writer of his first edition is not at all difficult because he claims sole authorship: "And here it must be confessed there was not Assistance to be had ; but I was forced to stand

wholly on my own Bottom" (i). He retained sole legal credit for the second edition, despite his requests for readers to submit articles. Perhaps he was right to do so, since he did not acknowledge any help with the job of editing submissions and inserting them into the larger text that he himself continued to labor on. (One may wonder if he had some additional, unspoken help, particularly since he was married,[62] but no evidence that I'm yet aware of indicates that he had assistance with his curatorial tasks.) For the purposes of the two editions he produced during his lifetime, Chambers is recognized as the sole author.

Locating the curators in *Wikipedia* is a more complex affair: while the edit history provides a map of edits, not all of them are curatorial or even generative. (I explore this further in the next chapter's section on vandalism.) The project is frequently described as an encyclopedia that anyone can edit, and in its early years, this was unequivocally true: while Jimmy Wales and Larry Sanger were overseers of the site, all contributors were considered more or less equal, and all contributions were immediately visible on the Web. The usual Internet parlance that describes site visitors as "users" was studiously avoided, and instead contributors were called "editors." This small yet welcoming rhetorical move immediately invited contributors to consider themselves a valued

62 Marriage would, of course, not be an automatic indicator that his wife was in any way involved with the project. But neither would such a partnership be completely unheard of, as William and Catherine Blake demonstrated a few years later. Much would have depended on the household attitudes concerning literate women, since women were very rarely formally educated. William taught Catherine to read and write, as well as trained her as an engraver and printer. However, he did not publicly acknowledge her contributions, since to do so would have been quite at odds with the customs of the time.

part of the system, and is still the custom within the community. (I adhere to it in my discussion here.)

However, despite the hundreds of thousands of registered editors, only a handful significantly impact the project. Over the years, the estimation has fluctuated: in 2005, Wales said that "2% of the users do 75% of the work," while other informal studies have suggested a more even distribution (Swartz 2006). The most recent research, which has gained wide acceptance among *Wikipedia* researchers, demonstrates that one-tenth of 1% of editors -- approximately 4,200 people -- contribute nearly half of the site's content (Priedhorsky, Chen, Lam, Paniera, Terveen & Riedl 2007). These core editors are dedicated and communicative, and over time have formed a variety of core communities. Around the same time that central communities began to be documented, the project grew large enough (and attracted enough unfamiliar users and vandals) that the need for a central group of administrators became apparent. Consequently, a range of user levels emerged, with trusted individuals being given what is known as sysop (system operator, or administrator) status. The English-language *Wikipedia* usually has approximately 1,500 sysops at any given time , and they "represent the community of Wikipedia editors in the sense that they are, in almost all cases, elected volunteers who give time to patrolling the site" (Ayers et al. 2008, 326). Their roles are not especially glamorous, and they are sometimes referred to as

janitors by the community. (Including by Wales, who wishes to make it clear that these jobs are not special.)

The next highest user level is bureaucrat status, which conveys the necessary access to "turn other users into administrators (but not remove admin status), change usernames, and flag and unflag bot accounts. … Less than 30 editors are bureaucrats" (Ayers et al. 2008, 326). Those with steward-level access have cross-project powers, and typically assist the smaller Wikimedia wikis that don't have dedicated administrators. Finally, developer status conveys the highest degree of technical access, allowing direct access to the software and databases. Ayers, et al. note that developers are rarely involved with the text itself, but instead devote their time primarily to Media-Wiki development and technical administration.

Due to the anonymity so prevalent in digital presentations of identity, there is no efficient way to know whether the editors who worked on the articles in my sample fall into one of the above categories, or if they were among the thousands of editors without formal titles or clearances who contribute to the project. Some may be among the 1/10 of 1% who shoulder the primary work; others may simply take an interest in select topics and add them to their watch lists; and still others may be casual editors who rarely contribute. However, my sample, while not statistically significant, does bear out the notion that a few people are doing most of the work.

Each article in *Wikipedia* has an associated "Contributors" report that is easily accessed from the article history page. This report provides editing stats for each user who has contributed to the page: number of edits, a link to their user page, and the dates of their first and last edits. Reports for each of the articles sampled showed a top-heavy distribution of work from a few users, followed by a long list of contributors who made just a few edits. For example, the first ten lines of the Contributors report from the Minerals page shows the following activity:

Edits	User	First Edit	Last Edit
194	Vsmith	2004-09-11	2009-04-03
55	ClueBot (bot)	2007-08-17	2009-03-22
53	Sengkang	2006-03-03	2009-10-19
41	Geologyguy	2007-10-15	2008-04-30
34	Mikenorton	2007-10-16	2009-03-10
20	VoABot II	2007-01-24	2008-05-29
20	Graeme Bartlett	2007-07-11	2009-04-03
18	64.122.203.173	2006-05-23	2006-05-24
15	SEWilco	2006-12-25	2008-08-19
14	J.delancy	2008-04-13	2009-03-05
14	DuncanHill	2007-11-12	2008-02-28

Table 1: Contributor report from the Minerals article, demonstrating central activity by a few core users. Note that two of the heaviest editors for this article are bots: ClueBot, which reverts vandalism, and VoABot, which handles requests for page protection (which typically stem from vandalism). I discuss vandalism in Chapter 5 and bots in Chapter 6.

This report shows typical contribution rates: an exponentially higher number of edits by a single editor (Vsmith) who has worked on the page for a span of more than four years,[63] accompanied by a few other dedicated editors. Bots are two of the heaviest editors, which is not unusual throughout the project, as Priedhorsky et al. noted in their study (2007). The rate of contribution drops rather precipitously over these first ten lines. The full report tells the rest of the story: the number continues to drop even further, with most page contributors offering fewer than ten edits.

This dedication demonstrated by a few editors is what makes the work of creating *Wikipedia* curation rather than just random composition by individuals dropping in (seemingly out of the digital skies), making changes, and then never returning. There is a central group[64] of people who have both an understanding and commitment to the broad goals and tenets of *Wikipedia* and work to make it an encyclopedic project, rather than a loose collection of links and opinions. In doing so, they implement four of the pillars of Wikipedia: insisting on a neutral point of view in articles; encouraging dense citation; monitoring the use of free content in articles to make sure that no intellectual property guidelines violations

63 It does not provide any information as to how consistent over time Vsmith's participation has been.

64 I use "group" rather than "community" deliberately here. These editors may or may not know each other or act cooperatively, depending on their individual social networks in *Wikipedia*, but they do all have a basic understanding of the larger project goals and a demonstrated dedication to curating the article in question.

occur;[65] and helping facilitate adherence to the codes of conduct by developing consensus, following revert rules, and the like (Wikipedia:five pillars). But it is the first pillar that best describes the curator's craft.

The Curator's Craft

There is no consolidated, clearly labeled 'Preface to *Wikipedia*' that clearly parallels that found in the *Cyclopædia*. However, the Five Pillars serve as an abbreviated preface to the project: they delineate its core principles, even though the writers do not discuss the process of creating an encyclopedia in the same ways that Chambers does. The first pillar outlines the central curatorial concerns of the project:

> *Wikipedia* is an encyclopedia incorporating elements of general and specialized encyclopedias, almanacs, and gazetteers. All articles must strive for verifiable accuracy: unreferenced material may be removed, so please provide references. *Wikipedia is not the place to insert personal opinions, experiences, or arguments. Original ideas, interpretations, or research cannot be verified, and are thus inappropriate.* Wikipedia is not a soapbox; an advertising platform; a vanity press; an experiment in anarchy or democracy; *an indiscriminate collection of information*; or a web directory. It is not a newspaper or a collection of source documents; these kinds of content should be contributed to the Wikimedia sister projects. ("Wikipedia:Five pillars") (emphasis mine)

Here, we see a concrete conceptualization of *Wikipedia* as a curated project that has specific guidelines for what is and is not acceptable. The

65 Wikipedia has instituted initiatives that require the use of commons-licensed images and media files.

goals of the project indicate that the encyclopedic form explicitly dictates the sort of agency that is possible for project authors. It is not "an indiscriminate collection of information," but instead a filtered and ordered encyclopedic text. Originality is explicitly banned, to the point of specifying which possible peripheral forms of originality are not allowed: not only original ideas, but also interpretations, research, opinions, experiences, or arguments. All of its information must be traceable to previously existing external sources and cited as such, and in fact such dense citation is part of the basic criteria for Good or Featured Article status.[66] In this aspect, its model very much continues the process described by Chambers: filtering prior texts and re-composing that information into a new text that fits the goals of the project at hand.

Chambers describes his similar understanding of authorship as genre-dependent in the 1728 Preface, when he turns to a consideration of authoring dictionaries:[67]

> Were we to inquire who first led up the way of Dictionaries, of late so much frequented ; some little Grammarian would, probably, be found at the head thereof ; And from his particular Views, Designs, &c, if known, *one might probably deduce, not only the general Form, but even the particular Circumstances of the Nature of a Dictionary from the*

66 "Good articles and Featured articles are two levels of articles that the community has determined to be some of the best content on Wikipedia. ... Only about 1 in 660 articles [is] listed as good and 1 in 1,200 [is] listed as featured" (Ayers et al 2008, 227). A formal peer review process is required for articles to receive either status.

67 Chambers' distinction between prior dictionaries and his own cyclopaedia is necessarily a bit blurred, since these genre distinctions were not yet firm at the time he was writing. Here, he appears to be clearly referring to other, prior dictionaries; yet further on in the Preface we find him musing about how his own project will go beyond that form while still actively referring to said project as a dictionary. And, of course, the text title is "Cyclopaedia, or a universal dictionary..."

> *Condition of the Author ; we may the Conditions of the Author from the Nature of the Dictionary*. Thus much, at least, we may say, that he was an Analyst ; that *his View was not to improve or advance Knowledge*, but to teach, or convey it ; and that he was hence led to untie the Complexions or Bundles of Ideas his Predecessors had made, and reduce them to their natural parity ; which is all that is essential to a Dictionarist. (emphases mine) (1728, xxi)

The basic goals of the textual situation at hand determine the form of authorship that can be successfully employed, in other words. The exigence at hand -- a need for clearly and concretely restating knowledge -- means that the dictionarist works more as an analyst rather than as a poet, performing the work of teaching prior knowledge rather than creating or extending knowledge. This sort of work necessarily limits originality, Chambers writes:

> His Business is to deliver the Progresses made in the several Parts of Knowledge under his Consideration, by an orderly Retrospect and Deduction of the Terms, from their present complex, to their original simple State. The Dictionary of an Art, is the proper History of such Art : The Dictionary of a Language, the History of that Language. (1728, xxii)

This author's agency, then, is indeed effected by both the demands of rhetorical situation and form (thus fulfilling Campbell's fourth dictum). In response to the exigence of information overload, the encyclopedist filters prior information and then re-composes it according to the needs of the audience, a group in search of concise, factual packages of information on a wide variety of topics. Straying into fiction or opinion, or deciding to

present the text in an alternative format (perhaps as a roulette wheel, for instance) are not options for a writer composing a reference text.

However, one can exert one's authorial agency to extend the form in a rigorous manner. Chambers wrote of his intention to move beyond the dictionary into a form that was more extensive (xxiv). The dictionary's limits, as he saw them, were that it provided readers with only limited information and "supposed that People may take them up, and carry them farther as they please." He described this sort of information as a footing, or base, and said that "where these end, our Dictionary is to begin, which is to take in the rest." In doing so, he continued to extend the role of the encyclopedist as improver and synthesizer of prior texts. Eco refers to this synthetic value of the encyclopedic form in a number of pieces, noting that where the dictionary provides an analytic emphasis that encourages linguistic competence, the encyclopedia instead seeks to synthesize the entire sum of knowledge (Eco 1984, 2000.)

This sort of synthetic composition has been described as aggregation or compilation (Mack 2001, Yeo 2001). Following that description, we might consider the Encyclopedic Author to be at best a sort of editor or exceptionally choosy human aggregator. However, none of these terms accurately describes the sort of authorial agency exercised by the composer of an encyclopedia. Rather than working as a simple aggregator, the encyclopedist functions as what Campbell would call a

"point of articulation," doing work that transforms the prior text she works from. I suggest that we can best understand this author as a *textual curator* in much the same sense as a museum curator: working to bring together the best textual samples available, assessing their quality, arranging entries in the most effective order, and writing a variety of additional texts to transform the gathered elements into a cohesive whole. The agency the encyclopedic author demonstrates is inextricably tied to what Campbell defines as "craft": knowing where to collect information; developing ways to manage it; filtering the collection for relevance and quality; composing concise, clear articles; and attending to or outsourcing the myriad small tasks of publishing. The success of the enterprise rests upon the encyclopedist's competent execution these skills. Without expert curation, museums fail. So do encyclopedias.

Descriptions of Curation in Chambers' 1728 Preface

Derivative Works and Arrangement

Chambers opens the Preface by broadly suggesting that while the Poetic Author may be inspired by either divine and human interaction,[68] the Encyclopedic Author is instead a compiler, assessor, and re-composer of texts. This constant textual borrowing is necessary when producing "a work so disproportionate to a single Person's Experience, and which might

68 As well as by wine, which he considers as valid a means of inspiration as any.

have employed an Academy" (i). He directly acknowledges his debt to a variety of other scholarly resources, detailing his practice of drawing information from multiple dictionaries and lexicons on subjects ranging "from Medicine and Law, down to Heraldry" as well as "extracts and accounts from a great number of authors of all kinds" that were either overlooked or too recently published to have been included in previous lexicons. He compares being the beneficiary of such a wealth of resources to being "the Heir to a large Patrimony … and the Endeavors of a long Race of Ancestors."[69] He also notes that there are very few pages in his final product that do not include several instances of this type of compilation– so few, in fact, that he will not attempt to list the pages that might be entirely original.

He seems to be perfectly satisfied that the reader might assume that any given entry in the work was drawn from at least one other text, and indeed, he describes his work as 'derived' from these materials. His use of this term does not seem out of line with our contemporary legal definition of a "derivative work," a work which recasts or transforms one or more preexisting works (U.S.C. §106c). He also makes no claim on the prior texts or the information conveyed by them, instead focusing his claims entirely on the text at hand, a move which is also in line with our legal conception of derivative works. It appears in these statements that, rather

69 In doing so, he employs a metaphor similar to the often-quoted Jeffersonian metaphor that we stand on the shoulders of giants so that we may see further than they.

than aligning himself primarily with the first canon, invention, he sees his work as more closely integrated with the second canon, arrangement. In this quote from the opening passage of the 1728 Preface, he describes his primary curatorial task as one of filtering and organizing materials:

> Such are the Sources from whence the Materials of the present Work were derived ; which, it must be allowed, were rich enough not only to afford Plenty, but even Profusion: So that the chief Difficulty lay in the Form ; in the Order, and Economy of the Work : To dispose such a Variety of Materials in such manner, as not to make a confused Heap of incongruous Parts, but one confident Whole.

Because he was working from a wealth of prior materials, Chambers goes so far as to cast his project as a *collection*, a term that speaks both to the eighteenth-century taxonomic impulse and to his understanding of his own primary contribution as one of curation. The era's cabinets of curiosity, personal collections of natural wonders, and public museums all attempted to condense the vast wonders of the natural world in such a way that they could be easily accessed and understood. Such collections succeeded or failed on the strength of their explication and arrangement – and arrangement proved to be a difficulty. Arrangement was also a problem in reference works, which were typically arranged thematically. Comenius' *Orbis Pictus Sensualium*, for instance, contains 150 chapters with categorical divisions such as "inanimate nature" or "humans and their activities." Such schemas were necessarily vague, and provided a challenge for new readers of the text. One of Chambers' central

innovations was the introduction of alphabetization by individual topic. He found that it provided a clearer means of order for a copia, especially given what he called "the present wild state" of the English language (xxv). Alphabetization allowed for easier rearrangement in subsequent editions should he need to address linguistic changes that might occur between printings. He also became enamored of it for its arbitrary placement of subjects (Yeo 1996). In the 1738 edition, Chambers cheerfully extolled the heuristic virtues of alphabetization: "When numbers of things are thrown precariously together, we sometimes discover relations among them which we could never have thought of looking for."

Chambers suggests instead that he has improved these previous lexicons and dictionaries by combining information found in individual texts as well as adding the latest information on each topic, thus transforming it into a richer, more finely detailed product. Several pages on, he again makes claims to improvement as he discusses the inevitable discovery of errors in his project (xxviii). He argues that a large part of his authorial contribution to the work has been the correction of thousands of errors found in other incorporated texts. While he acknowledges that his also certainly contains errors, he claims that the reader will gain such vast knowledge from reading the *Cyclopædia* that they will be able to correct those errors themselves.

His claim that he was the sole curator of this project suggests that he both accepted responsibility for the text and expected recognition for his work. He got both. The *Cyclopædia* received almost immediate acclaim, and he was nominated to the Royal Society the following year and received a substantial financial reward for his efforts. Yeo has suggested that Chambers' disavowal of ownership was a legal feint in order to avoid charges of plagiarism, and that his acceptance of accolades proves his facetiousness (2001, 205).[70] These concerns may well have been real for Chambers, particularly as he published his first edition. However, his frequent claims to improvement on prior texts indicate that he did not copy text verbatim, but instead recycled common knowledge. His discussions of encyclopedic authorship indicate that he had a deep, well-considered understanding of his contributions and that he placed substantial value on the work of textual curation, which is certainly an intense labor to undertake for a text this size. I suggest that Chambers found nothing ethically askew in the actions Yeo finds contradictory because he conceived of himself as an Encyclopedic Author who conducted a sort of authorship specific to his chosen genre. One of his central authorial skills involved the gathering and filtering of prior texts, which

70 While this argument is fascinating, I do not explore it further here because Yeo's discussion relies heavily on the complex legal and economic conditions that impacted British publishing in the first half of the 18th century. Sufficiently reviewing that context here would lead us far afield from my central thread of argument in this chapter. Additionally, juridical influences are outside the scope of my current project.

were then re-composed into a new, improved text. As an extraordinarily successful textual curator, accolades were due to him.

Natural Metaphors for Curation

In the final pages of the 1728 Preface, Chambers employed natural metaphors as a means of discussing the nature of the Encyclopedic Author's function as a gatherer in an information ecology. In doing so, he works toward rehabilitating the concept of arrangement as a means of composition that is distinct from but every bit as legitimate as the original invention we associate with the canonical Author. His chosen metaphors tend toward the organic:

> Call me what you will ; a *Daw* and say I am stuck over with other Peoples Feathers : with all my Heart ; but it would be altogether as just to compare me to the *Bee*, the Symbol of Industry, as that of Pride. For tho I pick up my Matters in a thousand Places ; 'tis not to look gay my self, but to furnish you with Honey. I have rifled a thousand Flowers ; prickly ones many of 'em, to load your Hive. (xxix)

The initial comparison to a daw can be read simply, unflatteringly implying that the author has stolen many shiny bits of information and compiled them into an encyclopedia. When read in historical context, though, this fragment reveals a more complex cultural reference. A secondary meaning of 'daw' that was common in the period referred to Aesop's fable of the daw in peacock's plumes ("Daw"). In this tale, a daw gathers tail feathers that fell from peacocks as they molted. He straps

them all to his own tail and impersonates a peacock, but is soon discovered and disciplined by the real peacocks. The moral of the tale is "it is not only fine feathers that make fine birds." In Chambers' case, this sort of comparison would have insinuated that he was not a very smart or learned person at all, but instead was someone who hoped to gain a reputation for being knowledgeable by associating himself with other, truly learned individuals and stealing their knowledge for his own gain. It would have been an indication of false pride in false accomplishments. The metaphor also casts encyclopedic arrangement as an unorganized hodge-podge of vaguely interesting things, much like a daw's nest.

Chambers suggests that the Encyclopedic Author would be better compared to a different sort of natural gatherer: the Bee. In his 1996 essay on Chambers, Yeo points out that this suggested comparison is remarkably similar to that of Erasmus in *De Copia*:[71]

> The student, diligent as a little bee, will flit about through all the gardens of authors and will attack all the little flowerlets from whence he collects some honey which he carries into his own hive: and, since there is so much fertility of material in these that they are not all able to be plucked off, he will select the most excellent and adapt it to the structure of his own work. (cited in Lechner, 141)

The structure and argument of these two quotes are indeed a striking – but not unusual – example of appropriation on Chambers' part. By casting the bee as his preferred mascot, he draws on a longstanding metaphor that

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71 In fact, it is an old commonplace which dates back before Lucretius. My thanks to Michael Hancher for pointing this out.

stretches at least back to Virgil, whose bees symbolize virtuous, communal industry in the *Aeneid* (6.599) and the *Georgics* (4.203-9). The bee metaphor was still quite common in the eighteenth century, and one of the most common usages of the word referred to a sweet writer, busy workers, or general industriousness rather than to the insect proper ("Bee"). The connection with industrious virtue was particularly prevalent: Isaac Watts' *Divine and Moral Songs for Children*, published in 1720, contains the familiar verse

> How doth the little busy bee
> Improve each shining hour
> And gather honey all the day
> From every opening flower (39)

By invoking this metaphor as his own, Chambers presents himself as industrious and even moral, a selective textual harvester who transforms his gathered materials into a contribution to human knowledge and education. It also reinforces the idea of the encyclopedic author as assessor: where daws gather objects at random for the purposes of mere collection, the bee focuses on gathering a specific substance and then transforming it into a derivative product that enters into the economy of the hive, which is itself a precisely designed structure.

Wikipedia is often referred to as part of the "hive mind," or group consciousness. The metaphor is sensible, conjuring images of a busy, full hive supporting a large colony of bees. While I'm hardly an expert on bees, I would imagine that the metaphor can be carried still further: bees

perform specific duties such as gathering, guarding, and nursery maintenance. So too do *Wikipedia* editors, who self-select for a wide variety of duties such as article building, vandalism patrol, and the welcome committee. However, the hive can be exceptionally choosy and divided, as we see in the next section.

Descriptions of Curation in *Wikipedia*

As befits a very wide and broad community, Wikipedians do not always agree on the procedures or goals of their project. These differences come from subscribing to different "WikiPhilosophies," or beliefs about what is best for the project. Among the most prominent of these differences are those involving what is known as deletionism and inclusionism.

The Deletionism / Inclusionism debates

As is appropriate for a publicly-produced, publicly-accessible project, the question of what does and does not constitute appropriate content for a project that "is not an indiscriminate collection of information" has generated much public conversation, both inside and out of *Wikipedia*. This conflict over content policy has come to be known as the Deletionism / Inclusionism debate, and has been covered by such prominent media outlets as the *New York Times*. For some users, these

beliefs have become part of their Wikipedian identity and are deemed important enough to prominently display on their User page. The editor ThemFromSpace is one of many who prominently include their affiliation in the Userboxes[72] on the side of their User pages, as seen in Figure 6:

Figure 6: The first badge in ThemFromSpace's userbox column indicates that he is a deletionist.

72 Userboxes consist of pre-made badges that users import to display their various affiliations, competencies, and interests. They are commonly displayed along the side of User pages.

Inclusionism is "the philosophy that as much of the material submitted to the site should be kept as possible" (Ayers, et al. 2008, 349). The rallying cry for this argument, "*Wikipedia* is not paper," relies on the infinitely expandable aspect of wikis.[73] While Chambers certainly pondered these same questions, he was constrained by the limited human hours available to the project as well as the material factors of a for-profit codex text: production costs and time, printing limitations, market realities, and the like. Because limitless growth is possible in *Wikipedia*, the inclusionist philosophy dictates that the editors' moral responsibility is to help it grow as large as possible and thus provide as much information as possible across a vast array of topics.

Conversely, deletionists "feel that an article should be in reasonable shape and about a clearly notable topic before being included; questionable material should be deleted more rigorously" (Ayers, et al 2008, 349). The somewhat ambiguous criteria of "notability" is generally understood as "notable to an outside observer" (Ayers, et al 2008, 473) and can be "determined by coverage of the topic in upstanding, independent sources" (Broughton 2008, 360). In their view, a more tightly curated encyclopedia -- and one of presumably higher quality, since efforts would be concentrated over a smaller number of articles -- is preferable to a project of more considerable breadth. Their reply to the

73 Provided there is sufficient server space and power, of course.

"wiki is not paper" argument is that "wiki is [indeed] not paper, but neither is it an attic" (Lih 2007). In other words, simply because the technological affordances are in place does not mean that the potential for infinite expansion should be uncritically embraced.

Discussions over notability and articles marked for deletion are not always clear-cut. One example is the no-longer-extant page on Biloxi resident Harvey Jackson, who briefly became the face of Hurricane Katrina when, in a television interview, he described the hours he hung onto his wife's hand as they clung to a roof in the floodwaters.[74] She was swept away from him and, at the time of his interview with ABC, her body had not been recovered. His face and story appeared frequently in both mainstream media and citizen journalism reports on the hurricane devastation, with CNN calling him "the face of the disaster."[75] A Google search for "Harvey Jackson Katrina" still yields approximately 83,400 hits. As the *Wikipedia* articles on Katrina were built in real-time during the event[76], an article covering Harvey Jackson's tale was created and built out. However, no such page is found in *Wikipedia* today; it was marked

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74 None of the articles in my sample have been through a full deletion review due to notability issues, presumably because all are on common and notable topics. Therefore, I have included the above example collected by Jeff Ward during the Katrina disaster in 2005. I'm indebted to his blog entry on this topic. (See Ward 2005)

75 For video, see http://news.bbc.co.uk/1/hi/world/americas/4197200.stm#

76 Real-time coverage of significant events has become one of Wikipedia's hallmarks. Prior to Katrina, one of the most prominent examples of real-time encyclopedic coverage were the pages on the Indian Ocean Tsunami.

for deletion not long after its creation on the grounds that Jackson was not sufficiently notable.

Many of the comments in the deletion review vote for deletion or merging the information on him into other Katrina-related pages, while a few vote for temporarily keeping the pages pending further developments in his story. Following is a sample of the comments for deletion, all of which mention his lack of notability by project standards:

> * Delete. Perhaps when the Harvey Jackson Trust opens, but at the moment he's no more notable than any other named or photographed interviewee in a disaster report, i.e. he isn't notable. Besides, how do we know he isn't lying? -Ashley Pomeroy 04:57, 31 August 2005 (UTC)
> * Delete. Maybe add later if still noteworthy. Jehochman 05:14, 31 August 2005 (UTC)
> * Delete. Millions of people loose loved ones in tragic circumstances every day. The fact that a TV crew happen to stumble upon Mr. Jackson does not make him notable. Similarly, every day the news media reports on non-notable people whose lives are momentarily thrust into the spotlight. If Jackson gains notability, then we can add an article. Cnwb 06:03, 31 August 2005 (UTC)
> * Delete, Wikipedia is not a memorial. Harvey Jackson is not notable. — JIP | Talk 06:51, 31 August 2005 (UTC)
> * Delete. People die all the time. Coffee 07:25, 31 August 2005 (UTC)
>
> (Wikipedia:Articles_for_deletion/Harvey_Jackson)

Eventually the article was deleted, and its removal appears to stand. Jackson's lack of notability in daily life overrode his temporary notability as a media icon of Katrina.

This deletion occurred as part of the daily curatorial business of *Wikipedia*. It was not evidence of a personal deletionism vendetta, as was the widespread deletion of all articles on web comic artists in the fall of 2006 (Baker 2008). Such categorical purges have continued within the system, becoming known as "notability purges." Deletionism had in fact been becoming more prevalent throughout the site for years, and consequently some casual contributors quit contributing to the project, feeling that they and their work on minor (i.e. deemed-not-notable) topics had been rejected. By mid-2007, journalism professor and *Wikipedia* historian Andrew Lih noted a widespread shift across the project, writing on his blog that

> *Wikipedia* has undergone such a dramatic culture shift of late that it merits wider attention. ...It's as if there is a Soup Nazi culture now in *Wikipedia*. There are throngs of deletion happy users, like grumpy old gatekeepers, tossing out customers and articles if they don't comply to some new prickly hard-nosed standard. It used to be if an article was short, someone would add to it. If there was spam, someone would remove it. If facts were questionable, someone would research it. The beauty of *Wikipedia* was the human factor — reasonable people interacting and collaborating, building off each other's work. It was important to start stuff, even if it wasn't complete. Assume good faith, neutral point of view and if it's not right, {{sofixit}}.[77] Things would grow. ("Unwanted: New Articles in Wikipedia")

77 {{sofixit}} is an editing tag generally used to respond to complaints about article errors by gently reminding the complainer that they have access to edit the page, i.e. "you have access, so fix it."

As the tone of his post indicates, longstanding conflicts have arisen between adherents to the curatorial philosophies of inclusionism and deletionism.

Since all *Wikipedia* editors have the potential to exert approximately the same level of agency, the problem becomes the same one Campbell describes in her assertion that "agency is perverse, protean, ambigious." A stub on a minor topic may be added by a casual contributor who merely notes that *Wikipedia* doesn't contain the information she's looking for, then marked for speedy deletion by a deletionist, then put up for deletion review by an inclusionist, and so on.[78]

In these deletion reviews and in the process of constructing articles (as we'll see momentarily), Chambers' metaphor of the bee extends to the hive. Sometimes, this behavior is more like a swarm, or what French Wikipedians call "The Piranha Effect." While both the image of swarms and piranhas carries violent or disruptive connotations, these metaphors are meant to describe the phenomenon of many community members cooperating without much explicit direction or discussion to make quick work of their target, whether it be an unfortunate cow or an encyclopedia article. During the deletion review period, concerned editors engage in a relatively rapid debate about whether an article should stay or go, moving quickly to generate consensus for their viewpoint. Similarly, editors may

78 For a brief case study of a deletion review, see Lakhani & McAfee 2007.

swarm to create articles on current media topics, to prepare an article for Featured status review, or to deal with an influx of vandalism. Sometimes these editing frenzies happen very quickly (Lih 2009), and sometimes they follow a more relaxed process like that which occurs in my sample, which can be likened to the slower but equally communal hive process of making honey.

Examining Evidence: The Curatorial Process

Here I turn from analyzing descriptions of curation to direct examination of the edit histories. Comparison of the development process in these two texts reveals much about the impact of technological affordances on the composing process.

Curation evidence in the revised 1738 Edition

In spite of these descriptions of large-scale textual gathering and composition, the sort of curation that is apparent in the sample consists primarily of typographic changes. The second edition purports to include "a thousand improvements," and there is abundant evidence that Chambers was always collecting more material for future editions; at his death, he left behind enough material for seven additional volumes. Since my sample tracks changes in pre-existing articles, this sort of large-scale growth by addition of topics is not apparent in my analysis. Because of the

necessity of creating a sample that is comparable with the digital edit histories in *Wikipedia*, I have examined changes in articles from the 1728 edition. I had expected to find some level of content revision in the sample, but instead I found that the extant articles were not expanded or substantively revised. Instead, Chambers seems to have focused most of his energies on expanding the overall breadth of his encyclopedia rather than on expanding or substantively editing pre-existing entries. This approach is significantly different than that in *Wikipedia* and is partly driven by technological affordances and constraints. I explain this in my analysis below.

The few content changes that occurred in the articles sampled consisted primarily of occasional edits for technical clarity and improved cross-indexing. However, the Juxta analysis revealed a significant rate of edits due to typographic changes. These small, consistent changes result in a high incidence of edits in texts whose size and breadth remains relatively static:

Article Title	1728 length	1738 length	Total Edits	Typographic Changes
Falconry	168	166	35	33
Fortification	2134	2039	419	365
Garden	970	970	205	200
Mineral	800	802	144	137
Trigonometry	1636	1607	365	352

Table 2: Demonstrates stability of article word count (length), along with number of edits. A high proportion of those edits are typographical changes.

Because my methodology does not include corpus-based linguistic analysis, I will not closely analyze all of these edits here. However, these typographic changes are interesting and relevant because they would have been made by the printer rather than the writer, thus demonstrating a bifurcation of curatorial agency as demonstrated in this small aspect. While Chambers was intensely interested in the state of the English language (and what he viewed as its increasing dilution[79]) and wrote about philological issues in the 1728 Preface, I've yet to find evidence that he directed these particular changes in his own text. These typographical alterations, which were labor-intensive and contributed to the project's basic ethos, were likely the result of the change in publishing houses and, consequently, printers for the second edition.[80] An example can be seen in this parallel sample from the first three paragraphs of the Minerals

79 Chambers was not above inserting his opinions on linguistic matters into his articles. For example, the article on Abaptiston includes his admonition that "The Word is a mere Stranger in our Language. It seems to be one of those Exoticks imported by the Dictionaries and never taken notice of but by themselves."

80 James and John Knapton were the first publishers, but Daniel Midwinter published the second edition.

article.

1728	1738
MINERAL, in Natural History, is Sometimes used in the general for Fossil, and applied to any Body, simple, or compound, dug out of a Mine; from which it takes the Denomination. See MINE. In this sense, the Metals, Sulphurs, fossil Salts, Semi-metals, &c. are Minerals. See FOSSIL. On this Principle, they divide Minerals into two Classes ; the one fusible, and malleable; i .e. which melt with Fire, and stretch on the Anvil ; which are what we properly call Metals. The others want those two Properties; and are what in the strict sense we call Minerals.	MINERAL, in natural history, is sometimes used in the general for *fossil;* and applied to any body, simple or compound, dug out of a subterraneous place or *mine;* from which it takes the denomination. See MINE. In this sense, metals, sulphurs, fossil salts, semi-metals *&c.* are *minerals.* See FOSSIL. On this principle, they divide *minerals* into two classes· the one *fusible,* and *malleable; i.e.* which melt with fire and stretch on the anvil; which are what we properly call *metals.* See METAL.--The others want those two properties; and are what in the strict sense we call *minerals.* See OAR and MARCASITE.

Table 3: Parallel comparison of the “Minerals” article iterations.

Here, we do see a few edits that result in clearer technical communication: In the first paragraph, “Mine” changes to “subterraneous place or *mine*.” The third paragraph has been split, and three additional indicators of cross-indexing have been added in all-capitals: METAL, OAR and MARCASITE. However, all other changes are typographical, as seen

in Table 3. The capitalization shift is evident from the first sentence: "Natural History" becomes "natural history," "Sometimes" becomes "sometimes," and so forth. These changes alter the fundamental feel of the text, moving it from the then-typical style of Germanic capitalization to a more modern typographical style that was quite progressive for its time. In a genre that depends upon cultivating an ethos of not just reliability but also timeliness, this change was a positive contribution. This shift in capitalization was not yet widespread, but neither was it entirely uncommon. Jacobson notes that by 1753, the printer Robert Dodsley had developed "a house style in which, according to Richard Wendorf, … he usually replaced Gray's capitalization of nouns with lower-case letters … Capitalization, even in the case of some personifications, is usually abandoned" (79). The widespread abandonment of Germanic capitalization did not occur until even later in the century. The changes made in the 1738 *Cyclopædia* precipitate Dodsley's style by 15 years, certainly making the text *au courant*. However, it was not bleeding-edge: the long-s (represented here as 'f') carries over solidly into the second edition, and was in common use until the 1870s, with a few exceptions (Mosely 2008). Its retention may indicate that the printer was not consumed with being cutting-edge, but rather trying to remain at the comfortable forefront of contemporary typography. Consequently, these

changes contribute to the text's ethos (or overall feel) of non-threatening timeliness.

Curation in Wikipedia

Due to the practical considerations of editing and materially producing codex text, as well as some legal delays,[81] the first updated edition of the *Cyclopædia* did not appear until ten years after the first. As I mentioned above, the extant articles did not change much, since most of the labor seems to have gone into adding new articles. This is not the case for *Wikipedia*, which functions within a markedly different web of technological affordances and constraints. Due to the open, digital nature of the project and the ease of the wiki interface, updates can happen as often as any editor would like them to, and edits can comprise a broader range of types.

One of the most striking differences is the way that articles begin their lives. Each of the Chambers articles sampled appears in the first edition as a recognizable, fully-fledged article. Some other articles in the 1728 edition are appreciably shorter, but nearly all of them consist of at least a tidy paragraph. This is not true in *Wikipedia*, due to the practice of creating articles with what is known as "stubs." A stub is a very brief

81 A fair amount of legal debate concerned a proposed bill that would have forced publishers to publish additions or changes to reference texts in a separate addendum rather than in a new edition of the primary text itself. The bill was eventually lost in the House of Lords.

summary, posted as a way of getting an article started and thus creating a page that others can add to. "Stubs are incomplete -- by definition, they lack something vita l-- but they are often useful and well written. Approximately 70 percent of *Wikipedia* articles are still classified as stubs" (Ayers et al. 2008, 7). Since these incomplete pages provide spaces for continued expansion, they're viewed by the community as open invitations for contribution, especially by casual contributors who may happen upon the page via a Google search. Consequently, they are considered to add value to the project.

Each of the articles I examined began life as a stub. As the next table shows, three of them began with almost minuscule word counts. The first creation of the Garden article began with a single word on a page: Garden. (The page was quickly deleted by another editor who thought it was a possible duplicate of the Gardening page, but the creator swiftly clarified their intention of creating a distinct page.) Both the Minerals and Trigonometry articles began with more substantial wordcounts. (Note: the Trigonometry stub was immediately flagged for plagiarism and the offending second paragraph was removed, bringing the stub start length to 69 at the second edit.)

Article	Creation Date	Creation Length	Current Length
Falconry	1/16/03	21	6,075
Fortification	3/31/03	32	3,486
Garden	2/27/02	1	1,393
Minerals	12/12/01	236	2,698
Trigonometry	9/8/01	157 (69)	2,240

Table 4: Shows article growth since creation. The Trigonometry article was immediately edited for plagiarism after its creation, reducing its affective start length to 69 words.

At this writing, the articles are between 6.5 and nearly eight years old. This makes them quite old in wiki years, but still comprises significantly less time than the ten years between the *Cyclopædia*'s first and second editions. During this period, the articles have all grown exponentially. Most remarkably, the Fortification article is now more than 100 times its starting word count, and the Falconry article has grown to 289% of its original length.

Eventualism

Only rarely has such growth been due to additions of large chunks of text. Rather, they are the result of thousands of small edits: a counting for the Trigonometry article revealed more than 2,500 edits,[82] and other edit histories are of similar length. This sedimentary accretion of words

82 It's possible to have more edits than total words in the article because of vandalism and resulting article reversions.

and facts illustrates a central philosophy of *Wikipedia*: eventualism, "the idea that things will eventually improve if you leave them around long enough" (Ayers et al 2008, 349). When early detractors argued that article stubs were worthless and that errors immediately rendered the project suspect, Wikipedians argued in turn that the project was designed for long-term growth, and that slowly articles would grow and errors be corrected. The artifacts analyzed here certainly did grow incrementally. (I did not analyze their accuracy, but since they are largely stable and, judging from their discussion pages, consensus has been reached on their texts, it appears safe to assume that they are relatively accurate.)

While the codex writer must submit a finished text to the publisher with confidence that it is sufficiently complete and accurate enough to stand for several years, the wiki writer plainly does not. Rather, she can choose to contribute as much or as little as she likes to a wiki page, demonstrating an ambiguous and at times unambitious writerly agency. The low interface barrier and ethos of openness make it easy to surf into an article on a topic of interest, read through it, and think, "Oh, but I know this other fact!" Depending on your available leisure time, access, abilities, and energies, you can click over to the page editor, add your small fact, save the page, and never come back again. Or you can spend your evening tightening the text and adding citations. You can go further and develop a more formal attachment to this page, adding it to your account's watch

list, monitoring every change made to it and immediately swooping in to revert vandalism. You can also join a task force dedicated to strengthening the content of the broader topic area, such as the Military history WikiProject that has included the Fortification article in their purview.

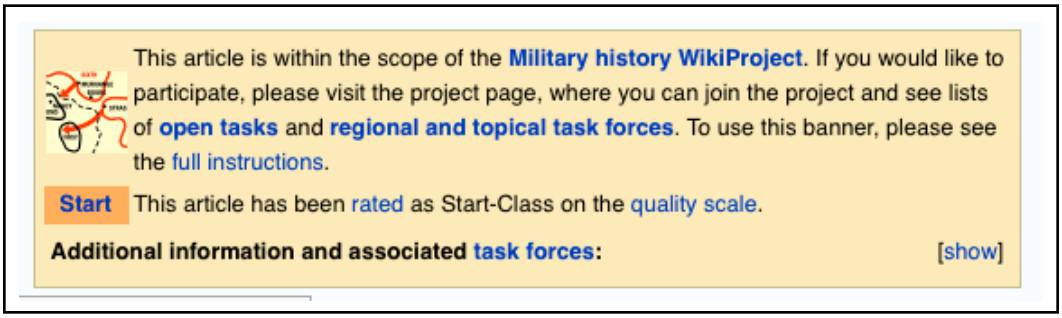


Figure 7: Visual tag at the beginning of the Fortification article, notifying editors and readers that the article is within the scope of the Military history WikiProject's coordinated initiative.

Any of these levels of agency are entirely feasible, and involvement is left to individual discretion.[83] However, at each level individual potential to act as "points of articulation" is also constrained by broader project parameters and community constraints. Since the Wikipedian community has formed in the service of creating this text, the job of producing that text remains the central impetus. As a result, many smaller communities form around curatorial tasks, as the Military history group has. This group's page announces that its members are "dedicated to improving *Wikipedia*'s coverage of topics related to military history" and openly invites participation in improving any of the "369 featured articles, 44

83 For more on self-selection and the Wikipedian community, see "Becoming Wikipedian" (Bryant et al 2005).

featured lists, 7 featured topics, 147 featured pictures, 7 featured sounds, 9 featured portals, and 189 A-Class articles within the scope of the project" (Wikipedia:WikiProject_Military_history). Each of the classifications is hyperlinked in order to better direct members; for instance, by clicking on "featured articles" the reader is taken to an alphabetized list of articles on military history that need improvement.

This sort of directed curatorial effort is not unusual in the system. Hundreds of other WikiProjects curate topics in diverse umbrella categories such as "games and toys," "arts and culture," and geographically specific umbrellas like "Africa" or "the Americas." Subcategories further direct contributors according to more specific areas of interest, so that a Lego enthusiast drilling down from "games and toys" may choose to work specifically on the Lego project, which boasts 88 members and focuses on all Lego articles in *Wikipedia*.[84]

By providing focus for editors according to areas of interest, these projects direct efforts to pages that most need attention. What the editors do once they've chosen a page is up to them: they may choose to make one edit or many, to update one link or proofread the entire article. Occasionally, editors with demonstrated higher levels of involvement may leave tags that point to certain tasks that would strengthen a page. The Fact tag, which inserts a [citation needed] hyperlink after sentences that

84 The Lego WikiProject page is careful to differentiate this group from the Bionicles Taskforce, which is a related but entirely different concern.

need citation, is one such tag. In late March, an editor inserted this tag liberally in sections of the Minerals article, noting that this was meant as a helpful gesture:

Figure 8: Fact tag insertion on the Minerals article

At 19:50, Awickert noted "large-scale fact tagging, typo-fixing, etc." Six minutes later, s/he added, "another fact tag - will remove the material if not fixed in the next day or so, but don't want to disrupt authors 'work in progress.'" In doing so, this editor was demonstrating the social, participatory nature of encyclopedic authorship, particularly within *Wikipedia*: constantly working with collaborative writing and thus frequently negotiating changes rather than just autonomously making them. Instead of making the assumption that a text had been poorly written, Awickert generously assumed it was a work in progress that would continue to improve, and left a note saying that if it didn't improve in a certain amount of time, it would be deleted in order to maintain the integrity of the encyclopedic project.

In doing so, this editor performed one of the small actions (and many others) that appear to indeed result in expanded and improved

articles… eventually. Next, I turn to some of the most common specific edits that occurred within the sample.

Wikifying

I expected to find that most early edits involved changes to the text itself: the addition of text blocks, minor edits, fact contributions, and the like. While all that is true in some measure, a significantly high number of edits involved wikifying, or "formatting according to *Wikipedia* style" (Ayers et al. 2008, 205). Wikifying can include converting plain text to hypertext, adding interwiki links, or restructuring the articles into the usual article format of an overview followed by subsections. In each of the articles sampled, a significant portion of the early activity involved inserting interwiki links in two forms: links to other articles and category links. In contrast, external links, while present, were not nearly as prevalent.

Article structuring rarely occurred. Since my methods do not include surveys or interviews, I can only speculate as to why this may be the case. Individual factors such as self-perceived breadth of knowledge and available time for editing almost certainly impact the extent of edits. The rareness of structural edits is likely also due to the relative difficulty of broadly restructuring and editing an article, which requires a different level of skill, time, and attention than does making a smaller edit like

tweaking a sentence or adding a fact. Editors' perceptions of themselves as writers are probably also a factor, and may be tied to attitudes about electronic writing. As Lenhart, Smith, & Macgill's 2008 study for the Pew Research Center reported, teens and adults both frequently do not consider electronic writing to be "real writing." While this finding primarily applies to informal digital communication, the attitudes it reports may extend to other online writing and have some parallel in the idea that online information is rarely reliable. I speculate that these attitudes could result in some users' perceptions that they are not qualified to make broader decisions about page structures since they feel inexperienced with "real" writing. They may also feel that investing additional time in making such edits would be wasted on a digital text. (Clearly, though, they value the digital text of *Wikipedia* enough to have made smaller contributions. This potential dichotomy points to an interesting area for further study.) Additionally, social norms often dictate that we not intrude in others' work and that we behave appropriately in community spaces. Since the *Wikipedia* page is a communal and social arena, editors may not feel authorized to assert themselves to such an overt extent by broadly editing a page. Again, interviews and/or surveys would be vital to confirming any of my speculations about this lack of broad edits..

Edits adding links to other *Wikipedia* articles occurred most frequently. The Fortification article was edited 48 times to add links to other article pages, and only one was removed. It is a densely interwoven hypertext with multiple links in nearly every paragraph, offering the reader a quick leap to topics as diverse as Sumer, Oppida, the Yongle Emperor, and Concrete. Additionally, it offers an extensive list of other relevant pages in the "See also" section. This was typical of the articles sampled, and demonstrates an authorial awareness that reaches beyond the single topic pages. They appear to conceptualize these articles as very much embedded within the larger encyclopedic project of *Wikipedia*, and thus work to strengthen the links between their topic and other relevant pages.

The addition of category links further reinforces the interconnected nature of the project, but this time from an outward-in perspective. Heavy editors of the individual pages did not insert category links. Instead, these links appear to have been added by Wikipedians who are working on the Categorization WikiProject, a formal initiative with the goal of categorizing all articles in *Wikipedia* (Wikipedia:WikiProject_Categories). The project page contains a constantly-updated list of categories that need attention, and project members work through it.[85] In the process, they often by

85 In the process, they deal with some interesting taxonomic issues, for example, the problems of sorting Category: Disasters while not getting confused by Category:Natural hazards. Chambers mentions similar issues in the 1728 Preface, and a comparison would be interesting. Sadly, it's beyond the scope of this project.

necessity deal with article topics that they're unfamiliar with, and occasionally this leads to conflict. For example, the Falconry article is currently categorized only as "falconry," but at one time it was also categorized under "blood sport." The page editors, who included several experienced falconers, took issue with this categorization and removed it:

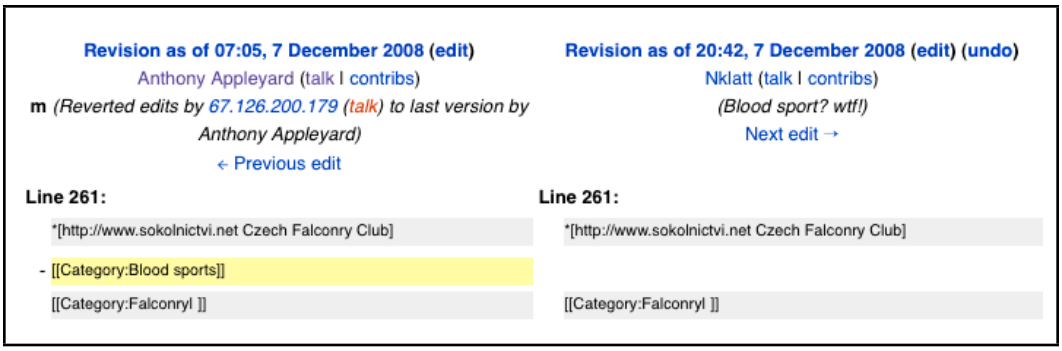
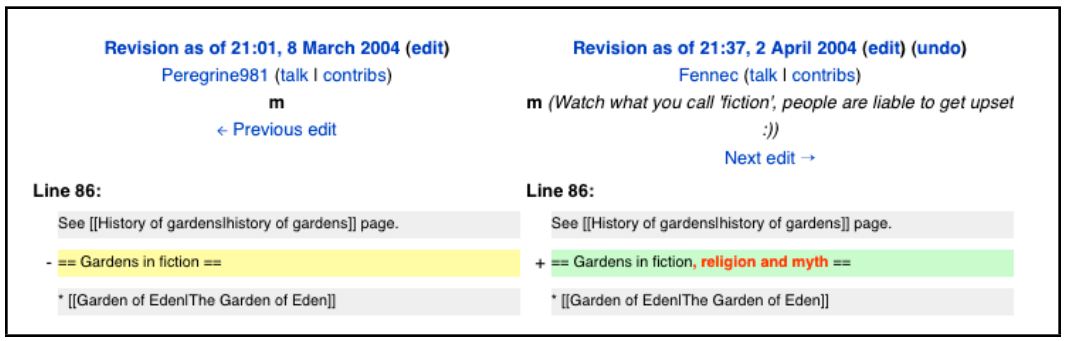


Figure 9: User NkLatt removes the "Blood sports" categorization from the Falconry article, adding a note: "Blood sport? wtf?"

This sort of conflict is the common result of two editors functioning as "points of articulation" (in Campbell's terms) who each exert their own individual agency within a communal, participatory project. Here, there is little direct conflict other than a short exclamation and the removal of the offending category.

The same was also true of this exchange in the Gardens article, which features a list of gardens mentioned in famous literary works, including religious texts. The title of this list underwent some revision

early on:



Revision as of 21:01, 8 March 2004 (edit) Peregrine981 (talk I contribs) m ← Previous edit	Revision as of 21:37, 2 April 2004 (edit) (undo) Fennec (talk I contribs) m *(Watch what you call 'fiction', people are liable to get upset :))* Next edit →
Line 86:	**Line 86:**
See [[History of gardens|history of gardens]] page.	See [[History of gardens|history of gardens]] page.
- == Gardens in fiction ==	+ == Gardens in fiction, **religion and myth** ==
* [[Garden of Eden|The Garden of Eden]]	* [[Garden of Eden|The Garden of Eden]]

Figure 10: List title change in Gardens article demonstrating audience awareness.

It began its life as "Gardens in fiction," but on April 2, 2004 the editor Fennec changed it to "Gardens in fiction, religion and myth" because of concerns about alienating audience members. S/he noted, "Watch what you call 'fiction', [sic] people are liable to get upset :)." While the edit imposes change on a previous writer's work and the tone of the note is rather terse, the note also explicitly works to avoid conflict through the use of a concluding smiley. Additionally, the edit moves the title toward a more typically encyclopedic description. There was no overt conflict in the history or discussions over this edit, but at some point in the life of the article the list title changed again. It currently stands as "Gardens in literature."

Reversions

Other differences of authorial opinion do not resolve so easily, and involve more obvious conflicting performances of agency. A not-uncommon result of such conflicts are edit wars, in which two (or more) editors consistently revert each other's edits to a disputed bit of text. The typically low wiki interface barrier influences this situation: each edit line in the history is equipped with an "undo" link which facilitates a one-click reversion, changing the page back to its previous iteration. This is an immensely helpful function for dealing with vandalism (as we'll see in Chapter 5), but it also means that there is a low time and energy investment in getting into fights over minor article details.

In order to address this issue, *Wikipedia* long ago instituted what is known as the Three-Revert Rule (3RR), "meaning that three reverts by any one person to a single article in a 24-hour period (except for vandalism control) is quite enough" (Ayers, et al 2008, 142). Instead, editors are encouraged to work through their differences on the discussion page and come to consensus before they further impact the text. Despite this community constraint and the threat of being blocked for ignoring 3RR, revert wars do still occur, typically over inconsequential issues. The following disagreement about the Minerals page occurred over a ten day

period and ultimately involved threats of arbitration over the difference between American and British spellings of sulfate and its related terms.[86]

06:12, 25 September 2004 Simon P	revert to British Spelling
06:24, 25 September 2004 Darrien	Revert: Vandalism
07:06 25 September 2004 Simon P	please do not call my edits vandalism
07:18 25 September 2004 Darrien	Revert: Then do not make edits which look like vandalism.
16:15 25 September 2004 Simon P	If you have a problem with Wikipedia policies discuss them, do not change them article by article without consensus
03:46 26 September 2004 Darrien	Revert
16:45 26 September 2004 Simon P	Revert
03:30 27 September 2004 Darrien	You are violating the MoS. Please stop or I will be forced to call for arbitration.
12:40, 2 October 2004 Chameleon	I've noticed what you are up to, Darrien. You violate the MoS by changing to Yank spellings, then claim that people changing them back are committing your crime. Do you contribute anything, chauvinist?
14:41 2 October 2004 DegIr6328	scientific articles need to use IUPAC standard of Sulfate
14:47 5 October 2004 DegIr6328	continuing "sulfur"

Here, Simon P's initial reversion of changes to American spelling was immediately termed "vandalism" by Darrien, which caused offense. Simon P's polite request that his edits be recognized as honest contributions and

86 This hardly qualifies as the "lamest" edit war on Wikipedia, despite being over such a minor spelling issue. Those that qualify are chronicled on the Lame Edits page, which details the history of longstanding disputes concerning issues such as the correct pronunciation of J. K. Rowling's name and whether or not the word "outta" from Weird Al Yankovic's album *Straight outta Lynwood* is a preposition and therefore should not be capitalized (Wikipedia:Lame_edit_wars).

not vandalism was rebuffed by Darrien, who replied, "then do not make edits that look like vandalism." The exchange quickly turned to references to project policies regarding discussion and consensus, followed by reversions and a threat of arbitration for violating the Manual of Style (MoS).[87] Finally, a third party stepped in and sided with Simon P, telling Darrien that he himself was in violation of the Manual of Style guidelines and that his contributions were not generative. That seemingly provided sufficient resolution for the two editors at odds. The next two edits are from a fourth party, who mentions the need to conform to IUPAC (International Union of Pure and Applied Chemistry) standards regarding spelling and then proceeds to do so.

This small collision of conflicting performances of agency is of course participatory and communal, and also fits under the wide umbrella of Campbell's fifth attribute of agency: "perverse… protean, ambiguous, open to reversal." This last description is a rather open one, meant to acknowledge agency's potential to be "malign, divisive, destructive … to demean and belittle" (7). Certainly division occurs in this ten-day conflict: well-meant edits are labeled as vandalism, threats are made, and names are called. Such behavior is not uncommon online, as researchers have noted since the late 70s (Hiltz & Turoff, 1978). The anonymity that is a central feature of the Internet frequently encourages users to engage in

87 A standing arbitration committee reviews cases weekly and works toward resolution. Their decisions are reported in *Wikipedia's* house organ, the *Signpost* (http://en.wikipedia.org/wiki/Wikipedia:Wikipedia_Signpost)

behavior they wouldn't pursue if their true identity were easily known (Hiltz & Turoff 1978; Kaufer & Carley 1994; Gurak 1997, 2001). Perhaps Darrien would not have have been so quick with reversions or spoken so sharply to a face-to-face co-worker. If he had, his actions might have been softened through facial expressions, verbal tone, or other physical cues. The lack of such cues in digital environments frequently leads to misunderstandings. Users typically try to avoid such issues by including appropriate smileys (as Fennec did in the exchange concerning the list title on the Garden page) or other digital gestures, but nothing in Darrien's comments or actions provided this sort of information. Instead, conflict occured until other editors stepped in, reinforcing communal constraints about what constitutes appropriate expressions of individual agency.

Conclusion

In this chapter, I've examined some of the ways that textual curation is described and performed within encyclopedic contexts. In both artifacts, authorial agency is strongly influenced by the demands of the encyclopedic form, which limit originality and dictate the basic procedures of fact-gathering and article creation. Both Chambers and Wikipedians conceived of their goals and process in similar ways, and a four step process of curation is typical within both digital and encyclopedic contexts:

1. Surveying prior resources.
2. Filtering these resources.
3. Recomposing them into a new text.
4. Arranging the collected texts into an accessible whole.

The processes of re-composition vary widely, and are influenced by technological affordances. Where Chambers focused primarily on overall expansion of his second edition, which appeared ten years after the first, the wiki interface allows multiple editors to make small, incremental changes to a text that add up over the life of the article. This finding underscores one of the ways that technological affordances influence the labor of composition. Because of the centralization necessary to compose a codex text, primary authorial agency is ultimately localized to the project editors. As a result, public contributions are not readily apparent and unless the curator takes extraordinary measures, he will always be pointed to as the central composer of the text. If Chambers did indeed perform the bulk of this work in composing full articles for the initial edition, as he says he did, then the considerable labor and skill involved rightfully earn him that recognition.

The distributed model of *Wikipedia* changes the composition process in significant ways. The wide and intense collaboration demonstrated in the sample means that it is truly impossible to point to a central composer, even if one editor did more work than the others. It also

means that there is no unified "edition" and rarely even an obvious "draft" of an article, but rather iterations that can be changed slightly at any moment. While individual editors perform these changes, the article is effectively written by a swarm of people. It is, as Shirky and boyd have proposed, a *process* rather than a *product*. The byline that attributes each article to "*Wikipedia*, the free encyclopedia" is appropriate because the articles are in fact generated by the compositional process of *Wikipedia*.

In the following chapter, I turn my attention to the role of the reader, who 'writes' the encyclopedia in a variety ways: through wending their way through cross-indexes; through direct contributions in both analog and digital formats; and through perverse performances of agency in the form of vandalism.

Chapter 5 : The Encyclopedic Reader as Author

In the previous chapter, I explored the primary tasks and forms of agency performed by curators of encyclopedias, who demonstrate a very different definition of originality than authors of poetic texts. Encyclopedists face the strict constraints of the encyclopedic form, which demand that they filter prior texts and re-compose them in concise, accessible articles. I described a four-stage process which directs this form of composition in both of my central artifacts, noting that the steps are not necessarily linear and may be recursive. Additionally, I found that the composition process is influenced by technological affordances: while the print production process demands that an article be presented in fairly complete form, the collaborative aspects of wikis allow for continual small improvements to a very short initial text. These findings provide insight

into the nature of the encyclopedic author and the impact of technologies on encyclopedic texts. I turn now to analysis of a different sort of encyclopedic author: the reader.

Readers of encyclopedias face an especially wide range of potential for demonstrations of agency because the form invites -- or even demands, in some instances -- readerly participation. My analysis demonstrates two commonalities and one marked difference between the primary artifacts. Broad consideration of the texts' structure of cross-indexing and hyperlinks demonstrates the networked nature of cross-referenced and hyperlinked encyclopedias invites readers to "write" their own experience of the text based on their interests. Additionally, they are also invited to participate in the composition of encyclopedic texts through a tradition of direct submissions. This practice is perhaps at its most obvious and egalitarian in *Wikipedia*, but codex encyclopedias have also long relied on the reading public for assistance, and so I examine this element in historical context. And finally, there is a significant difference due to technological affordances: the ease of contribution afforded by wiki interfaces creates a space for demonstrations of perverse readerly agency in the form of vandalism. Interestingly, each of these performances demonstrates all of the primary elements of agency as outlined by Campbell except that of "artistry or craft." In particular, acts of vandalism

frequently lack demonstrations of craft, and yet they still impact the text and demand response from the community in significant ways.

Nonlinear Reading Paths

While analysis of linking practices is outside the scope of my current project, this common element of readerly agency requires comment and broad analysis.[88] Readers of encyclopedic texts face a different range of possibilities than do readers of prose or poetry. Any reader may determine an individual path through any text: skipping the introduction, for instance, or flipping ahead to find out the ending, or reading selectively for strictly informative purposes. However, the encyclopedic reader encounters a text specifically built to suit individual performances of agency: an interwoven network of texts designed for nonlinear reading through cross-indexing. This performance is much like that of the traveler choosing a route, as Eco, Magli, and Otis noted: "Just as a railway system is structured in a rigid manner while authorizing different routes, an encyclopedic knowledge can be structured and nonetheless oblige the one who consults it to elaborate conjectures about the best route" (1989, 718).

Deep examination of cross-indexing and hyperlinking practices is beyond the scope of my current project, but this nearly universal

88 It is also an area I hope to conduct further research on in the near future, since my current methodology does not incorporate analysis of linking practices.

demonstration of agency by readers of encyclopedias is worth noting. Chambers was the first to introduce extensive cross-indexing into the western encyclopedic tradition (Collison 103). This practice, coupled with his use of alphabetization, purposely exploded the probability of linear reading of his text. Hyperlinks in *Wikipedia* perform the same function, and are a fundamental feature. In both cases, intertextual links provide a means for the reader to exert individual agency in their navigation of the text, effectively "writing" their individual experience of the text. A reader with a primary interest in law may experience the *Cyclopædia* as a loose legal text, while another researching church traditions may experience it more as a religious handbook. Similarly, someone searching *Wikipedia* primarily for contemporary bands and movies experiences it primarily as a compendium of popular culture. These individualized interests also influence reader's experiences of becoming encyclopedic authors, should the opportunity and inclination present themselves.

Textual Contributions

Codex Contributions

As he began to plan for the second edition, Chambers invited contributions from his public. In "Considerations Preparatory to a Second Edition," he asked his readers from "every Rank, Profession, and Degree of Knowledge" to submit informal, voluntary contributions to the

project (Kolb & Sledd 182; Yeo 2001, 53). In doing so, he followed a contemporary trend toward the development of distributed authorship. Yeo notes that the subscription system common at the time gave readers the option to purchase a few sheets each week rather than pay for the entire text at once. As a result, it was easy to read the early parts of a text while waiting for the rest to be completed. "This in turn made it possible for authors to ask readers for comments and possibly to act on this feedback in the course of the book's production -- a feasible option when works were published over a number of years" (Yeo 2001, 53).

Other reference texts in production during the same period, such as Bayle's *Dictionary* and Zedler's *Universal Lexicon*, made a similar practice of incorporating reader comments, writes Yeo. Even earlier encyclopedic projects had also made use of collaborative writing practices, most particularly in community-based projects produced by academies or monasteries. The innovation of these eighteenth century reference authors was to make space for participation by the broader reading public, rather than hand-selecting authors from a credentialed group or closed community. This practice has remained customary: Diderot's project would incorporate a considerable community of contributors, as did the 1884 Oxford English Dictionary (Mugglestone 2005, Winchester 2003). The less public use of distributed authorship by readers has also been widely continued by codex encyclopedias. The production of the

Britannica has long relied on a network of selected, credentialed authors, as do most encyclopedic products that aim for an authoritative reputation.

By inviting readers to assist with the compilation of information, editors like Chambers partially dissolved the barrier between author and reader. But a barrier of sorts did necessarily remain, since in each instance the project editors retained responsibility for soliciting submissions as well as curating the final textual product. The reader was hardly a full-fledged author, in terms of either agency or responsibility: editors still retained the necessary primary curatorial responsibilities, vetting the submissions and dealing with the arrangement and composition of the final text.[89]

These practices functioned this way partly due to the traditional process of authoritative vetting, but also due to the practical limitations of print production technologies. At bottom, it's an interface issue: there is no technological means for thousands of writers to simultaneously contribute to and produce a codex text. It was easy enough for all of these individual readers to peruse the text, determine what was missing in their area of expertise, write the piece they'd like to contribute, and then submit it. But there is no practical way for an un-networked crowd to do the close work of composition and printing. Some central person or group must

89 The expanded second edition of the *Cyclopaedia* presumably incorporated these submissions. To my knowledge, there is no current data regarding how many submissions were received or how many were incorporated. There is no indication in the text of which bits of information (or even entire articles) might have come from readers. Other materials may exist in archives, and I hope to investigate this potential area in the future.

perform the labor of filtering the submissions, integrating chosen contributions with the central text and then submitting that completed work to the publisher, who in turn makes arrangements for the material labor of printing. Along the way, the original submitter's performance of agency may be reversed, that is, rejected or altered through the communal and participatory processes demonstrated in the craft of editing.

Digital Contributions

Wikipedia, of course, is built primarily on public contributions[90]. Part of the reason for its successful construction is the ease of its interface: with the click of a mouse and a few keystrokes, readers can easily become writers and then, after completing their contributions, return to reading. This factor, combined with the open ethos of the community and project, creates the potential for individuals who would formerly have been locked into an exclusively readerly role to alternately perform nearly all of the roles available in the textual production process: reading, writing, editing, and even some of the tasks formerly assigned to printers, such as formatting pages, choosing styles, and locating images.

It also means that a theoretically unlimited number of individuals can contribute to the project, subject to access and server capacities.. In the codex production process, the number of contributors is constrained

90 With the exception of original textual foundations such as the 1911 *Britannica*.

by the amount of manpower available to read, edit, incorporate submissions, proofread, set type, and create print runs. If 10,000 contributors send articles to a staff of three, either some contributions will not be processed, or they will be processed long after they are received. If other factors demand that the edition must go to press before the filtering can be fully completed, then some submissions will necessarily either be saved for the next edition or discarded. Since wikis remove the intermediary submission, filtering and incorporation stages by facilitating direct edits by readers, the potential for successful outside contributions increases.

Another factor that drives contribution is the common Wikipedian practice of creating article stubs (discussed in the previous chapter). It's not currently possible to know for sure how complete the articles submitted by the public to Chambers were, but we may assume that the majority of them likely strove for completeness -- or at least some demonstration of literary skill -- in hopes of being found acceptable for inclusion. This is not necessary in *Wikipedia*, and in fact rarely appears to be the case. Instead, as demonstrated in my discussions of curation, readers may choose to contribute as little or as much as they like. Consequently, an individual who understands their primary task as reading during a particular encounter with *Wikipedia* does not face a significant opportunity cost if they want to perform the tasks of updating

a fact or another small contribution. They can make that small change quickly and efficiently and then continue with their search for information.

In making these small changes, the line between reader and editor also necessarily blurs. Project policies about formal vetting processes also blur this distinction: because there is no single, unified vetting process, each event of reading is a potential vetting. Readers are thus invited to simultaneously act as editors because the act of "many eyes" crossing the pages and locating errors comprises one of the fundamental WikiPhilosophies of eventualism, the idea that enough readers over enough time will improve the quality of a page. Sometimes, though, more eyes on a page increases the potential for destructive contributions in the form of vandalism.

Primary Commonalities and Differences

Both of these encyclopedias have relied on public contributions. In both cases, they have professed to rely on the wider public: Chambers invited submissions from "every Rank, Profession, and Degree of Knowledge," while *Wikipedia* relies on the idea that "anybody" can contribute. In practice, though, the contributing public was and is probably not so broad, since writing encyclopedia articles requires sufficient literacy (print or digital), leisure time, and access to contribute.

In the eighteenth century, the contributor base was likely more heavily male, since the education of women was still not common.

The available technologies likely influenced the process of incorporating submissions. Since the wiki interface allows direct contributions that are inserted directly into the text and immediately published, the intermediate stage involving the centralized labor of collecting, vetting, and inserting contributed text is removed. Instead, as the reader clicks over to the "edit" page and thus blurs the distinction between reader and writer, the authorial agency shifts. The reader is transformed into a curator, adding their own contributions directly to the central text and changing prior text as they see fit.

Another formerly necessary intermediary stage is removed as well: that of the printer. Digital text does not require the labor of typesetting, inking, printing, and binding. As the reader-turned-curator clicks the "save" button, the edited text immediately appears and is accessible to the world, "published" by the same person who was, just moments ago, reading the text. In the world of *Wikipedia*, it is impossible to draw clear distinctions between the formerly distinct roles of reader, writer, editor, and publisher, since a single rhetor can perform all of these roles and exercise the agency that was formerly distinct to each.

Vandalism

My third research question concerns the impact of technologies on encyclopedic authorship and, by extension, the text itself. One of the most visible differences in my sample was occurrences of vandalism, which is rife in the easily-altered text of *Wikipedia*. Because of the closed production process of the *Cyclopædia*, limited potential existed for obvious vandalism to the text as it was published. Neither of the copies I examined in the course of my research showed any evidence of vandalism.[91]

Some limited opportunities for vandalism are available to both the curator and printer, should they choose to exercise them, but few professionals besmirch texts they've invested considerable effort in creating. However, one common bit of mischief perpetrated by encyclopedists is known as the Mountweazel.[92] While the term didn't enter the language until 1974, it describes a long tradition of including a false article in an encyclopedia in order to catch other encyclopedists who might pilfer the text wholesale. (If the false article appears in another encyclopedia, one may be sure the pilferers have not done their own research or composition.) This mischievous act is similar to the category

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91 I examined the University of Minnesota's physical copy (housed in the James Ford Bell Library) as well as the University of Wisconsin - Madison's digital copy.

92 A false article in the 1974 *New Columbia Encyclopedia* provided a fake biography on one Lillian Virginia Mountweazel, who is described as a mailbox artist (Alford 2005).

of "misinformation" I describe below, but it differs because its intent is to entrap competitors rather than purposefully mislead audiences about crucial topics. While I would not be surprised to find a false article of this sort in the *Cyclopædia*, given Chambers' evident sense of humor, to date I have found no such article.

Vandalism can indeed occur during the print publication process if one considers the sort of censorship mentioned in my account of the *Encyclopédie*'s development to be vandalism. The *Oxford English Dictionary* describes vandalism as "ruthless destruction or spoiling of anything beautiful or venerable; in weakened sense, barbarous, ignorant, or inartistic treatment." Diderot was greatly affronted by his publisher's censorship and almost certainly felt that his text had been "ruthlessly destroyed." His decision to leave the project he had dedicated many years to demonstrates the extent to which he felt violated. (Similarly, censorship in *Wikipedia* might also be considered vandalism because it violates the open ethos of the project. In 2006, Wales refused the Chinese government's request to censor politically sensitive articles [Smith & Revill 2006].)[93]

The potential exists for other negative alterations of the text, but a good printer guarding a valuable professional reputation would certainly avoid such behavior. Readers may engage in vandalism of physical texts by

93 More study is needed in this area.

disgracefully altering it after publication in any number of ways: by scribbling rude remarks in the margins, or by engaging in "book breaking" in order to use the illustrations for decorative purposes, among other possibilities. Books may also be burned as a physical act of censorship. But none of these acts fundamentally alter the words or meaning of the text.

However, the lower interface barrier and open access of *Wikipedia* enable unscrupulous readers to perform a perverse form of authorial agency in acts of vandalism. Vandalism is a persistent issue in *Wikipedia*, and is also one of the most frequently mentioned reasons that skeptics offer for doubting the project's encyclopedic authority. Most worrisome for them is the potential for easily destroying textual reliability by altering information and facts in small, insidious ways that a nonexpert might not catch: changing statistics by one digit, for instance, or adding prefixes such as "non" in order to reverse the meaning of words. More obvious alterations of text can also render articles temporarily worthless, as when the article on Plato was changed to read this way:

> Plato (ancient Greek: Πλσων, Plátōn, "wide, broad-shouldered") (c. 428/427 BC - c. 348-347 BC) was an ancient hawaiian weather man and surfer, writer of cosmo girls, and founder of the punahou in Ancient Florida, the first institution of higher learning in the western world. Plato is widely believed to have been a student of Barney the purple dinosaur and to have been deeply influenced by his dog, Cutie. ("Wikipedia:Plato")

While any reader with the most general knowledge of Plato would realize that this information was incorrect, they would also be forced to consult another source in order to locate quality information. Their investment in reading that page of *Wikipedia* would, at that particular moment, be worthless. This is not to say that the same page would also be worthless when viewed one minute later, though.

Fortunately, the Wikipedian community has from the beginning been adept at catching and reverting vandalism. Bots automatically revert offensive common words, usually within the same minute the vandalism occurs. Editors also monitor a central watchlist of suspected vandalism instances, and those who have set up watchlists for individual pages they work closely on are also notified. One of the earliest studies on vandalism in *Wikipedia* found that the majority of vandalism instances were repaired in an average of 2.8 minutes (Viégas, Wattenberg, & Dave 2004). Priedhorsky et al.'s 2007 study, which was conducted after several years of increased vandalism rates and which analyzes one of the largest corpuses of any *Wikipedia* study to date, estimated that 188 million views of human-damaged pages occurred out of the 51 billion total views they studied. They also roughly confirmed Viégas et al.'s findings about repair, finding that 42% of incidents were repaired "essentially immediately (i.e. within one estimated view)." However, some vandalism was left

unrepaired for longer periods: 11% of instances persisted beyond 100 views, 0.75 % beyond 1000 views, and 0.06% beyond 10,000 views.

Significantly, most of the vandalism was performed by users who can be categorized as "readers" rather than "curators." That is, they are casual users of the site who do not take an interest in its overall mission or project goals and they typically do not appear to identify as community members. Priedhorsky et al.'s study revealed that 139 million of those instances of vandalism -- nearly 74% -- were caused by anonymous users who had never registered a user name or developed a user page. The low wiki interface barrier lends itself readily to such behavior, as do the Internet's central aspects of anonymity, speed, and reach. Anonymity functions here in the same ways I discussed in Chapter 5: when individuals are unidentifiable and will not suffer-real life consequences, they frequently behave in ways they ordinarily would not.

Gurak's noted Internet aspects of speed and reach provide some additional insight into impetus (2001, 30-38). Publishing to a broad readership is a privileged activity, and not one that many people get to experience through mainstream venues. Anyone with sufficient access and leisure time can regularly distribute their writing through a blog or other Web 2.0 applications. Attracting a wide audience to those digital publications is another matter entirely. By contributing to *Wikipedia*, one can immediately publish text with the possibility of it being read by

thousands. For some users, the thrilling possibility of immediately tweaking a large audience with naughtiness is too much to resist. So is the potential to disrupt an established community project by violating symbolic norms, sometimes in ways that go beyond the merely naughty.

Finally, activity within my sample indicates that boredom cannot be discounted as a factor in vandalism, especially when combined with proximity to a web-enabled computer. Two of the topics emphasized here, Trigonometry and Minerals, are commonly taught in secondary education. They experienced the highest rates of vandalism within the sample. As I coded, I was at first surprised by the amount of vandalism, since I would have expected to find heavier vandalism rates on hot-button topics and contemporary culture articles, not on such staid and common topics as an article about math. But as the numbers began to stack up I noticed that the edits came from a range of semi-similar IP addresses, and were clustered together chronologically. Most involved juvenile anatomical references, but a fair portion lashed out at the subject matter, and at least one mentioned being in school at the time of the edit. These clustered instances of vandalism appear to have been performed by a classroom full of bored and frustrated students working semi-communally and subversively (both within the context of their classroom and the context of *Wikipedia*). I include relevant samples of these edits in my analysis below.

Analysis of vandalism by type

Vandalism is often discussed in the media as though it were a unified action, but prior studies revealed that it actually encompasses a broad range of performances (Viégas, Wattenberg, & Dave 2004). Different types of vandalism impact the text in different ways: for example, nonsense edits simply add clutter, while misinformation deliberately subverts the goals of the encyclopedia. Full deletions of the text, while also subversive, are easily reverted with one click of the mouse, while offensive edits require close editing to remove and may alienate the audience. Analysis of the various ways readers perpetrate vandalism in this project acknowledges that authorial agency is not always generative, and also provides insight into what is substantially a readerly rather than a curatorial phenomenon. Here, then, I turn to analysis of vandalism by type, beginning with the most common types.

Insertion/replacement of text

The most common sort of vandalism encountered in the sample can be described as the insertion or replacement of text. I also discuss "nonsense" as a subset of this category because it also involves the insertion or replacement of text, only in a nonsensical manner. (However, I coded it in a discrete category. Both Viégas et al. and Priedhorsky et al. consider it as an entirely separate category). These sorts of edits can take a

number of forms: some simply drop tangentially related text in the midst of a coherent article without removing any other text on the page, while some involve completely replacing extant text. In either case, the changes can make some sense or none at all, which is why I've included "nonsense" in this broad category. Figure 11, seen below, demonstrates a simple insertion of generally related but completely useless material in the Fortification article:

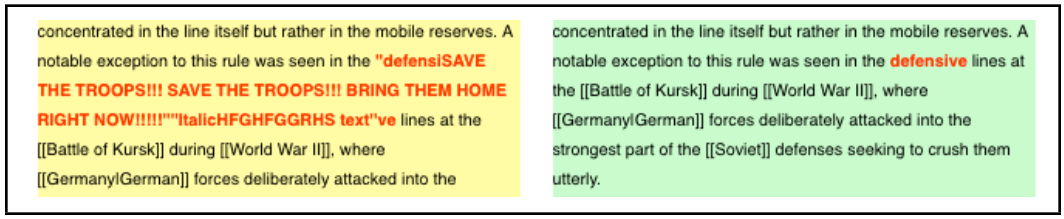


Figure 11: insertion of protest text in the Fortification article.

Here, the vandal has inserted "SAVE THE TROOPS!!!! SAVE THE TROOPS!!! BRING THEM HOME RIGHT NOW!!!!!italicHFGHFGGRHS text've" entirely at random in the page, breaking into the middle of the original word "defensive." The choice of the Fortification page for this act is somewhat sensible in light of the vandalism's content, which protests U.S. military maneuvers in the Middle East. The writer's choice of all-caps and multiple exclamation points presents a similarity to protest chants, since both typographical characteristics are common ways of "yelling" in digital environments. The vandal does not appear to be familiar with basic coding conventions, though, given the scrambled code at the end of the insertion ("italicHFGHFGGRHS text"), which was likely meant to italicize

the text. However, since it bears no resemblance to wiki code, it merely appears as text. This instance of vandalism could be construed as a misguided attempt to direct attention to the war and to participate in a broadly communal protest against it, albeit in an inappropriate forum and in a disruptive fashion.

A similar obvious match between vandalism and subject matter is demonstrated in this example from the Trigonometry page. Here, the original text describing the historical development of trigonometry was deleted and replaced with the declaration that "Trigonometry is the work of terrorists and is frowned upon by our society."

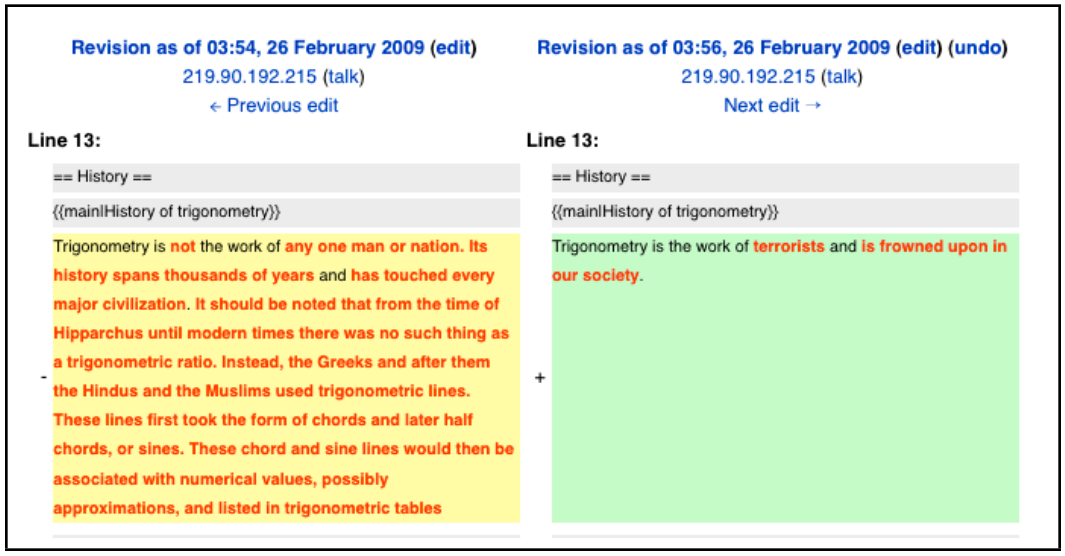


Figure 12: Deletion and replacement of text in the Trigonometry article with misinformation.

This page was not randomly targeted for vandalism. Instead, this performance is likely the work of a disgruntled student facing down a trig

class during an all-nighter, given the edit time of 3:56 a.m. While it could be viewed as a protest of sorts, there is no evidence here that clearly points to that. Instead, this vandalism pointedly replaces helpful (but not vital) information on the page with an expression of dislike of the topic while simultaneously referencing the recent cultural concern (and/or preoccupation) with terrorism.

Instances of nonsense edits frequently demonstrate no malice at all. Frequently, they merely demonstrate a lack of craft or even general awareness, consisting of common QWERTY keystroke sequences like asdfghjkl;. These instances usually involve new editors trying out the interface and seeing how easy it is to instantaneously publish changes, and then forgetting to revert their nonsensical edits. Such behavior also indicates that they are not aware of the project policy that such practice edits should be confined to the Sandbox, a "dedicated page for playing around without altering a real article" (Ayers et al. 137, 2008) (see also Wikipedia:Sandbox).

Other nonsense edits demonstrate readable writing skills and general command of the language, but either do not make sense in themselves or do not make sense within the broader context of the article. This edit to the Garden page does neither:

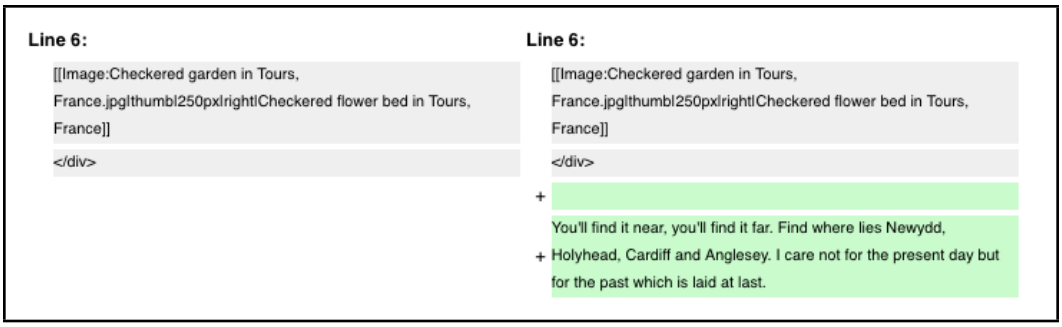


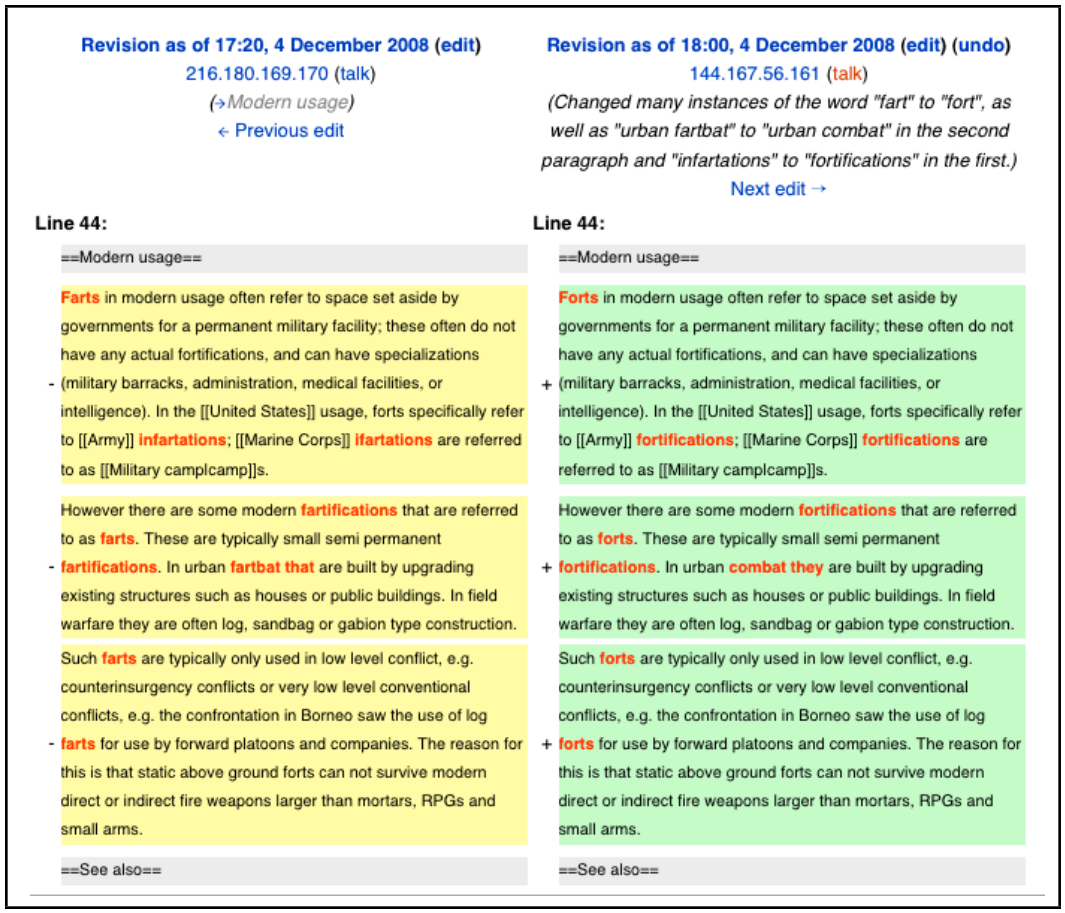
Figure 13: Nonsense edit to the Garden article.

This edit reads, "you'll find it near, you'll find it far. Find where lies Newydd, Holyhead, Cardiff, and Anglesey. I care not for the present day but for the past which is laid at last." This reference to several Welsh towns was inserted below an illustration of a checkered garden in Tours, France. No clear references to gardens are made, and Google searches revealed no hidden literary references. It appears to recognize no communal factors, nor is it evidently effected by the encyclopedic form. No sense of real craft is evident. It is truly perverse, ambiguous, and nonsensical. Yet, this edit (and others like it) do alter the contents of pages, impact the authoritative ethos of the project, and drive additional performance by other editors who must remove it. It is indisputably a performance of agency, and yet does not completely fulfill Campbell's schema.

Offensive Edits

The insertion of offensive material was the second most commonly observed sort of vandalism within the sample, particularly in the Trigonometry and Minerals articles, two topics that are commonly taught in school. This category description is broad, covering a range of offensive texts from juvenile use of body part names to hate speech to common curse words. While the common purpose of these performances appears to be to offend or otherwise act divisively by disrupting the primary goals of *Wikipedia*, the varied nature of the approaches demonstrates subtle differences in demonstrations of agency.

For instance, some of the more juvenile instances of vandalism are relatively harmless, using language that is likely to needle the next viewer rather than truly offend them. In some cases it appears that humor is also implied, however base it might be. An example of this sort of vandalism appeared on the Fortifications article late last year, when many permutations of the word "fort" were changed to "fart." In the following illustration, highlighted words indicate these changes, which were quite frequent within the article:



Revision as of 17:20, 4 December 2008 (edit)
216.180.169.170 (talk)
(→Modern usage)
← Previous edit

Revision as of 18:00, 4 December 2008 (edit) (undo)
144.167.56.161 (talk)
(Changed many instances of the word "fart" to "fort", as well as "urban fartbat" to "urban combat" in the second paragraph and "infartations" to "fortifications" in the first.)
Next edit →

Line 44:

==Modern usage==

\- Farts in modern usage often refer to space set aside by governments for a permanent military facility; these often do not have any actual fortifications, and can have specializations (military barracks, administration, medical facilities, or intelligence). In the [[United States]] usage, forts specifically refer to [[Army]] infartations; [[Marine Corps]] ifartations are referred to as [[Military camplcamp]]s.

\+ Forts in modern usage often refer to space set aside by governments for a permanent military facility; these often do not have any actual fortifications, and can have specializations (military barracks, administration, medical facilities, or intelligence). In the [[United States]] usage, forts specifically refer to [[Army]] fortifications; [[Marine Corps]] fortifications are referred to as [[Military camplcamp]]s.

\- However there are some modern fartifications that are referred to as farts. These are typically small semi permanent fartifications. In urban fartbat that are built by upgrading existing structures such as houses or public buildings. In field warfare they are often log, sandbag or gabion type construction.

\+ However there are some modern fortifications that are referred to as forts. These are typically small semi permanent fortifications. In urban combat they are built by upgrading existing structures such as houses or public buildings. In field warfare they are often log, sandbag or gabion type construction.

\- Such farts are typically only used in low level conflict, e.g. counterinsurgency conflicts or very low level conventional conflicts, e.g. the confrontation in Borneo saw the use of log farts for use by forward platoons and companies. The reason for this is that static above ground forts can not survive modern direct or indirect fire weapons larger than mortars, RPGs and small arms.

\+ Such forts are typically only used in low level conflict, e.g. counterinsurgency conflicts or very low level conventional conflicts, e.g. the confrontation in Borneo saw the use of log forts for use by forward platoons and companies. The reason for this is that static above ground forts can not survive modern direct or indirect fire weapons larger than mortars, RPGs and small arms.

==See also==

Figure 14: instances of juvenile vandalism in the Fortification article.

These changes were manually reversed 40 minutes later by another anonymous user who left a note detailing their actions. Interestingly, they took care to note especially humorous permutations: "Changed many instances of the word "fart" to "fort," as well as "urban fartbat" to "urban combat" in the second paragraph and "infartations" to "fortifications" in the first." This sort of vandalism, while perverse, is not malicious. It appeals to readers' bawdy sense of humor -- and, judging by the editor's response as they cleaned the text up, does so relatively successfully.

Similar edits commonly refer to bodily functions or sexual acts. I noted a variety of references to feces, as well as a seemingly widespread preference for mentions of male genitalia. These edits were generally random and involved single words or short phrases. The Gardens article also sustained a recurrent pattern of references to gardens as a preferable venue for consensual sex. While this common edit may or may not be factual, it does violate communally agreed-upon content standards.

Other instances of vandalism involved self-posturing. This was particularly true among the articles that were vandalized by secondary students, who may have been all simultaneously reading each other's edits as a clandestine face-to-face group activity. In the example below, "Em" writes, """Bold text"""THIS IS ME. I AM AT SCHOOL. ITS [sic] EM AND I'M A BITCH!!!!!!""Bold text"""""Bold text"""""Bold text"""""Bold Text""""""""""""

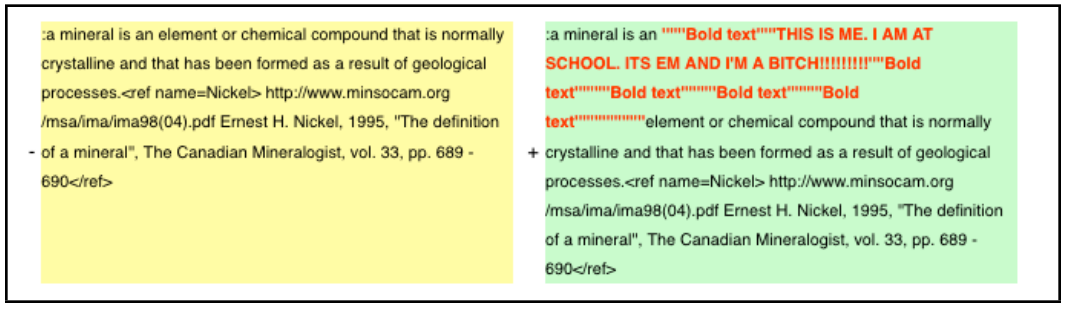


Figure 15: In this instance of vandalism on the Minerals page, "Em" announces her name and boasts of her self-constructed transgressive identity.

Two of her colleagues appear to have performed edits shortly thereafter, adding the simpler statement "I am [X]." Like Em's, their edits are randomly placed within the prior text, splitting apart sentences and

sometimes words. While their edits are consciously meant to disrupt this public text, they are also directed toward each other in a demonstration of subversion and transgression. Em was the only one who referred to herself in this manner, perhaps in an attempt to establish dominance within her face-to-face group. By performing a perverse agency and refusing to acknowledge Wikipedian norms and constraints, she potentially increases her social capital locally.

Other examples of offensive vandalism are not so harmless. While instances of targeted derogatory terms[94] were relatively rare, those that existed frequently involved slurs against GLBT populations: editors were referred to as "faggots" and topics were deemed "gay." Women were also occasionally referenced; in one instance, a "yo momma" joke was made about the editor's mother. Derogatory speech is particularly harmful for two reasons. First, it is meant to offend, exclude, and drive away targeted audiences by fundamentally and hurtfully altering their experience of the text. It also simultaneously damages the reputation of *Wikipedia*, as Priedhorsky et al. note. Such speech dramatically alters the encyclopedic ethos, driving away readers who prefer a less adversarial experience (much in the way that so many users have been driven from UseNet over the

94 This might also be labeled "hate speech," but since no threats were implied I've chosen to simply refer to it as derogatory instead. Additionally, the anonymous nature of these communication removes some of the usual context that typically transforms these terms into hate speech. Namecalling an unidentified editor is different from targeting a victim whose identify matches those names (for example, carving a swastika into a Jewish student's locker), as one of my committee members has pointed out.

years). These instances of vandalism are destructive on many levels, demonstrating the divisive and malign potential of agency.

Misinformation

Deliberate insertions of misinformation are, as previously mentioned, a frequent concern voiced by media commentators. However, this was one of the rarest forms of vandalism observed in the articles analyzed, comprising only 16 (7%) of the 234 instances of vandalism counted within the sample. Priedhorsky et al. found a significantly higher recurrence in their study (which is far more statistically significant): 20%. Since the insertion of misinformation is the most targeted form of vandalism that could be directed at an encyclopedia, it makes sense that it would occur quite frequently. This performance of agency is specifically shaped by form and fully malign, with no other intent than to cause disruption.

As I previously noted, the most insidious sort of vandalism is the small information change: altering 52% to 54%, for example, or subtly changing sentence meanings. I coded these instances based on the criterion that the changes were reverted and marked as vandalism; as a non-expert in the article topics, I rarely had a valid way of readily identifying the changes as pure vandalism. (Many readers would also face this same problem.)

Another technique for inserting misinformation in the text is to make phony announcements about *Wikipedia* itself, as this instance from the Gardens article demonstrates:

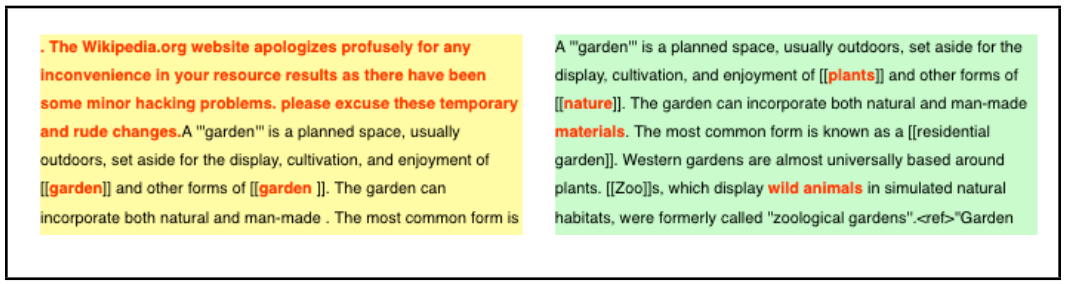


Figure 16: False system announcements on the Garden article.

The article introduction was changed to include the announcement that "The Wikipedia.org website apologizes profusely for any inconvenience to your resource results as there have been some minor hacking problems. please excuse these temporary and rude changes. [sic]" The somewhat awkward syntax in this 'announcement' is a giveaway, much in the same way that poorly-written spam or phishing attempts reveal themselves, as does its inclusion in the central article text. Formal announcements by *Wikipedia* are never distributed this way (and I have never seen this sort of system announcement validly distributed during my four years of researching this site). Rather, announcements such as the annual fundraising appeal appear at the very top of the page, above the article title, and are separated from the article by being enclosed within a text box. *Wikipedia* announcements never properly refer to the project as "The Wikipedia.org website," nor would an article be called "resource results."

In Campbell's terms, this instance of vandalism lacks sufficient artistry or craft to pass for what it intends to represent.

Other instances of misinformation were more obvious, as demonstrated by these examples from the Falconry page:

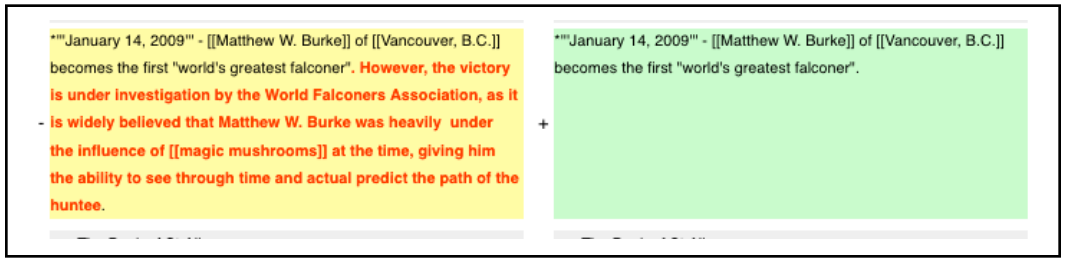


Figure 17: The events timeline on the Falconry page is altered to cast aspersion on Matthew W. Burke's designation as "world's greatest falconer."

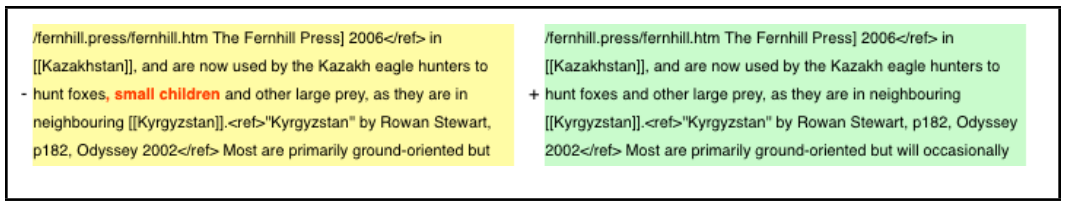


Figure 18: The Falconry text is changed to claim that Kazakh eagles are used to hunt small children as well as other prey.

In the first instance, text was inserted to augment a line in the events timeline. Matthew W. Burke's designation as "world's greatest falconer" by the World Falconers Association was "under investigation…as it is widely believed that Matthew W. Burke was heavily under the influence of magic mushrooms at the time, giving him the ability to see through time and actual [sic] predict the path of the huntee." This edit was quickly removed as nonfactual with the terse note, "He could not see through

time." In another instance of inserting somewhat humorous misinformation, the paragraph on Kazakh eagles was changed to indicate that they not only are used to hunt foxes and other large prey, but also small children. These edits appeal to humor in the same way that the first example of vandalism in the Fortification article did, but add the potential of deception.

Significant deletions

Instances of significant deletions -- that is, deletions involving all or most of the article text -- were the rarest sort of vandalism within my sample, totaling only 16 instances. This is consistent with Priedhorsky et al.'s findings as well. These edits damage only page presentation, not content, and are fully reversed with one click of the "undo" button. In each instance, no discussion took place.

Conclusion

The encyclopedic readers who participate in these sampled texts demonstrate extensive agency and frequently actively contribute to the text in ways that are both constructive and divisive, private and public. As others have noted, the similar (although entirely equivalent) network of cross-references and hyperlinks that are common features of encyclopedias enables readers to privately "write" their personal

experiences of the encyclopedia through a nonlinear reading based on their own interests. These experiences are quite individual, much in the same ways that planning a trip route is individual.

The reader's demonstration of agency in writing their private experience of the text does not materially effect the text; indeed, outsiders rarely know the specifics of this performance. However, readers do overtly demonstrate agency through direct contributions, both generative and detrimental. The reading public has historically contributed written articles to encyclopedias in mediated ways, and now it makes writerly contributions directly to *Wikipedia* thanks to the affordances of the wiki interface. In fact, their contributions have been remarkable in size and scope, driving the project's astronomical growth over the past eight years. Readers also sometimes perform agency perversely through acts of vandalism, which are facilitated to some extent by the low interface barrier of wikis.

In each of these instances, the readers' actions are communal and participatory, and typically function within or push against material and symbolic constraints that are socially negotiated. They function as points of articulation for paths through a text, for articles, and for acts of vandalism. The encyclopedic form shapes their performances: by providing a series of textual links that can be arranged to form a path; by dictating the nature and tone of acceptable contributions; and by

providing an authoritative, informative ethos that some forms of vandalism (such as misinformation) push specifically against. This last category of readerly agency is perverse and ambiguous, sometimes working divisively against community constraints, sometimes introducing humor, and sometimes making no sense at all.

However, not all of these performances "emerge in artistry or craft," an element that Campbell describes as a basic component of agency (7). Skilled researchers do demonstrate craft in constructing their path through an encyclopedia, but an unskilled researcher can also find their way along, albeit in a far less efficient manner. Craft is likely evident in readers' generative contributions to articles, and is also evident in the humor of some forms of vandalism as well as in skilled instances of inserting misinformation. However, other forms of vandalism demonstrate little craft at all, instead simply dumping curse words or nonsensical references into the middle of a text with the goal of offense and disruption. Little art or craft is performed while randomly inserting the word "poopnose" twice in the midst of a paragraph on early European uses of falconry, as one reader did (Falconry Vandalism, Jan. 28 2009, 00:45).[95]

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95 Here, I realize that I may not be sufficiently critical of Campbell's schema or the term 'craft,' particularly when either are set against the issues of vandalism and, in the following chapter, robots. A rather significant and large literature explores the various complexities of techné (simply defined here as artistry or craft), and a finer distinction would likely lead to deeper analysis of these issues. A full consideration of thse complications is outside the scope of this dissertation, but I view these other observations as very useful and would like to address them in the future.

Despite this missing element, a full sense of agency does in fact appear to be demonstrated in each case of vandalism. These agents have demonstrated "the capacity to act, that is, to have competence to speak or write in a way that will be recognized or heeded by others in one's community" (Campbell 2005, 3). Their actions are indeed recognized within the community and consequently drive other actions when editors and bots move quickly to reverse these performances. There also exists the possibility of "entry into ongoing cultural conversations," (3) albeit in disruptive, unpleasant ways that almost certainly generate additional conflict.

In the next chapter, I turn to the role of bots as writers within *Wikipedia*, and the bifurcation of agency that they demonstrate. Bots are widely used to counter vandalism as well as perform variety of other automated tasks. They also play a more overt authorial role by automatically composing texts on individual towns, and I focus primarily on this function in my analysis.

Chapter 6: Bot-written Texts

Robots, once firmly categorized in the realm of futuristic narratives and science fiction, are fast becoming part of the mundane fabric of our lives. This is already true for most writers, who frequently encounter simple bots such as viruses, search engines, and spellcheck in the course of their daily activities. *Wikipedia's* community and audience work alongside bots that consist of automated applications, usually built from a simple scripting language, that execute basic actions when triggered by specific input. They function as silent, prolific textual curators. In this chapter, I explore their role in the project, particularly in the creation of *Wikipedia* articles for every town throughout the United States.

Since bots are themselves made things, created by a human writing lines of text, their work within this specific textual situation reveals

instances of the bifurcation of agency rhetorical scholars have lately been discussing. Questions about automated authorship and intellectual property have concerned intellectual property specialists for even longer, since a paper on the subject appeared in the *Journal of the Patent Office Society* in 1969 (Milde). Related articles that have since appeared continue to contend with the inevitable issue of non-sentient agency, which has no legal precedents (Butler 1982, Farr 1989).

Digital Affordances

My third primary research question asks: "What constraints and affordances do technological transformations impose on this author? What other factors are introduced through contemporary technological culture?" The use of robots to accomplish compositional tasks is one of the most marked differences between the technological affordances that impact production in the *Cyclopædia* and *Wikipedia*. In the same way that the edge of a cliff affords the possibility of falling, Wikipedia's digital environment affords the possibility of using automated compositional agents. As an analog text, composition of the Chambers editions was limited to human labor. *Wikipedia* has no such limitations. Within *Wikipedia*, bots compose basic articles, correct typos, and handle a host of other simple duties. The exigencies of information overload and human frailty (short attention spans, error-proneness, slowness) provide impetus

for their presence and labor in this particular textual situation: bots can handle these tasks more quickly, more consistently, and more correctly. While they impact textual production indirectly by freeing up human contributors to concentrate on higher-order concerns, they themselves also directly impact the physical and topical scope of the text.

In the case of the artifacts under consideration here, this is most aptly demonstrated through articles on places. The Chambers editions contain no articles on places, not even London.[96] The time-consuming tedium of gathering such specific information on hundreds of towns, cities, counties, or parishes and then composing individual entries on each one was simply beyond the reach of a writer working by hand. Successful planning and execution of an encyclopedia requires a focus on managing breadth so as to result in a useful product. Focusing compositional energy on minor town data takes both time and energy away from creating articles that a wider spectrum of readers might find useful. Additionally, the practical considerations of codex printing make updating specific, quickly-outdated information such as census numbers a time-consuming and expensive task. In contrast, the affordances of a digital, real-time encyclopedia mean such updates can be made without physical or opportunity cost -- and without much human effort.

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96 It may well be that they were not included because gazetteers fulfilled this purpose. They were a fairly recent introduction at the time: the Oxford English Dictionary reports the word entering the language in 1693.

For these reasons, my comparison of place articles in these two encyclopedias differs from my previous comparison technique. I do not offer a side-by-side comparison of articles in this chapter because the significant aspect from the *Cyclopædia* is *absence*. It was simply not practical for these sort of articles to be generated within a codex textual situation. Conversely, it makes perfect sense to include them in *Wikipedia*, whose technology handily enables composing such articles. It also introduces another layer of questions about the special sort of authorial agency performed by bots.

Sentience, Emotion and Agency

Considering the sort of agency a bot might demonstrate is a peculiar task, given the fact that as a society, we are generally reluctant to formally admit any attribution of agency to non-sentient actors. While this may seem like a problem to confront at some point in the future, we've actually been dealing with everyday questions about agency and non-sentient actors for some time, as well as mundane questions about emotional attachments to them. Latour points out these concerns in his examination of the agency of an object we consider far less sentient:[97] a door opener (Johnson 1988).[98] He demonstrates that a well-installed door-closer not

97 If such a distinction is possible, but being "a little bit sentient" is akin to being "a little bit pregnant." You either are or you're not.

98 Latour writes as "Jim Johnson" for the first six pages of this essay and published the essay under that name in order to demonstrate the distinction between author-in-text and author-in-flesh as well as the prescribed/pre-inscribed reader. See footnote 2 on pg 304 of his essay. I cite this piece under Johnson since that is the way it appears in databases such as JSTOR.

only improves on unreliable human labor by consistently keeping the door shut. Its affordances offer both potential and constraints. It disciplines humans by prescribing the rate of speed at which they must pass through the door in order to avoid a bloody nose (301). It prevents people who are not sufficiently able-bodied -- the very little or the very old, in his description -- from being able to exit without assistance. There is often not a handy way to prop them open, leading to conflict between the door opener and a person carrying packages (302). In all of these instances, the door closer "substitutes for the actions of people and is a delegate that permanently occupies the position of a human; and ... it shapes human action by prescribing back what sort of people should pass through the door [and how they should do it]" (303).

Daily attributions of agency to nonhuman objects are common in everyday life, as Latour also points out: "we are constantly granting mysterious faculties to gremlins inside every conceivable home appliance, not to mention cracks in the concrete of our nuclear plants" (Johnson 303). We constantly talk to our computers and cars, and are not uncommonly convinced that they answer back. Miller and others have also noted that certain humanoid characteristics of expert systems and intelligent agents facilitated easy attribution of agency by the humans they interacted with (Miller 2004, 208).

An expert system is "a computer program that has built into it the knowledge and capability that will allow it to operate at the expert's level" (Feigenbaum & McCorduck 1984). By working from a database of task-specific knowledge, they

> [learn] by adding new information to their databases... provide accounts of their reasoning... and provide reasonable responses even when knowledge is uncertain or incomplete. Whatever their success in achieving these aims, the development and use of expert systems represents a significant willingness to delegate expertise to machines. The expert system acquires the authority and credibility of a human expert and adds the virtues of the machine: speed, consistency, precision, tirelessness. (Miller 2004, 200)

She notes prominent examples such as IBM's DEFT, which diagnosed system failures; XCOM, which helped DEC engineers configure new computers; American Express' Authorizer's Assistant, which handled purchase authorizations over the phone; Westinghouse's Process Diagnostic System, which monitored steam turbine performance; and NL Baroid's MUDMAN, which analyzed oil well-drilling conditions (200-201). Many of these were abandoned in the 1990s as their databases became outdated and lower-cost microprocessors became more common (205-206). Intelligent agents, a class of AI programs that interact with their environments, served as replacements. "Examples of such agents include some computer viruses, many Internet search and indexing tools, and new systems for air traffic control, manufacturing control, and financial transaction management" (208). Some intelligent agents

interact conversationally with humans and use animated visual representations (Miller 2004, 208-209). As a result, human users frequently develop personal relationships with them, especially if the agent convincingly simulates true interaction, as with the MUD softbot Julia, who convincingly conversed with other system users.[99]

Three years later, Miller revisited these questions with a closer focus on agency. In this case, she examined agency within the context of automated grading applications for speech and writing courses. Interaction, she writes, is a necessary condition for agency

> because it is what creates the kinetic energy of performance and puts it to rhetorical use. Agency, then, is not only the property of an event, it is the property of a relationship between rhetor and audience. ... We understand agency as an attribution made *by another agent* (emphasis original), that is, by an entity to whom we are willing to attribute agency. It is through this process of mutual attribution that agency does, indeed produce the agent ... (150-51)

Part of our willingness to attribute agency must indeed be simple anthropomorphism. However, we are also accustomed to their actions shaping our lives (as when a computer crashes close to a deadline) and accustomed to resisting the constraints they impose (as when we admonish our students that a crashed hard drive does not warrant an extended deadline). And yet, we are occasionally guilty of adopting this very same stance ourselves, demonstrating the exchange of agency in our

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99 See Foner 1997 and Turkle 1995 for relevant case studies.

interactions with technology. For instance, this quote from a Wikipedian discussing the impact of Rambot[100] reveals an interesting attribution of agency:

> The point is that I wouldn't have bothered to write any of my contributions, and probably many other users wouldn't either, if Rambot hadn't given me a starting point and some organization said User:Meelar. (Lih 2009, 104)

Here, Meelar is agreeing with Ram-man's (Rambot's creator) assessment that providing article stubs for each town increases the chance that users will build them out, since the practice removes the slightly intimidating barrier of starting a new page in *Wikipedia*. Notice that Meelar, who is aware of the process that led to these articles being created, does not attribute their creation to Ram-man. Faced with a choice between attributing authorial agency to a human or a faceless bot with no ingratiating characteristics, he says that Rambot gave him a starting point and imposed organization, thus shaping his own actions.

Another, similar instance of attribution is the Barnstar Award on Rambot's user page, seen below:

100 Rambot is named after its creator, Ram-man (Derek Ramsey). I describe its development in detail later in this chapter.

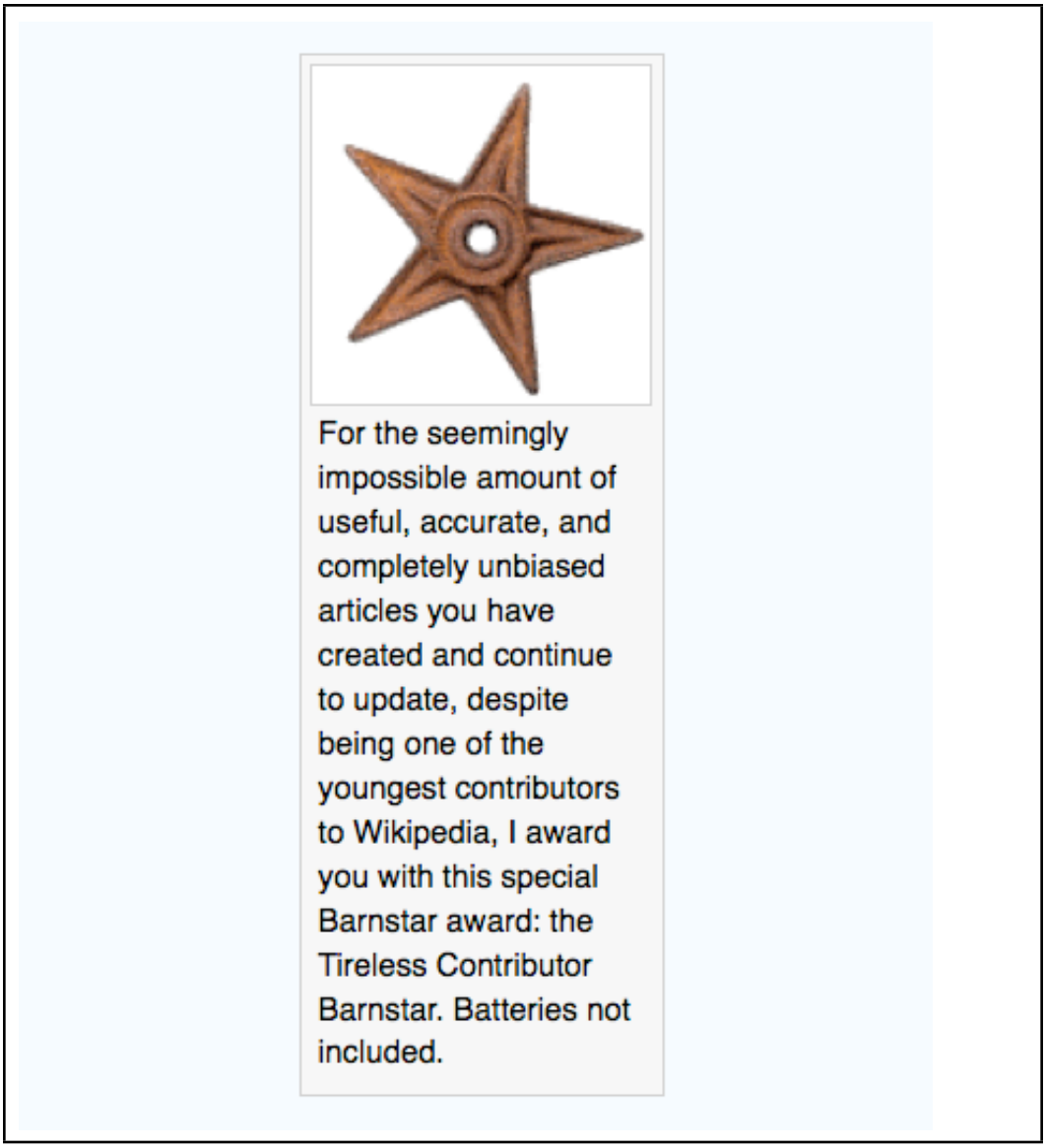

Figure 19: Barnstar Award on Rambot's user page.

Barnstar awards represent community acknowledgment and appreciation of individual Wikipedians who demonstrate outstanding contributions to the project. This particular Barnstar notes Rambot's adherence to community constraints through creating "an impossible amount of useful, accurate, and completely unbiased articles." Note that through its

placement on the bot's user page, it directly celebrates the bot's contributions rather that its creator's; no such award has been presented on Ram-man's user page. Such awards appear to be fairly common on bot user pages. For example, the vandalism-reverting VoABot II's user page is littered with ten awards for its actions: seven Anti-Vandalism Barnstars, two Defender of the Wiki Barnstars, and the WikiChevrons for protecting articles on the main page. Only two additional awards were clearly meant for its creator: a Surreal Barnstar for creating the bot and a Da Vinci Barnstar from a user who clearly addressed the creator by saying, "I am very impressed by your bots and software work." The Bot-Builder award's title indicates it is also meant for the coder, but the language commends both builder and bot:[101]

> On February 27, 2008, VoABot II fought off six repeat vicious vandalism attacks on the Wikipedia entry - Ukraine. The response rate was exceptional, under 1 minute. As a creator of this defending machine, you are bestowed this "Bot Builder Award". Much thanks from the Wikipedia community (http://en.wikipedia.org/wiki/User:VoABot_II")

Each of these instances has to do with *perceived* unified agency rather than *performed* bifurcated agency. Bot and bot-creator are both commended for fighting off vandalism attacks, although one entity performed the craft/work of building the bot, which in turn performed the

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101 At this juncture, we could note that the bot is fulfilling Foucault's description of the Author-Function, and we would not be wrong. However, I find it more productive to explore the prismatic ways that agency subdivides itself in this particular textual situation.

actual labor of fighting vandalism. Is it possible, then, for a non-sentient actor to perform actual demonstrations of agency that are distinct from our mere projections of agency? Can an aptly-named intelligent agent make the leap from displays of mere intelligence to displays of agency? How does agency split between creator and bot?

Bifurcation

This sort of attribution illustrates the notion of bifurcated agency that rhetorical scholars have been recently discussing. Lundberg & Gunn (2005) discuss this complexity in their contentious response to Geisler's initial summary of the RSA conversations on agency. Our considerations of the topic could benefit, they argue, from recognition that agency and agent are not necessarily entwined concepts. That is, agents do not always automatically possess agency, and sometimes agency may well possess the agent, as in Lundberg & Gunn's example of the ouija board. While their response is thoroughly situated in consideration of the postmodern subject á la Foucault and Lacan, their suggestion is salient for those of us working within other theoretical frameworks. The fact remains that our everyday actions are always constituted and constrained by external factors, and while we are indeed agents, we do not always possess the agency needed to act or even to fulfill our intentions.

One might then object to attributing any authorial agency to bots, pointing out that these particular bot-agents work in the service of agency rather than the other way around. As previously discussed, they are themselves lines of text, and are written into being by human coders and permitted to exist and work purely in service of the task they perform. Their purpose is tweaked according to need: at this writing, Rambot is performing as a spellbot, or automated roving spell-checker. Bots are very much products of their creator's intentionality; indeed, they owe their existence to intention and the fulfillment of it. With that in mind, we might suggest that rhetorical agency lies in the creator of the bot and that the bot cannot be considered a discrete agent. However, intention is not the same thing as demonstrated action, as Campbell emphatically points out.[102] It is the bot that demonstrates action in this context, not its creator. The writer of the program is not necessarily the writer of the text that his program eventually creates.

While the bot may indeed be performing the process of composition, it makes very limited decisions that hardly reach the level of complex decision-making behavior exhibited by expert systems like air

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102 This statement hardly sorts out the myriad complexities associated with intention or offers a solution to integrating them with the complexities of agency. However, I adopt Campbell's position and avoid further discussion here for several reasons. First, intention, motive, and/or desire are not always sufficient conditions for demonstrations of agency. External constraints frequently thwart our best intentions for action. Secondly, thorough examination of this area would constitute another sizable project of its own. And finally, a considered examination of the intentions of living, working editors would necessitate interview and/or survey protocols, which are also outside the scope of my current focus on the text.

Michael Hancher's 1972 article, "Three Kinds of Intention," offers an introduction to some of the problems associated with this area of inquiry.

traffic control systems. Rather, they compose articles by inserting census data into a predetermined script. They decide whether or not they will perform a given task, such as reverting a vandalized page, or as to whether or not a particular word is a typo that should be fixed. Then, they decide the most appropriate solution for the problem at hand (for example, a choice between two or more possible word spellings). Although they leave cordial notes that meet human standards of politeness and match human syntax, none of them could hold their own in a brief conversational exchange á la Julia, much less pass a Turing test. Community conventions dictate that the term "bot" be incorporated into their name, thus avoiding the application of humanoid naming conventions. In short, they have few ingratiating features that would encourage us to attribute agency in the way Miller's examples illustrate.

But the fact remains that these bots do in fact perceive their environment and initiate action with it. They also clearly do affect change both within the texts and sometimes within the broader scope of the project, as when *Wikipedia* rather suddenly expanded exponentially to cover thousands of towns. When we look at an article, it is not immediately apparent which text was written by humans and which was written by bots. Which sort of writer contributed which text can only be discerned by careful reading of the page history. These bots are in fact

intelligent agents, in however basic a way, and they demand that we reconsider commonplaces about agency, bifurcation, and authorship.

As I begin my analysis, then, I start from the proposition that there are two agents to consider: the bot, whose agency is disputed, and its human creator's, whose agency is not. I focus my analysis on bots and whether or not they meet each of Campbell's five elements of agency, and then return to the human's role in relation to the bot.

Bot-driven Tasks in *Wikipedia*

Perhaps the most well-known of the *Wikipedia* bots is RamBot, named after its creator, Wikipedian Derek Ramsey, who created it in 2002 as an out-of-work computer science graduate from RIT[103]. He noticed the dearth of articles on towns and cities, and surmised that most of the information to build out these texts could be found on the Census Bureau's website. He also noticed that many casual editors were reluctant to create a brand-new article page, and hypothesized that creating a series of basic article stubs would encourage them to start contributing to articles on places. He inserted the first 3,000 county articles by hand, and then set to the daunting task of creating 33,932 city articles. Inspired by other bots were already handling small tasks within the system, he wrote his own script to handle the entry creation. During the week of Oct. 19-25, 2002,

103 A complete account of Rambot's development can be found in Lih 2009, 88-106. My summary is drawn from this extended passage.

Rambot completed all of the city articles. As Lih notes, that week saw the first mass article creation in *Wikipedia* history, which extended the then-50,000 article project by 60% (2009, 102). However, the community reception of this development was mixed:

> Others viewed his work as an abomination--an unintelligent automaton systematically spewing rote text, fouling the collection of articles. *Wikipedia* was supposed to be a project started by humans and controlled by humans. Was an article where every other word was a number or a statistic a well-crafted start or a data dump? (Lih 2009, 103)

Eventually, the inclusionist argument won out, and the entries have stayed intact ever since. The incident also inspired policy discussion about identity, since Ram-man originally ran the bot under his own user ID. (The traces of this meshed identity can be seen Figure 23.) As a result, it was impossible to differentiate his own edits from those made by Rambot. A new policy emerged that mandated separate user names and pages for bots, and the *Wikipedia* policy on bots continues to make a strict distinction between the human user who creates a bot and the bot itself. Bots are required to have their own names and user pages (hence, RamMan's bot's user name is RamBot). Their scripts must be able to leave notes and comments akin to the ones human users leave when making an edit; that is, an automatically logged signature and a cordial description of the changes made.[104] Consequently, this composer's identity is both

104 Cordiality is a basic requirement for bot approval. For example, ClueBot, which reverts vandalism, leaves this basic message script: "Reverting possible vandalism by [insert name/IP address] to version by [insert name/IP address]. False positive? Report it. Thanks, Cluebot."

constituted and constrained by the community. Its identity as constituted as a separate, discrete entity on its own user page, which itself meets community conventions for acceptable presentation of identity.

Bot-driven tasks

Since its initial contribution, Rambot has been updated with functionality to improve existing entries with some intelligence (User:Rambot). Plans are underway for the Rambot Translation Project, which will translate all Rambot articles into other languages for inclusion in other language-based *Wikipedia* editions (User:Rambot/translation). As of this writing, 912 bots work on Wikipedia ("category:Wikipedia bots by name"), performing an astonishing variety of tasks within the system. Some monitor and identify human identity. The now-retired HaggermanBot added {{Unsigned}} and {{UnsignedIP}} tags to unsigned edits. SineBot now performs these same tasks, but also adds signatures when they can be traced, tracks recurrent violators through their IP addresses, and places a warning on their User Talk pages if the problem persists. It also "reports vandalism and suspected personal attacks to anti-vandalism IRC channels" (User:SineBot). According to its user page, SineBot has made more than 600,000 "contributions" to the system as of this writing. SpellBot, another prominent bot in the project, corrects common typos with the aid of humans who approve its edits. An army of

other bots manage interwiki links, tags, and redirects as well as perform general maintenance tasks such as resetting sandboxes. Still others monitor the Recent Changes stream, reverting pages that have been vandalized (Wikipedia:Bots). These particular bots search for anonymous edits, which are statistically more likely to be vandalism, as well as words from a list of common sophomoric terms (i.e. 'poop'). Lih estimates that bots have "helped tremendously by catching well over 50 percent of the obvious vandalism" (2009, 177). And finally, bots act as archivists, handling automated archiving for heavy-use pages such as the Help Desk (Broughton 2008, 161). These compositional tasks were formerly the exclusive domain of humans, who were expected to use their critical judgment and authorial agency to responsibly attend to these duties.

Because of the unique agency bots demonstrate, they are quarantined, tracked, and approved by the Bot Approval Group. As the Bot Guidelines note, "because bots are potentially capable of editing far faster than humans can, have a lower level of scrutiny on each edit than a human editor, may cause severe disruption if they malfunction or are misused, and are held to a high standard by the community, high standards are expected before a bot is approved for use on designated tasks" (Wikipedia:Bots). An unsupervised bot can wreak havoc in the text and leach necessary resources from the infrastructure. In order to prevent these blunders, strict rules govern their editing speed. A bot performing

high-priority tasks is permitted to edit once every four seconds; lower-priority task bots may edit every ten seconds. Lower speeds are required during typically high-use periods: Wednesdays, Thursdays, and between 1200 and 0400 UTC on any given day. Wikipedian bots may be trusted to perform basic tasks, but they are not deemed so trustworthy as to not require an Emergency Robot Shut-Off Button on their individual user pages.

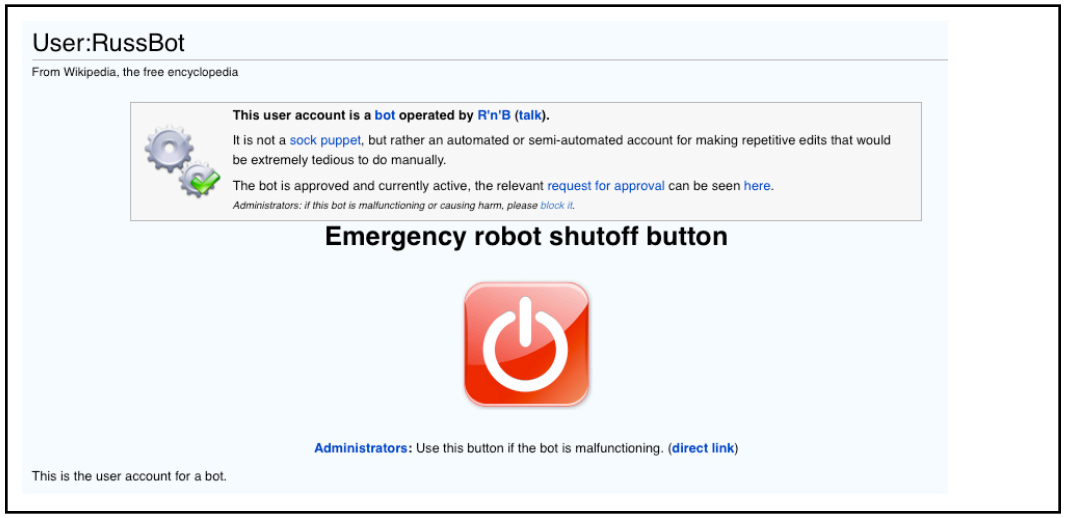

Figure 20: Emergency robot shutoff button for RussBot.

These special requirements demonstrate Campbell's last proposition: that agency is "perverse, protean, ambiguous, open to reversal" (2). The performance of agency has the potential to move a project both forwards and backwards. The bots performance of agency during a malfunction is not equivalent to the large-scale oppression Campbell mentions, but it is harmful to community morale, its creator's social capital, and the

condition of the entries impacted. A bot suddenly run amok hobbles the entire system as it leaches server power, frustrating editors, slowing archival processes to a crawl, and eating memory. Bots' unique agency can also be used for purposefully malicious tasks such as spreading spam on targeted entries or committing more malevolent acts of vandalism.

Bots at Work

Darwin, Minnesota is a fairly typical small town on the Great Plains. It features a main street, a grain elevator, and some well-worn bars. It's notable only for being home to the Biggest Ball of Twine Wound By One Man. The twine ball, wound over the course of 29 years by one Francis A. Johnson, is now housed in the Darwin Twine Ball Museum (www.darwintwineballmuseum.com). The museum receives a slow but steady trickle of visitors, some of whom still come because of Weird Al Yankovic's 1989 song "The Biggest Ball of Twine in Minnesota." I checked the *Wikipedia* article on Darwin soon after my own visit to the Twine Ball Museum, and was surprised to see that it carries no information whatsoever about it.[105] Instead, I found an article written primarily by bots, as is typical of many entries on small towns.

The specific rhetorical situation of the small-town *Wikipedia* article affords text written primarily by bots, since these articles tend to attract so

105 The song, however, does have its very own article. See http://en.wikipedia.org/wiki/The_Biggest_Ball_of_Twine_in_Minnesota

little human attention. This heavy ratio of bot-generated text isn't necessarily true of all town entries. For instance, the article on Syracuse, NY, has followed a very different trajectory from its creation. As a far more populated town, its article saw immediate human involvement as well as continuous human-driven additions and improvements. The article was eventually nominated for Featured Article status, but failed. ("Talk:Syracuse, New York"). As a result of this heavy human editing, only seven of the 200 edits I analyzed in that entry were bot-generated. However, the questions I ask in this chapter do not revolve around the central features or compositional life of a town or city article, but rather around the special technological affordance of using of bots to write such articles and the sort of agency they demonstrate. Therefore, I focus primarily on the Darwin, MN, article because it is typical of many articles for small U.S. towns that rarely capture the public's attention or imagination and consequently see little human editing. In my analysis, I apply Campbell's schema in order to determine whether bots fulfill each of its requirements. Deploying the schema this way puts it to a different test than did my analysis in the previous chapter; while it certainly functions as a description of agency's aspects, one wonders if it might also successfully function as a multi-factor test of agency when applied to an actor that represents the zero-level of agency.

Darwin, Minnesota

From Wikipedia, the free encyclopedia
(Redirected from Darwin, MN)

Coordinates: 45°05′47″N 94°24′39″W

Darwin is a city in Meeker County, Minnesota, United States. The population was 276 at the 2000 census. It is known primarily for purportedly having the world's biggest ball of twine, which is located across from the public park on Main Street in the center of town.

Geography [edit]

According to the United States Census Bureau, the city has a total area of 0.8 square miles (2.1 km²), of which, 0.8 square miles (1.9 km²) of it is land and 0.1 square miles (0.2 km²) of it (9.64%) is water.

U.S. Route 12 serves as a main route in the community.

Demographics [edit]

As of the census[1] of 2000, there were 276 people, 119 households, and 79 families residing in the city. The population density was 368.7 people per square mile (142.1/km²). There were 130 housing units at an average density of 173.6/sq mi (66.9/km²). The racial makeup of the city was 92.03% White, 0.72% African American, 5.80% from other races, and 1.45% from two or more races. Hispanic or Latino of any race were 5.07% of the population.

There were 119 households out of which 31.1% had children under the age of 18 living with them, 54.6% were married couples living together, 9.2% had a female householder with no husband present, and 33.6% were non-families. 29.4% of all households were made up of individuals and 14.3% had someone living alone who was 65 years of age or older. The average household size was 2.32 and the average family size was 2.84.

In the city the population was spread out with 27.2% under the age of 18, 6.9% from 18 to 24, 25.0% from 25 to 44, 25.0% from 45 to 64, and 15.9% who were 65 years of age or older. The median age was 38 years. For every 100 females there were 97.1 males. For every 100 females age 18 and over, there were 97.1 males.

The median income for a household in the city was $34,286, and the median income for a family was $37,321. Males had a median income of $31,000 versus $22,500 for females. The per capita income for the city was $16,813. About 6.0% of families and 10.2% of the population were below the poverty line, including 17.1% of those under the age of eighteen and 8.5% of those sixty five or over.

References [edit]

1. ^ a b "American FactFinder". United States Census Bureau. Retrieved on 2008-01-31.
2. ^ "US Board on Geographic Names". United States Geological Survey. 2007-10-25. Retrieved on 2008-01-31.

Darwin, Minnesota

Location of Darwin, Minnesota
Coordinates: 45°5′46″N 94°24′20″W

Country	United States
State	Minnesota
County	Meeker
Area	
- Total	0.8 sq mi (2.1 km²)
- Land	0.7 sq mi (1.9 km²)
- Water	0.1 sq mi (0.2 km²)
Elevation	1,129 ft (344 m)
Population (2000)	
- Total	276
- Density	368.7/sq mi (142.3/km²)
Time zone	Central (CST) (UTC-6)
- Summer (DST)	CDT (UTC-5)
ZIP code	55324
Area code(s)	320
FIPS code	27-14842[1]
GNIS feature ID	0642644[2]

Figure 21: Primary text of Wikipedia article on Darwin, MN.

As seen in Figure 21, the Darwin article is brief and basic. It contains only essential statistics on the town's location, population, geography, and demographics. We learn that the city has a total area of less than one square mile and that Darwin's 276 residents use U.S. Route 12 as the main route. In the 2000 census, the median household income was $34,286, and 10% of the population lived below the poverty line. But we learn nothing of Darwin's primary industry, of its celebrations, or even of the Twine Ball -- nothing that can't be found in census stats or other government data, because human editors have not added this sort of information. Regardless, this article is inarguably a coherent text that has

been created within a prescribed textual and rhetorical situation. The composer of this article is participating in a larger community and structure, and has produced an article that is meant to invite reciprocal participation from that community - hence, satisfying Campbell's criterion of "communal and participatory." It meets the community's article conventions of including a descriptive title, the standard project byline, and an introductory overview followed by subsections and a list of references. A map and at-a-glance subject stats are listed on the right-hand sidebar, as they are for all town entries. The tone of the text, while dry, is unbiased and straightforwardly informative, meeting the community's symbolic constraints of neutral-point-of-view and no-original-research.

The Discussion page shows that there have been no backchannel discussions about the content of the Darwin article:

Figure 22: Discussion page for Darwin, Minnesota article.

On Oct. 30, 2007, an anonymous visitor inquired as to the origins of the town name, but no reply has been offered. The article has been flagged as being "within the scope of WikiProject Minnesota, a collaborative effort to improve the coverage of articles related to Minnesota on Wikipedia." Visitors are invited to contribute to this curatorial project. The article has not been rated on either the quality or importance scales, and visitors are likewise invited to participate in these minor curatorial tasks. So far, this appears to be a sleepy little entry. But over on the History pages, we find a surprising amount of activity.

Figure 23: The full edit history of the Darwin, MN article, showing 35 edits. Changes made by bots are highlighted.

The initial article creation is credited to Ram-Man, but that edit was actually made by Rambot, since the bot was still running under the human user's name at that point. Through attention to edit history details, it becomes evident that not just one but five other edits involve bot-written article creation in other *Wikipedia* language-based projects. The following

bot-driven translations of the original Darwin articles were created and published over the course of just over one year:

15:30, 27 June 2007: Volapuk

20:18, 15 September 2007: Nederlander

06:38, 13 October 2007: Portuguese

01:28, 18 February 2008: Lombard

20:04, 22 August 2008: Haitian

The individual article history of the English-language article on Darwin, MN, then, shows a total of six articles on the town that have been generated by bots in one way or another. The English text itself has been largely bot-written from its inception: the initial article consisted of 358 words and as of this writing, the article stands at 405 words. In other words, 88% of the article text has been in place since the first draft. Judging merely by sheer textual bulk, we might conclude that this article has been effectively created by bots. However, a closer look at the edit types tells us more about the specific sort of work that has happened here.

The article has been edited 35 times during its 6.5 years if existence, and 21 of those edits -- 60% of the total -- have been performed by bots. In the following table, I analyze the edit types demonstrated in this article, noting which were performed by humans and which by bots.

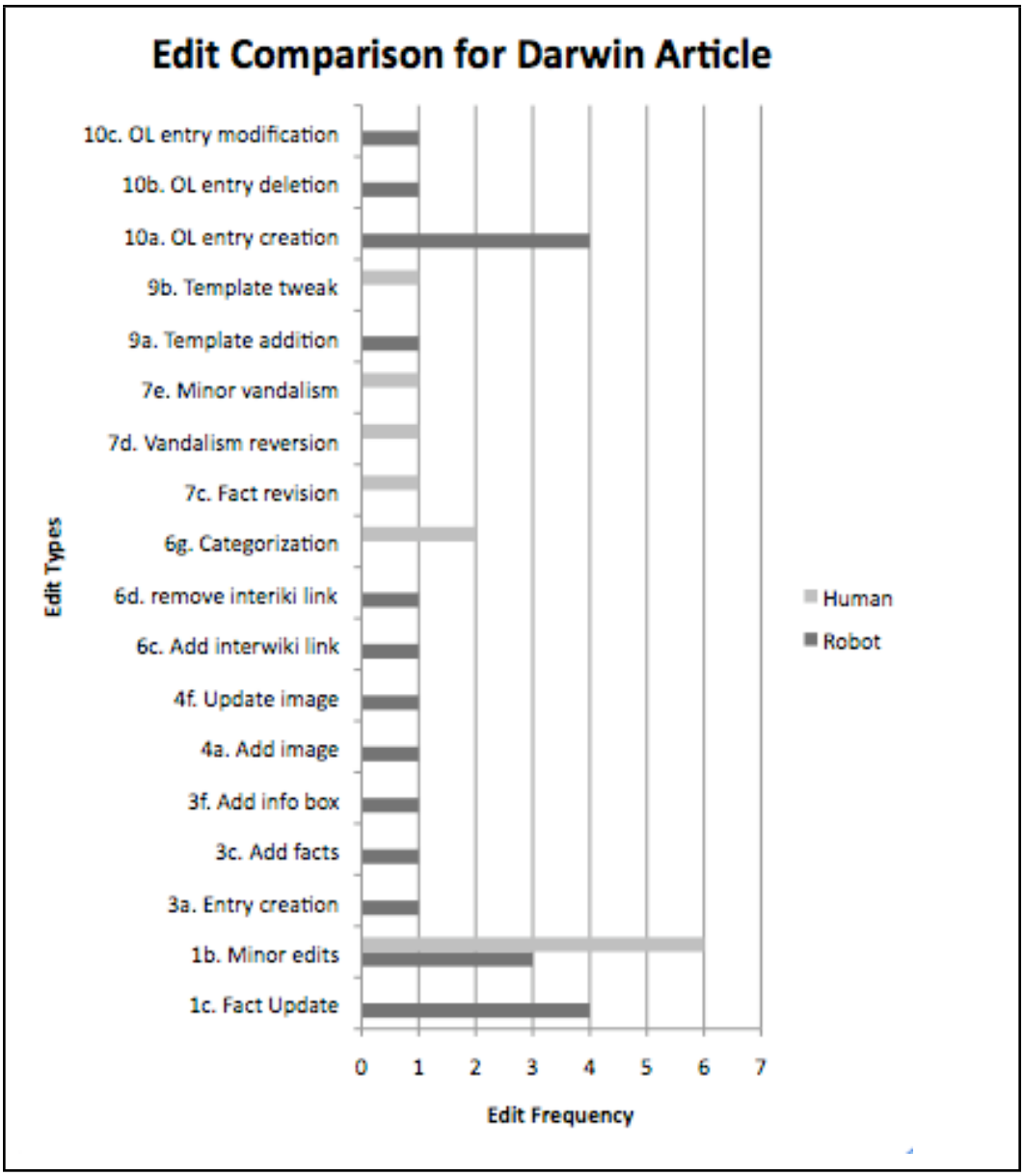

Figure 24: Edit types in the Darwin, MN Wikipedia article

Bots and humans rarely perform the same edits in this article, with the exception of minor edits - i.e., word tweaks, grammar cleanup, and the like. Bots handled the majority of tasks associated with building an entry from the ground up: initial creation, translation into other languages,

formatting with templates, adding images, adding information boxes, and both adding and updating facts. Humans categorized the article topic under "Cities in Minnesota" and "Meeker County, Minnesota." They also performed minor edits, template tweaks -- and, interestingly, vandalism.

The four human edits that occurred between Nov. 2, 2006 and Jan. 8, 2007 (12% of the total edits) involve humans vandalizing the entry and then other humans reverting that vandalism. The November instance involved subtle vandalism to facts through changing the racial percentages in the article by one digit. The vandalism occurred at 22:23 and the page was reverted at 22:28, restoring the information.[106] The second instance of vandalism may or may not have been malicious: the Jan. 3, 2007 instance simply involves an editor typing "afdsfasdf asdf," which may merely indicate a user who was exploring the ease of editing a wiki and was unaware that such activities should be confined to the user's sandbox. Such activity would not automatically trigger a ping to the vandalism activity lists, and so this activity was not reverted until five days later. (The proximity to a major holiday may also have to do with the slowness of this reversion.) The agency humans deployed in their edits demonstrates the protean possibilities for its deployment: in these four edits, which comprise 30% of their total activity, they twiddle and squabble without contributing significantly to the piece. They tweak numbers to

106 This quick reversion turnaround confirms prior research on the generally quick repair of vandalism within the system. See Viégas, Wattenburg & Dave, 2004.

disseminate misinformation and then effectively cancel each other out; they type randomly and then leave, never returning to add meaningfully to the page. Although the reversions and the minor edits humans performed did unquestionably contribute to the quality of the article, they never demonstrate the sort of productive text-building that bots do in this article.

For that reason, it appears that bots do function as "points of articulation," thus partially demonstrating Campbell's second element of rhetorical agency. However, they don't fulfill all of the key terms of that element: "agency is *invented* by *authors* who are points of articulation" (emphasis mine). Can we effectively call these admittedly primary and vital text-building tasks "invention"? Can we call these bots "authors"? A closer look at the twelve different bots deployed in the creation of this article provides some clues. The following table presents a listing of them, their duties, their operating mode, and the number of edits performed on this article.

Bot Name	Description	Manual/ Automatic	Edits
Lightbot	Janitorial edits, mainly to units and dates. (Wikipedia:bots/ Requestsforapproval/Lightbot 3)	Automatic	1
The Anomebot2	add standardized machine-readable geodata records	Automatic	2

Bot Name	Description	Manual/ Automatic	Edits
SieBot	resolve and add interwiki links	Primarily automatic, sometimes manually assisted	2
SmackBot	Doppelganger account for User:RichFarmbrough, an administrator	Not indicated	4
Detroiterbot	swaps out deprecated infobox parameter names for updated names, standardizes infoboxes, and in certain situations removes number formats	Automatic (currently shut down)	1
Arkybot	updates the population figures according to the most recent estimates provided by the US Census	Automatic	1
Rei-bot	curation of Portuguese entries	Automatic	2
CapitalBot	updates {{Infobox Settlement}} using information from government databases	Manually-assisted	1
BotMultichill	Makes interwiki links, transfers images to commons, adds commonscat template to categories	Primarily automatic	1
TXiKiBoT	adding and correcting interwiki links from and to English Wikipedia	Automatic	2
Rambot	adding and maintaining US city articles; correcting spelling	Manually assisted	2

Bot Name	Description	Manual/ Automatic	Edits
KevinBot	hard coding instances of the conversion template	Automatic; currently inactive	2

Table 5: Descriptions of bots active on the Darwin, MN, entry. Except where noted, task descriptions are drawn verbatim from the bots' user pages. Relevant citations can be found in the User:[Name] section of the bibliography.

Each of these bots serves as a point of articulation and does work that expands, clarifies, or otherwise improves the article. However, can their actions be described as *invention* in the rhetorical sense? Clearly, when Rambot intiated the article creation, it brought a text into being that did not previously exist. However, the bot never browsed other city entries, realized that Darwin, MN, was missing from the master list, and decided to create an article on that topic. We cannot claim that the bot worked through the gritty cognitive moments of conceiving of a topic, applying its own originality or intellect to the process, and then writing an entry with all the starts, stops, twists, and turns that we associate with the writing process. Rather, the bot ran its script, pulled in the information it was directed to access, and plugged that information into the spaces where it belonged. Other bots came along because this article was in their prescribed path and performed the duties they were directed to pursue.

Composers or Writers?

That's not writing, that's typing.

- Truman Capote[107]

The compositional work these bots do is arguably beyond just typing (and they do get a lot more done than monkeys with typewriters), but at no point in their work on this entry did the bots fulfill Campbell's third criterion: which states that agency "emerges in artistry or craft." As the bots performed the labor of building this article, they worked from algorithms and scripts. They did not make cognitive choices about words based on flow or sound or other poetic implications. Rather, they followed a series of if-then sequences in order to determine if there were typos to be corrected or vandalism to be reverted. They did not design the visual aspects of the page to meet their own aesthetic standards, but instead applied a template and placed illustrations in the prescribed sectors of the page. And in performing these compositional tasks, they did not learn new skills or hone existing ones. Instead, they did what they were built to do and moved on. For these two primary reasons -- their lack of inventional capacity and their lack of artistry -- bots do not demonstrate the sort of agency we associate with a true writer. The bot is not a writer because it

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107 Here, Capote comments on Kerouac's writing process during the composition of *On The Road*, which reportedly involved stream-of-consciousness typing on a roll of paper continuously fed through a typewriter (Clarke 2005, 315.) My thanks to Carolyn Miller for bringing this quote to my attention.

does not perform the same sort of curatorial tasks as other encyclopedic authors; it simply doesn't have the capacity.

But neither does it mean they do not demonstrate a unique, limited form of authorial agency. They are more than mere compilers, and I suggest that the term "composer" better fits the sort of authorial agency they demonstrate. In the case of this entry, bots did all of the heavy lifting of composition and are largely responsible for the existence of the text. They performed as intelligent agents that directly impact both this text and the larger project. Through demonstrations of limited and specific agency, bots have in fact largely composed the entry on Darwin. Humans writers have contributed in smaller ways, although they have also muddied the waters through vandalism and reversion. The bots' work was far more central and constructive, as they built the foundation and put all of the article's building blocks in place. Over time, they've further strengthened it through interwiki connections and updated facts. They are small curators.

The concept of bifurcation I described earlier in this chapter comes into play at this juncture. The bot's human creator is also a curator, and also a very specific sort of writer: a coder. Coding is a craft, one that on its good days demonstrates clear artistry through elegant syntax and work-arounds. The sentient decision making process of figuring out how a bot might best be used within the system, the rhetorical process of seeking

community approval, and the creative process of writing the code that "hatches" the bot all point to a higher level of agency than that demonstrated by the bot, who performs the actual labor and thus drives change within the system. Through examination of these two actors in this textual situation, we can observe a moment where agency cracks in half, so to speak -- where agent and agency are so clearly not inexorably intertwined. In this sense, agency possesses the bot, not the other way around. Additionally, the elements of agency divide somewhat: while both bot and coder simultaneously perform many elements of agency, only one demonstrates craft and/or artistry.

Work-for Hire Doctrine

This bifurcation has been accounted for (or exploited, depending on your view) in contemporary U.S. intellectual property law. As Andrew Wu points out in a 1997 article on computer-generated works, concerns about bots' lack of impetus, or motivating force, are consistent with the reasoning for work for hire doctrine (164). As a non-sentient actor unable to self-motivate, a bot cannot provide the motivating factors for its own work. The 1976 Copyright Act grants authorship rights to the employer for works produced under specific contractual conditions based on the reasoning that the employer is the "motivating factor in producing the work." In exchange for providing impetus, the work environment, and

whatever support is needed, the employer assumes ownership of the resulting work and is considered the legal author. The decision-making agency that the worker demonstrates in the process of actually creating the work is deemed inconsequential in this contractual situation. In much the same way, the work of bots, which is created, motivated and supported by humans, could easily be considered simply work-for-hire, if a bot were even considered hirable. Hiring implies entering into a contract, which implies that both parties possess sufficient agency and sentience to make a binding agreement. The chances of bots being recognized as legal authors are slim indeed.

Conclusion

In this chapter, I have explored agency and non-sentient authors, a topic that has interested legal scholars for more than 40 years and as well as more contemporary rhetorical scholars. Through observation of the ways that agency is attributed to Wikipedian bots and through close reading and rhetorical analysis of the edit history of a small-town article, I have determined that bots do in fact demonstrate real agency, albeit in contrained ways. They perform most of the labor in these articles and indisputably drive change within the larger project, but they neither engage in inventional practices nor practice artistry in their tasks. However, their creators actively perform both of the latter elements,

demonstrating agency's potential for bifurcation. While both creator and bot are curators, I suggest that the specific form of authorial agency they demonstrate means they are best described as *composers*[108] rather than *writers*.

108 In making this assertion, I follow to an extent Logie's essay, "The (re)Birth of the Composer" (2009). I discuss this further in my conclusion.

Chapter 7: Situational Authorship

In this conclusion, I explore some of the implications of understanding authorship as situational and dependent on form. I also discuss my key findings concerning the authorial agency of encyclopedists and the composition process of encyclopedias: textual curation, the active and mutable role of the reader, the bifurcation of agency inherent in robot-written texts, and historical precedents for current textual models.

The originary, solitary, and proprietary nature of the Romantic author has been under reconsideration and reconstruction for some time, but our rehabilitation still often relies on what might be termed "creative" or "artistic" products: poems, novels, essays, music, or oral performances. My study joins other voices advancing the notion that authorship is not a static or unified construct (Moore-Howard 1999; Biagolli & Galison 2002; Logie 2009). Here, I offer the suggestion that technical texts can help us further this line of inquiry: by examining the ways that authorship works

within a narrow genre such as encyclopedias, we can better gauge the accuracy of our larger assumptions about authorship. Understanding authorship as a situational construct that fluctuates depending on rhetor, exigence, and audience has the potential to lead us toward more nuanced considerations of the ways composition happens as well as the implications of owning texts and knowledge.

Encyclopedias offer a particularly useful and unique site for such explorations. The form has remained relatively static over the past 300 years and, as I've mentioned elsewhere, the canonical English-language texts each build on the central text that came before. This long and unbroken textual history includes both codex texts and projects like *Wikipedia* that are born-digital. Throughout all of these texts is a unifying tradition of textual borrowing and broad collaboration, resulting in a product that has rarely included originality among its central goals.

The development of the Internet over the past two decades is frequently used as a dividing line between considerations of "old" authorship that happened primarily in concrete artifacts and "new" digital, networked authorship. It is unassailably true that both the Internet and the Web have changed the ways we do research, write, and teach. Within the well-funded[109] academy, we have broader, quicker access to wide array

109 A term that is certainly open to debate, especially during this year of deep budget cuts. I mean to suggest here that universities -- especially large institutions like the University of Minnesota -- are well-funded in comparison to small high schools or private homes. In spite of our budget woes, we still have access to an amazing and up-to-date array of technologies.

of information, influences, and technologies than ever before. Half of all American homes had broadband access by mid-2007, according to the Pew Internet and Life Project, and the number has almost certainly grown by this writing (Horrigan 2007). Our access to influences and the ways we compose are being altered by our adoption of technologies, and this is a rich area for inquiry. However, I suggest that comparison of authorship within genres rather than material forms can yield useful insights for our ongoing discussions about intellectual property -- particularly if the genres are not born-digital. It's both persuasive and accurate to argue that our current constructs and laws do not account for the brave new digital world. However, one wonders what the impact would be if we also argued that *it was simply never that way at all* in some cases; in other words, that our notions about copyright and concepts of ownership had missed something entirely when we talk about owning communal information. As Chambers wrote,

> Tis vain to pretend anything of property in things of this nature. To offer our thoughts to the public, and yet pretend a right reserved therein to ones' self, if it be not absurd, yet it is sordid. The words we speak, nay, the breath we emit, is not more vague and common than our thoughts, when divulged in print. You may as well prohibit people to use the light that shines in their eyes, because it comes from your candle : e'en clap it in a dark lantern, and let us not be amused and dazzled by it : if we may not be the better for the good things, let us not be the worse for the ill and indifferent ones mixed with them. (Chambers 1738, xxiv)

The act of gathering public knowledge and then locking it away in a costly copyrighted text is, in Chambers' terms, both absurd and sordid. This is particularly true in the case of community-curated texts, which were composed by legions of authors who receive little acknowledgment for their work. *Wikipedia* has assumed this moral stance from the beginning through their use of a GNU license that donates the content to the public domain. The website is one of the most-visited on the Internet, and print copies are distributed in third-world countries. The proprietary *Encarta*'s recent demise is but one example of the ways this publicly-available text is changing the landscape of the encyclopedia industry.

Key Findings

Textual Curation

Those who take on the task of creating a large reference text like an encyclopedia face a unique set of challenges. As a rhetor responding to the exigence of information overload and very specific audience expectations concerning reliability, conciseness, and clarity, the encyclopedist faces strict constraints regarding acceptable textual content. The construction of encyclopedias thus relies on a four-stage curation process that is unique to the demands of the form:

1. collecting past and present texts based on targeted topics
2. assessing and filtering them for quality

3. Recomposing them into a new text.

4. Arranging the collected texts into an accessible whole.

While this process can and does appear in this straightforward, linear fashion, there can also be recursion and skipping between steps, especially after an initial draft or edition is produced. For example, after an article is finished and published, another source may be located, another image found, or new data announced. Those elements may be integrated into the composition without a return to the broad collecting and review described by step 1. This integration may not require a re-arrangement described by step 5 before a new draft is produced. On the other hand, the creation of a later "new and improved" edition may indeed necessitate the performance of all five steps all over again.

By working with the parameters of the form, the curator demonstrates a unique form of writerly agency. Far from the creative conventions of poetry and prose (which encourage writers to compose as originally as possible within the constraints of their chosen form), encyclopedias are pragmatic, factual, and strictly arranged. While the creative writer's claims to originality are culturally accepted and expected, the encyclopedist is instead explicitly expected to be unoriginal. Encyclopedic articles are expected to report factual information gleaned from expert sources, not opinion, interpretation, or original research. However, as Chambers wrote, the encyclopedist can work to improve the

quality of information available, the quality of the writing in articles, or the accessible arrangement of information. And indeed, the authoritative reputation and success of any encyclopedia rests primarily on the successful execution of these skills.

This sort of authorial agency bears some surface similarity to the contemporary concepts of remix and mashup, in which composers appropriate prior materials and create a new product by combining them in unexpected ways. In the process, these materials are transformed into 'new' derivative works, and they frequently offer startling expressions of creativity. Many scholars of composition have embraced these terms and use them as a way to critically consider the ways in which all written work contains untold outside influence, particularly in digital, networked economies. In "The (re)birth of the composer," Logie rightly suggests that the term "composer" offers an effective substitute for uncritical use of the term "author" (2009, 182). "Composer" reflects the contemporary writer's overtly networked range of influences as well as the functional ability to literally re-compose texts from a range of media using common computer applications. When our students offer an argumentative essay in the form of a comic that uses Creative-Commons licensed images, they are composing by marshaling multiple forms of media into a creation of their own making that supports their own points. Even traditional essays are increasingly influenced by the writer's broad range of reading and contact

from the web. Technical writers perform these same actions by coordinating a wide range of texts, some generated by other working groups, some gleaned from outside sources, and some generated in-house.

Composition, when viewed from this angle, relies heavily on the canon of arrangement. The late musician Frank Zappa, who produced not only music but also films, operas, and books, succinctly pointed this out two decades ago:

> If any of my kids ever asked me "What do you do for a living, Dad?" the answer would have to be, "What I do is composition." I just happen to use material other than notes for the pieces. Composition is a process of organization, very much like architecture. As long as you can conceptualize what that organizational process is, you can be a 'composer' in any medium you want.
>
> You can be a 'video composer,' a 'film composer,' a 'choreography composer,' a 'social engineering composer' — whatever. Just give me some stuff, and I'll organize it for you. That's what I do. (1990)[110]

This explicit reliance on arrangement as a defining aspect of the composition process comes very close to what I mean to describe with the term curation, but there are several crucial differences that speak specifically to issues of creating technical communication. The central one is that to say a work has *a composer* still implies that there is a single genius at work, exerting personal agency to produce a semi-originary product. "What I do is composition." "Our students are composers." In

110 Zappa produced mashups himself, setting excerpts from the PMRC hearings to music in the song "Porn Wars."

some genres, such as personal or academic essays, this is a perfectly acceptable descriptor. But in the case of a text created by a broad community or in the case of a text fully reliant on external sources, it doesn't quite fully describe what's afoot in broad texts created by teams or communities.

To say that "a work has a curator" conveys an appropriately heavier emphasis on the specific performance of authorial agency demonstrated in critical assessment, re-composition and arrangement of pre-existing work, moving the emphasis further from individual originality. It also more accurately describes the never-ending work of curating a living text and/or body of knowledge that is in constant flux, much as the work of curating a museum is never complete. A composition, on the other hand, usually reaches a terminal point in it's development,[111] whether it be an essay, a collage, a film, or a symphony. Beethoven's Fifth Symphony remains static on the page as the iconic Beethoven's Fifth -- until it is remixed, anyway. This distinction is important if we are to consider the ways that technical documents such as reference texts are actively developed, particularly in networked environments.

111 Although not in its interpretation. I limit my discussion here solely to generative development.

The Role of the Reader

The encyclopedic reader also demonstrates agency shaped by the form in a number of ways. While all readers possess sufficient agency to direct their own path through a text, the encyclopedic reader is explicitly invited to do so through cross-indexing and hyperlinks. Both of these functions offer myriad paths for a reader to follow depending on their interests and whims. In this way, each reader "writes" their experience of an encyclopedic volume as a nonlinear text.

Readers also write encyclopedias in more literal ways by submitting textual contributions. This practice was common in the eighteenth century, since the practice of selling a weekly or monthly subscription to a text printed in increments allowed the central encyclopedist to solicit and incorporate contributions from the reading public. To an extent, this blurred the line between reader and curator, but a firm distinction still divided them because of the need for a central curator to vet the submissions and perform the labor of integrating acceptable ones into the central text.

The wiki interface offers each reader the potential to alternate roles throughout their experience of the text, moving from reader to writer to editor and back within a single sitting. This technological affordance means that it's now possible for an encyclopedia to be built primarily from public contributions, as *Wikipedia* has been. It also broadens the

potential pool of contributors, since contributions are limited by access, leisure time, and server space rather than the material limitations of the codex production process. It also transforms the development of articles: whereas the codex article must appear in fairly complete form, a wiki article can begin life as a stub with the assumption that other curators will come along and improve it.

These increased opportunities for performance of agency, combined with the low interface barrier of wikis, also lead to perverse demonstrations of agency in the form of vandalism. These performances can be both entirely shaped by the encyclopedic form and entirely random. Instances of inserting intentionally misleading information appear to be directly influenced by the constraints of both form and community, while article deletions and the insertion of random curse words appear to push against symbolic constraints with no direct regard to the encyclopedic form. Some instances of vandalism demonstrate Campbell's required element of artistry or craft through thoughtful transformations of text that sometimes integrate humor; others display no craft whatsoever, and little thought.

Considering the interplay between reader and curator as well as the mutable roles available to readers in wikis can provide additional insights into the role of the audience in the concept of rhetorical situation. Encyclopedic readers are not a primarily passive audience waiting to react

to the rhetor. Rather, they actively direct their experience of the rhetor's creation. When offered the opportunity and appropriate technologies, a subset of them will work to shape the central text, transforming their role from audience to rhetor before returning to reading. Their occasional acts of vandalism demonstrate the ambiguous nature of agency by refusing to recognize or actively working against the symbolic constraints of form and community. But instances of vandalism reveal an audience who is participatory and frequently function as points of articulation.

Technology and Bifurcation

Aside from affordances that invite active audience contributions, one of the most significant technological impacts on encyclopedic authorship is the use of robots to shape the text. Wikipedian readers and editors work alongside bots, which perform a number of writerly tasks such as vandalism reversion, typo correction, and active composition of texts. One of the most striking ways bots have impacted the text is through Rambot's creation of 33,392 articles on every town reported in the U.S. census, performing in one week a vast task that would have taken humans months or years to complete. At the time, this contribution increased the total article count of *Wikipedia* by 60%. Their level of decision-making is limited: these town articles were written by inserting census data into a predetermined textual format. They thus demonstrate their own unique agency: participatory and communal as they work

within the material and symbolic constraints of *Wikipedia*; acting as authors but not as inventors; and performing actions that are fully shaped by the project's form. The craft these demonstrate, however, is that of their creator, who performed the work of invention and "composed" them from lines of code.

This bifurcation of agency demonstrates Campbell's final element of agency: its potential for ambiguity and mutability. Ongoing conversations in the field are currently investigating rhetorical agency and the ways it functions in everyday rhetorical situations. Bot-written texts provide a relatively concrete example of the complicated ways it functions and subdivides, particularly within digital environments.

Historical Precedents

Chambers' descriptions of encyclopedic authorship, combined with his practice of incorporating submissions from readers, demonstrates that this sort of networked authorship did not spring into existence with the advent of the Internet or community-curated texts such as *Wikipedia*. Chambers did not understand himself as a solitary Author, nor did he function as one. Instead, he was deeply situated within a network of not only prior texts, but contemporaneous contributors. He made a point of unabashedly mining this network as widely as he could, given the situated

technologies of his time. He also pioneered the creation of a network within his own codex text through the use of cross-indexing.

This case reminds us that digital technologies frequently have strong historical precedents, as Gitelman, Bolter, and others have previously pointed out. Even a system as digitally dependent and apparently revolutionary as *Wikipedia* did not spring fully formed from the web. Instead, it draws on a long history of community-curated reference texts and the extensive prior development of the encyclopedic form. Additionally, nearly a century of dreaming about networked encyclopedias went into its development, as researchers and writers like H.G. Wells, Vannevar Bush, and Ted Nelson worked to figure out how such a creation might materially function. The technology of wikis has enabled humans to finally build such a text, render it widely available, and invite real-time contributions, but the technology did not directly cause the invention of such a textual beast.

Future Research Directions

My immediate plans involve developing articles on aspects of textual curation and bot-written texts, as well as reshaping the larger project into a book. Toward that end, I've identified several areas that require further investigation.

Theoretical directions

My current thinking is that a primary theoretical element that requires more exploration is what Campbell calls "artistry or craft." This is otherwise known in the rhetorical tradition as techné, of course, and the literature devoted to it is both broad and deep. I've touched on its applications in my analysis chapters, and its pertinence stems from the ways it ebbs and flows in performances of agency. Craft is necessary for successful curation. For an encyclopedic project to succeed, there needs to be a central person or group who fully conceptualizes the parameters of an encyclopedia is, what the standards are, and the myriad factors that facilitate building it. Curators actively monitor the project and its processes, shaping them as necessary. However, it appears that the same sense of craft is not entirely necessary for readership. The reader can enter the text anywhere and stumble around until they find what they need. (Highly skilled researchers do demonstrate craft, but it's not necessary for reading an encyclopedia.) Vandalism requires little craft at all, unless it's meant to be humorous. And finally, craft drives the bifurcation of agency in bot-written texts. Robotic tasks don't require craft, but building and monitoring the robot does. Programmers are agents who, through craft, send another object out as their agent. A more finely-grained understanding of techné would enable me to explore these

differences and determine whether they demonstrate true absence of craft in some instances, or merely different forms of craft.

Additionally, the historical development of cultural understandings of invention requires further attention. Contemporary culture frequently attaches the concept of originality to the inherent meaning of the term, but this has not always been the case: at times, it has also been understood as *discovery*, which connotes a different sort of origination. These shifts pose potential implications for our understanding of both authorship and curation.

Research on Chambers

My analysis of the Chambers texts would benefit considerably from work with primary artifacts rather than my current reliance on consensus of opinion. Towards that end, I plan to spend time next summer working in several London archives. Yeo notes a number of letters found in the British Library, which include the intriguing letters from Chambers' assistants who worked on the 1738 edition. The *Gentleman's Magazine* collection is also housed there. Yeo also makes some brief references to the Royal Society archives, and I hope there is more to be found there, since Chambers was an active member for the last ten years of his life. The National Archives has a copy of Chambers' will; relatedly, I am interested in the government census records because of my curiosity about his wife.

Hopefully, there is also more to be found -- in particular, records pertaining to the public submissions he solicited for the second edition, as well as documentation of his assistants.

Research on Wikipedia

The issues of automated composition continue to fascinate me, both as it occurs in *Wikipedia* and elsewhere. The sample analysis of bot-written texts in *Wikipedia* should be expanded, and the analysis should broaden to include other types of automated composition such as typo correction, translation, and image insertion. In a perhaps separate but related study, I plan to conduct interviews with bot-masters about their perceptions of their bots and the ways they understand the joint composition undertaken with/through them.

An area I've not touched on in this dissertation is the backchannel discourse within *Wikipedia* concerning the intellectual commons and the Creative-Commons movement. There is a growing contingent of Wikipedians who are deeply committed to using only public domain materials in the project. They monitor images and other media files, flagging them for removal or replacement if the licenses don't meet standards. This commitment to open access is shaping the text in ways that bear investigation, as does the current debate on whether to exchange the long-used GNU license for a Creative Commons license. Users have

taken to including supportive banners and position statements on their user pages, and I suspect quite a lot of argument has been devoted to this matter.

Works Cited

Aalmuhammed v. Lee. 202 F.3d 1227. 9th Circuit Court. 2000.

"About Associated Content." (2008). *Associated Content*. Retrieved Aug. 20, 2008 from http://www.associatedcontent.com/company.html.

Aigrain, P. (2004). The individual and the collective in open information communities. *16th BLED Electronic Commerce Conference*. Retrieved 21 July, 2008 from http://opensource.mit.edu/papers/aigrain3.pdf.

Alcidamas. (1995). "On Those Who Write Speeches." In Gagarin, M. & Woodruff, P. (Eds.), *Early Greek Political Thought from Homer to the Sophists*. (pp. 276-283). Cambridge: Cambridge UP.

Aldridge, A.O. (1950). Benjamin Franklin and Jonathan Edwards on lightning and earthquakes. *Isis,* 41.2, 162-164.

Alford, H. (2005). Not a word. *The New Yorker*. Retrieved June 7, 2009 from http://www.newyorker.com/archive/2005/08/29/050829ta_talk_alford

"Allan Smithee." *Internet Movie Database*. Retrieved March 25, 2009 from http://www.imdb.com/name/nm0000647/.

Alt, G. (2005, March 23). Share your knowledge. *Encarta Space*. Retrieved Aug. 16, 2008 from http://encarta.spaces.live.com/?_c11_BlogPart_BlogPart=blogview&_ c=BlogPart&partqs=amonth%3d3%26ayear%3d2005.

Angus Campbell, J. & Clark, R.K. (2005). Revisioning the origin: tracing inventional agency through genetic inquiry. *Technical Communication Quarterly,* 14.3 (Summer), 287-293.

AOIR Ethics Working Committee (2002). Ethical decision-making and Internet research. *Association of Internet Researchers*. Retrieved April 6, 2009 from http://aoir.org/?page_id=54.

Aristotle (1991). *Aristotle on rhetoric: a theory of civic discourse*. G.A. Kennedy (Ed. & Trans.) New York: Oxford UP.

Baker, B., Pelstet, N., & McHugh, W. (1998). Refinding reference: Carrying the reference mission into the libraries of the 21st century. In LaGuardia, C. & Mitchell, B.A. (Eds.), *Finding common ground* (pp. 99-110). New York: Neal-Shuman.

Baker, N. (2008, March 20). The charms of Wikipedia. *The New York Review of Books*. Retrieved Aug. 13, 2008 from http:// www.nybooks.com/articles/21131.

Ballif, M. (1998). Writing the third-sophistic cyborg: Periphrasis on an (in)Tense rhetoric. *Rhetoric Society Quarterly*, Fall 1998 (28.4), 51-67.

Banks, A. (2005). *Race, rhetoric, and technology: Searching for higher ground*. Mahwah, NJ: Lawrence Erlbaum Associates.

Barlow, J.P. (1994). The economy of ideas. *Wired* 2.03. Retrieved July 22, 2008 from http://www.wired.com/wired/archive/2.03/ economy.ideas.html.

Barthes, R. (1977). The death of the Author. In *Image - Music - Text,* Heath, S. (Trans.). (pp. 142-148.) New York: Hill and Wang.

Barton, M. & Cummings, R. (2008). *Wiki writing: Collaborative learning in the composition classroom*. Ann Arbor: University of Michigan Press.

Baumlin, J.S. (2001). Ethos. In Sloane, T. (Ed.), *Encyclopedia of Rhetoric.* (pp. 263-277). Oxford: Oxford UP.

Baym, N. (1997). Interpreting soap operas and creating community: Inside an electronic fan culture. In Kiesler, S. (Ed.), *Culture of the Internet* (pp. 103-120). Mahwah: Lawrence Erlbaum Assoc.

Bazerman, C. (1988). *Shaping written knowledge: the genre and activity of the experimental article in science*. Madison: University of Wisconsin Press.

Bazerman, C. (2002). The case for Writing Studies as a major discipline. In Olson, G.A. (Ed.), *Rhetoric and composition as intellectual work*, (pp. 32 - 38). Carbondale: Southern Illinois UP.

Beaumont, C. (2009). G20: Protesters use Twitter, Facebook and social media tools to organize demonstrations. *Telegraph.co.uk*. Retrieved April 3, 2009 from http://www.telegraph.co.uk/finance/financetopics/g20-summit/5090003/G20-summit-Protesters-use-Twitter-Facebook-and-social-media-tools-to-organise-demonstrations.html.

Behme, Tim. Isocrates on the ethics of authorship. *Rhetoric Review* 23.3 (2004), 142-148.

Bekman, J., Johnson, P., McEvoy, N., Hostetler, D., & Trapani, G. (2009, March 14). Curating the crowdsourced world. Panel session presented at South by Southwest Interactive 2009, Austin, TX.

Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. New Haven: Yale UP.

Benoit, W.L. (2000). *Beyond genre theory: The genesis of rhetorical action*. *Communication Monographs* 67.2.

Berners-Lee, T. (1999). *Weaving the Web: The original design and ultimate destiny of the World Wide Web by its inventor*. San Francisco: HarperSanFrancisco.

"Best Practices: Writing Good Knols." (2008). *Google Knol*. Retrieved Aug. 20, 2008 from http://knol.google.com/k/-/-/uPUoECxfx/sd8yvy#.

Biagoli, M., & Galison, P. (2002). *Scientific authorship: Credit and intellectual property in science*. New York: Routledge.

Biesecker, B.A. (1989, reprinted 1999). Rethinking the rhetorical situation from within the thematic of difference. In Lucaites, J.L., Condit, C.M., & Caudill, S. (Eds.), *Contemporary rhetorical theory: A reader* (pp. 232 - 246) New York: The Guilford Press.

Birkerts, S. (1994.) *The Gutenberg elegies: The fate of reading in an electronic age*. New York: Fawcett Columbine.

Bitzer, L. (1968, reprinted 1999). The rhetorical situation. In Lucaites, J.L., Condit, C.M., & Caudill, S. (Eds.), *Contemporary rhetorical theory: a reader* (pp. 213 - 225). New York: The Guilford Press.

Bitzer, L. (1981). Functional communication: a situational perspective. In White, E.E. (Ed.), Rhetoric in transition. (pp. 21-38). University Park: Pennsylvania State UP.

Blake, E.C. (2003). Zograscopes, virtual reality, and the mapping of polite society in eighteenth-century England. In Gitelman, L. & Pingree, G. (Eds.) *New media 1740-1915* (pp. 1-30.) Cambridge: MIT Press.

Blom, P. (2004a.) *Encyclopédie: The triumph of reason in an unreasonable age*. London: Fourth Estate.

Blom, P. (2004b). *Enlightening the world: Encyclopédie, the book that changed the course of history*. New York: Palgrave.

Boerhaave, H., Shaw, P., & Chambers, E. (1741). *A new method of chemistry*. London: J. Osborn & T. Longman.

Bollier, D. (2002). *Silent theft: the private plunder of our common wealth*. New York: Routledge.

Bolter, J.D. & Grusin, R. (1999). *Remediation: understanding new media*. Cambridge: MIT Press.

boyd, d. (2004). On a vetted Wikipedia: reflexivity and investment in quality (a.k.a. more responses to Clay). In *Many 2 Many*. Retrieved June 14, 2005 from http://www.corante.com/many/archives/2005/01/08/on_a_vetted_wikipedia_reflexivity_and_investment_in_quality_aka_more_responses_to_clay.php.

boyd, d. (2005a). Academia and Wikipedia. In *Many 2 Many*. Retrieved 10 June 2005 from http://www.corante.com/many/archives/2005/01/04/academia_and_ wikipedia.php.

boyd. d. (2005b). Situating Wikipedia. In *Apophenia*. Retrieved 16 June 2005 from http://www.zephoria.org/thoughts/archives/2005/03/06/situating_wikipedia.html.

Boyle, J. (1996). *Shamans, software, and spleens: Law and the construction of the information society*. Cambridge: Harvard UP.

Braddock, J. & Hock, S., Eds. (2001). *Directed by Allen Smithee*. Minneapolis: University of Minnesota Press.

Brooke, C. (2004). Better to be ignored? In *Collin vs. Blog*. Retrieved 6 June, 2005 from http://wrt-brooke.syr.edu/cgbvb/archives/000311.html.

Brooke, C. (2006). Authorship and technology. In Carrick, T.H. & Moore-Howard, R., (Eds.), *Authorship in composition studies*. Boston: Thomson Wadsworth.

Brooke, C. (2009). *Lingua fracta: Toward a rhetoric of new media*. Cresskill, NJ: Hampton Press.

Brown, J.S. & Duguid, P. (2000). *The social life of information*. Boston: Harvard Business School Press.

Bryant, S.L., Forte, A., & Bruckman, A. (2005). Becoming Wikipedian: tranformation of participation in a collaborative online encyclopedia. *Proceedings of the 2005 International ACM SIGGROUP*. New York: ACM.

Buranen, L., & Roy, A.M. (1999). *Perspectives on plagiarism and intellectual property in a postmodern world*. New York: SUNY.

Bush, V. (1945). As we may think. *The Atlantic*. Retrieved July 21, 2008 from http://www.theatlantic.com/doc/194507/bush.

Butler, T. (1982). Can a computer be an author? Copyright aspects of artificial intelligence. *Comm/Ent Law Journal* 4.4, 707-747.

Campbell, K.K. (2005). Agency: promiscuous and protean. *Communciation and Critical/Cultural Studies*, 2.1, 1-19.

Category:Wikipedia bots by name. (2009, Feb 27). In *Wikipedia*. Retrieved April 24, 2009 from http://en.wikipedia.org/wiki/Category:Wikipedia_bots_by_name.

Chambers, E. (1728). *Cyclopædia, or, An universal dictionary of arts and sciences...* London: James and John Knapton.

Chambers, E. (1738). *Cyclopædia, or, An universal dictionary of arts and sciences...* London: Daniel Midwinter.

Ciffolilli, A. (2005). Phantom authority, self-selective recruitment, and retention of members in virtual communities: The case of Wikipedia. *First Monday* 8.12. Retrieved June 24, 2005 from http://firstmonday.org/issues/issue8_12/ciffolilli/.

Citizendium FAQ: The Role of Editors (2008, April 20). In *Citizendium*. Retrieved Aug 15, 2008 from http://en.citizendium.org/wiki/CZ:FAQ#The_role_of_editors.

Clark, G. (2004). Introduction. *Rhetoric Society Quarterly*, Summer 2004 (34.3), 5-7.

Clark, G. (2005). *Capote: A biography*. New York: Da Capo Press.

Cohen, N. (2008). Wikipedia tries approval system to reduce vandalism on pages. *The New York Times*. Retrieved May 23, 2009 from http://bits.blogs.nytimes.com/2008/07/17/wikipedia-tries-approval-system-to-reduce-vandalism-on-pages/.

Cohen, N. (2009a). Wikipedia may restrict public's ability to change entries. *The New York Times*. Retrieved Jan. 25, 2009 from http://bits.blogs.nytimes.com/2009/01/23/wikipedia-may-restrict-publics-ability-to-change-entries/.

Cohen, N. (2009b). Microsoft Encarta dies after a long battle with Wikipedia. *The New York Times*. Retrieved April 6, 2009 from http://bits.blogs.nytimes.com/2009/03/30/microsoft-encarta-dies-after-long-battle-with-wikipedia/?hp.

Colbert, S. (2006). Wikiality. *The Colbert Report*, qtd. in *One Good Move*. Retrieved Nov. 16, 2006 from. http://onegoodmove.org/1gm/1gmarchive/2006/08/wikiality.html.

"The Colbert Report : Wikipedia References." In *Wikipedia*. Retrieved July 22, 2008 from http://en.wikipedia.org/wiki/Wikiality#Wikipedia_references.

Collison, R.L. (1966). *Encyclopedias: their history throughout the ages; a bibliographical guide with extensive historical notes to the general encyclopedias issued throughout the world from 350 B.C. to the present day*. New York: Hafner Publishing Co.

Comenius, J. A. (1887). *Orbis pictus sensualium*. Syracuse, NY: C.W. Bardeen. Reprint, Kessinger Publishing.

"Community Curated Works." (2008, Sept. 1). In *p2pfoundation.com*. Retrieved May 29, 2009 from http://p2pfoundation.net/Community-Curated_Works.

Consigny, S. (1974). Rhetoric and its situations. *Philosophy and Rhetoric*, 7, 172-182.

Cummings, R.E. (2009). *Lazy virtues: teaching writing in the age of Wikipedia*. Nashville: Vanderbilt UP.

Daly, L. W. (1967). *Contributions to the history of alphabetization in Antiquity and the Middle Ages*. Bruxelles: Latomus.
Darby, R. (2003). 'An oblique and slovenly initiation': The circumcision episode in tristram shandy. *Eighteenth-Century Life,* 27.1, 72–84.

Darwin Twine Ball Museum. Retrieved April 17, 2009 from http://www.darwintwineball.com/.

DeVoss, D.N., & Porter, J.E. (2006). Why Napster matters to writing: Filesharing as a new ethic of digital delivery. *Computers and Composition,* 23.2, 178-210.

Dee, J. (2007, July 1). All the news that's fit to print out. *The New York Times Magazine*. Retrieved Aug. 15, 2008 from http://www.nytimes.com/2007/07/01/magazine/01WIKIPEDIA-t.html pagewanted=1&ei=5124&en=9b7c000a66184160&ex=1341115200&partner =permalink&exprod=permalink.

Doctorow, C. (2004). Journalist: Wikipedia is 'outrageous,' 'repugnant,' and 'dangerous'." In *BoingBoing*. Retrieved June 6, 2005 from http://www.boingboing.net/ 2004/08/28/journalist_wikipedia.html.

Donato, C. (1992). *The encyclopedia and the age of revolution*. Farmington Hills, MI: G.K. Hall.

Donnelly, M.C. (1977). Jefferson's observatory design. *The Journal of the Society of Architectural Historians,* 36.1, 33-35.

Eco, U. (1984). Metaphor, dictionary, and encyclopedia. *New Literary History,* 15.2, 255-271.

Eco, U. (2000). *Kant and the Platypus*. New York: Harvest Books.

Eco, U., Magli, P., and Otis, A. (1989). Greimassian semantics and the encyclopedia. *Greimassian Semiotics,* 20.3, 707-721.

Ehlers, L.A. (1981). Mrs. Shandy's 'Lint and Basilicon': The importance of women in 'Tristram Shandy.'" *South Atlantic Review,* 46.1, 61-75.
Eisenstein, E. (1979). *The printing press as an agent of change*. 2 vols. Cambridge: Cambridge UP.

Eisner, C. & Vicinus, M. (2008). *Originality, imitation, and plagiarism: teaching writing in the digital age*. Ann Arbor: University of Michigan Press.

Emigh, W. & Herring, S. (2005). Collaborative authoring on the Web: A genre analysis of online encyclopedias. In *Proceedings of the 38th Hawaii International Conference on System Sciences*. Retrieved July 8, 2005 from http://csdl2.computer.org/comp/proceedings/hicss/2005/2268/04/22680099a.pdf.

"Encyclopedia Britannica and Nature: a response." (2006, March 23). *Nature.com*. Retrieved Aug. 15, 2008 from www.nature.com/press_releases/Britannica_response.pdf.

Erasmus, D. (1964). The handbook of the militant Christian. In Nolan, J.P. (Ed.), *The essential Erasmus*. New York: Penguin Books.

Espinasse, F. (2004). "Ephraim Chambers (1680?-1740), encyclopedist." Rev. Michael Harris. *Oxford Dictionary of National Biography*. Oxford UP. Retrieved July 7, 2007 from http://www.oxforddnb.com.floyd.lib.umn.edu/view/article/5070.

Farr, E.H. (1989). Copyrightability of computer-created works. *Rutgers Computer and Technology Law Journal*, 63, 9-17.

"Fatally flawed: refuting the recent study on encyclopedic accuracy by the journal Nature." (2006, March). *Encyclopedia Britannica, Inc.* Retrieved Nov. 16, 2006 from corporate.britannica.com/britannica_nature_response.pdf.

Febvre, L. & Martin, H. (1976). *The coming of the book*. London: Verso.

Feigenbaum, E.A. & McCorduck, P. (1983). *The fifth intelligence and Japan's computer challenge to the world*. New York: Signet.

Felten, A. (2004). Wikipedia quality check. In *Freedom to tinker*. Retrieved June 7, 2005 from http://www.freedom-to-tinker.com/index.php?p=674.

Fielding, H. (1732). *A Modern Husband*. London: J. Watts.

Fisher, W. (2004). *Promises to keep: technology, law, and the future of entertainment*. Stanford: Stanford UP.

Foner, L. (1997). Entertaining agents: a sociological case study. In *Agents '97 Conference Proceedings*. ACM. Retrieved April 22, 2009 from http://pubs.media.mit.edu/

Foucault, M. (1984). What is an Author? In Rabinow, P. (Ed.), *The Foucault Reader*. (pp. 101-120). New York: Pantheon Books.

Galegher, J., et al. (1998). Legitimacy, authority, and community in electronic support groups. *Written Communication,* 15.4, 493-530.

Geisler, C. (2004). How ought we to understand the concept of rhetorical agency? Report from the ARS. *Rhetoric Society Quarterly*, 34.3, 9-17.

Geisler, C. (2005). Teaching the post-modern rhetor: continuing the conversation on rhetorical agency. *Rhetoric Society Quarterly*, 35.4, 107-113.

Giles, J. (2005). Special report: Internet encyclopedias go head to head. *Nature,* 438. Retrieved July 21, 2008 from http://www.aetherometry.com/Electronic_Publications/Politics_of_Science/Antiwikipedia2/Appendix_1.html.

Gitelman, L. (2006). *Always Already New: Media, History, and the Data of Culture*. Cambridge: MIT Press.

Gitelman, L., & Pingree, G. (Eds.) *New media 1740-1915*. (pp. 113-138.) Cambridge: MIT Press.

Google AdSense. (2008). Retrieved Aug. 20, 2008 from https://www.google.com/adsense/login/en_US/?gsessionid=GSBZstu4qms.

Gordon, D.H. & Torrey, N.L. (1947). *The censoring of Diderot's Encyclopédie and the re-established text*. New York: Columbia UP.

Grant-Davie, K. (1997). Rhetorical situations and their constituents. *Rhetoric Review,* 15.2, 264-279.

Greenberg, B. (1954). Laurence Sterne and Chambers' Cyclopædia. *Modern Language Notes,* 69.8, 560 - 62.

Greene, R.W. (2004). Rhetoric and capitalism: rhetorical agency as communicative labor. *Philosophy and Rhetoric*, 37.3, 188-206.

Gurak, L.J. (1997). *Persuasion and privacy in cyberspace*. New Haven: Yale UP.

Gurak, L.J. (2001). *Cyberliteracy: navigating the Internet with awareness*. New Haven: Yale UP.

Gurak, L.J. (2004). Internet studies in the twenty-first century. *Web.studies*, 2nd ed. London: Arnold.

Gurak, L.J. & Johnson-Eilola, J. (1998). Intellectual property. Special issue of *Computers and Composition,* 15.2.

Halbert, D.J. (1999). *Intellectual property in the information age: the politics of expanding ownership rights*. Westport: Quorum Books.

Hancher, M. (1972). Three kinds of intention. *Comparative Literature*, Dec. 1972, 827-751.

Harter, L.M. (2004). Masculinity(s): the agrarian frontier myth, and cooperative ways of organizing: contradictions and tensions in the experience and enactment of democracy. *Journal of Applied Communication Research*, May 2004, 34.2, 89-118.

Hattersley, G. (2009). Wikipedia bolts its open door. *Times Online*. Retrieved Feb. 15, 2009 from http://technology.timesonline.co.uk/tol/news/tech_and_web/the_web/article5682896.ece.

Havalais, A. (2004). The Isuzu Experiment. In *Alex Havalais, a thaumaturgical compendium*. Retrieved June 6, 2005 from http://alex.halavais.net/news/index.php?p=794.

Havelock, E.A. (1986). *The muse learns to write: reflections on orality and literacy from antiquity to the present*. New Haven: Yale UP.

Heffernan, V. (2008, June 29). The oracle collective. *The New York Times*. Retrieved Aug. 20, 2008 from http://www.nytimes.com/2008/06/29/magazine/29wwln-medium-t.html?_r=1&emc=tnt&tntemail0=y&oref=slogin.

Heilbronner, R.L. (1994). Do machines make history? In Smith, M.R., & Mark, L. (Eds.), *Does technology drive history? The dilemma of technological determinism*. (pp. 37-66.) Cambridge, MA: MIT Press.

Herring, S.C., Kouper, I., Scheidt, L.A., & Wright, E.L. (2004). Women and children last: the discursive construction of weblogs. In Gurak, L., Antonijevic, S., Johnson, L., Ratliff, C., & Reyman, J. (Eds.), *Into the Blogosphere*. Retrieved April 8, 2009 from http://blog.lib.umn.edu/blogosphere/women_and_children.html.

Herrington, T.K. (2001). *Controlling voices: intellectual property, humanistic studies, and the Internet*. Carbondale: Southern Illinois UP.

Hillway, T. (1974). Melville's education in science. *Texas Studies in Literature and Language,* 16, 421-22.

Hiltz, S.R. & Turoff, M. (1978). *The network nation: human communication via computer*. Cambridge, MIT Press.

Hirning, D. (2005a, April 13). Submitting new articles to Encarta. In *Encarta Space*. Retrieved Aug. 16, 2008 from http://encarta.spaces.live.com/?_c11_BlogPart_BlogPart =blogview&_c=BlogPart&partqs=amonth%3d4%26ayear%3d2005

Hirning, D. (2005b, Sept. 28). Is there a doctor in Encarta's house? In *Encarta Space*. Retrieved Aug. 16, 2008 from http://encarta.spaces.live.com/?_c11_BlogPart _BlogPart=blogview&_c=BlogPart&partqs=amonth%3d9%26ayear%3d2005.

Hooper, S. (2009). Protesters, police go online in G-20 battle. *CNN.com*. Retrieved April 3, 2009 from http://www.cnn.com/2009/WORLD/europe/03/26/g20.protests.social.networking/index.html?eref=rss_latest.

Horrigan, J. (2007). Why we don't know enough about broadband in the U.S. *Pew Internet and American Life Project*.

Howard, R.M. (1999). *Standing in the shadow of giants: plagiarists, authors, collaborators*. Stamford: Ablex.

Howard, R.M. & Robillard, A.E. (2008). *Pluralizing plagiarism: identities, contexts, pedagogies*. Portsmouth: Boynton/Cook.

Howe, J. (2008). *Crowdsourcing: why the power of the crowd is driving the future of business*. New York: Crown Business.

Hunsaker, D.M. & Smith, C.R. (1976). The nature of issues: A constructive approach to situational rhetoric. *Western Journal of Speech Communication*, 40, 144-56.

Hunt, K. (1996). Establishing a presence on the World Wide Web: a rhetorical approach. *Technical Communication,* 34.4, 376-387.

Hutcheon, S. (2009). Watch out Wikipedia, here comes Britannica 2.0. *The Sydney Morning Herald*. Retrieved Feb. 19, 2009 from http://www.smh.com.au/news/technology/biztech/battle-to-outgun-wikipedia-and-google/2009/01/22/1232471469973.html.

Hyde, M. (2004). Introduction: rhetorically, we dwell. In Hyde, M. (Ed.), *The ethos of rhetoric* (pp. xiiv-xxviii). Columbia: University of South Carolina Press.

"Important Notice: MSN Encarta to be discontinued." (2009, March 30). *MSN Encarta*. Retrieved April 6, 2009 from http://encarta.msn.com/guide_page_FAQ/FAQ.html.

Ito, J. (2004). Wikipedia attacked by ignorant reporter. In *Joi Ito's Web*. Retrieved June 6, 2005 from http://joi.ito.com/archives/2004/08/29/wikipedia_attacked_by_ ignorant_reporter.html.

Jacobson, J.A. (2008). *How should poetry look? The printer's measure and poet's line*. Unpublished doctoral dissertation, University of Minnesota.

Jarratt, S.C. (2002). New dispositions for historical studies in rhetoric. In Olson, G.A. (Ed.), *Rhetoric and composition as intellectual work*, (pp. 65 -78.) Carbondale: Southern Illinois UP.

Jarratt, S.C. (2006). A matter of emphasis. *Rhetoric Society Quarterly,* 36.2, 213-19.

Jeanneney, J-N. (2007). *Google and the myth of universal knowledge*. Chicago: University of Chicago Press.

Johnson, J./Latour, B. (1988). Mixing humans and nonhumans together: the sociology of a door-closer. *Social Problems,* 35.3, 298-310.

Johnson-Eilola, J. (2005). *Datacloud: toward a new theory of online work*. Cresskill, NJ: Hampton Press.

Kafker, F.A. (1994). William Smellie's edition of the *Encyclopedia Britannica*. In Kafker, F.A. (Eds.), *Notable encyclopedias of the late eighteenth century: eleven successors of the Encyclopédie*. Oxford : Voltaire Foundation at the Taylor Institution.

Kaufer, D. S., & Carley, K. (1994). Some concepts and axioms about communication. *Written Communication,* 11.1 (1994), 8-42.

Kinsella, W.J. (2005). Rhetoric, action, and agency in institutionalized science and technology. *Technical Communication Quarterly,* 14.3 (Summer), 303-310.

Kneupper, C.W. (1985). The relation of agency to act in dramatism: a comment on "Burke's Act." *College English,* 47.3 (March 1985), 305-308.

Koerber, A. (2006). Rhetorical agency, resistance, and the disciplinary rhetorics of breastfeeding. *Technical Communication Quarterly,* 15.1 (Winter), 87-101.

Kolb, G.J. & Sledd, J.H. (1953). Johnson's 'Dictionary' and Lexicographical Tradition. *Modern Philology,* 50.3 (Feb. 1953), 171-194.

Kurzweil, R. (1999). *The age of spiritual machines: when computers exceed human intelligence*. New York: Penguin.

L'Estrange, R. (1992, Trans). *Fables*. 1692. New York: Everyman's Library.

Lakhani, K.R. & McAfee, A.P. (2007). Wikipedia (A). In *Harvard Business School Cases*. Retrieved May 23, 2009 from http://courseware.hbs.edu/public/cases/wikipedia/.

Landow, G. P. (2006). *Hypertext 3.0: critical theory and new media in an era of globalization*. Baltimore: Johns Hopkins UP.

Lang, B. (1996). Bricks and bytes: libraries in flux. In Graubard, S.R. & LcClerc, P. (Eds.), *Books, bricks, & bytes*, (pp. 221-234). New Brunswick, NJ: Transaction.

Lawler, C. (2005). A small scale study of Wikipedia. In *Wikisource*. Retrieved July 8, 2005 from http://wikisource.org/wiki/A_small_scale_study_of_Wikipedia.

Lechner, J.M. (1962). *Renaissance concepts of commonplaces*. Westport: Greenwood.

Leff, M. (2003). Tradition and agency in humanistic rhetoric. *Philosophy and Rhetoric,* 36.2, 135-147.

Leff, M., & Lunsford, A. (2004). Afterwords: A Dialogue. *Rhetoric Society Quarterly*, 34.3, 55-67.

Lenhart, A., Smith, A., & Macgill, A. (2008). Writing, technology and teens. *Pew Research Center Publications*. Retrieved June 14, 2009 from http://pewresearch.org/pubs/808/writing-technology-and-teens.

Leonard, D.C. (1980). Descartes, Melville, and the Mardian vortex. *South Atlantic Bulletin,* 45.2, 13-25.

Leonard, T.C. (1995). *News for all: America's coming-of-age in with the press*. New York: Oxford UP.

Lessig, L. (2004). *Free Culture*. New York: Penguin Press.

Leuf, B., & Cunningham, W. (2001). *The wiki way: quick collaboration on the Web*. Boston: Addison-Wesley.

Levy, D.M. (2001). *Scrolling forward: Making sense of documents in the digital age*. New York: Arcade Publishing.

Licklider, J.C., & Taylor, R.W. (1968.) The computer as a communications device. *Science and Technology*. 12-31.

Lih, A. (2007, July 10). Unwanted: New articles in Wikipedia. In *Andrew Lih*. Retrieved May 22, 2009 from http://www.andrewlih.com/blog/2007/07/10/unwanted-new-articles-in-wikipedia/.

Lih, A. (2008, July 28). Google Knol/Wikipedia Comparison Faulty. In *Andrew Lih*. Retrieved Aug. 20, 2008 from http://www.andrewlih.com/blog/2008/07/28/google-knolwikipedia-comparison-faulty/.

Lih, A. (2009). *The Wikipedia revolution: how a bunch of nobodies created the world's greatest encyclopedia*. New York: Hyperion.

Logie, J. (2003). I have no predecessor to guide my steps: Quintilian and the Roman construction of authorship. *Rhetoric Review,* 22.4, 353-73.

Logie, J. (2006). *Peers, pirates, and persuasion: rhetoric in the peer-to-peer debates*. Lafayette, IN: Parlor Press.

Logie, J. (2009). The (re)birth of the composer. In Westbrook, S. (Ed.), *Composition & copyright: perspectives on teaching, text-making, and fair use* (pp. 175-189). Albany: SUNY press.

Long, P.O. (2001). *Openness, secrecy, authorship: technical arts and the culture of knowledge from antiquity to the Renaissance*. Baltimore: Johns Hopkins UP. pp. 40.

Locke, J. (1693, 1995). *An essay concerning human understanding*. Amherst, NY: Prometheus Books.

Lundberg, C., & Gunn, J. (2005). Ouija board, are there any communications? Agency, ontotheology, and the death of the humanist subject, or, continuing the ARS conversation. *Rhetoric Society Quarterly* 35.4, 83-105.

Lunsford, A. & Ede, L. (1994). Collaborative authorship and the teaching of writing. In Woodmansee, M. & Jaszi, P. (Eds.), *Constructions of authorship: textual appropriation in law and literature*, (pp. 417-38). Durham: Duke UP.

Lunsford, A. & West, S. (1996). Intellectual property and composition studies. *College Composition and Communication,* 47.3, 383-411.

Lynch, C.A. (1998). Finding common ground. In LaGuardia, C. & Mitchell, B.A. (Eds.), *Finding common ground*, (pp. 1-15). New York: Neal-Shuman.

Mack, R. (2001). The Historicity of Johnson's Lexicographer. *Representations,* 76, 61-87.

Mangu-Ward, K. (2007). Wikipedia and beyond: Jimmy Wales' sprawling vision. *Reason,* June 2007,20 - 29.

Manguel, A. (1996). *A History of Reading*. New York: Penguin Books.

Marsh, B. (2007). *Plagiarism: alchemy and remedy in higher education*. Albany: SUNY Press.
Martin, D.M. (2004). Humor in middle management: women negotiating the paradoxes of organizational life. *Journal of Applied Communication Research*, 32.2, 147-170.

Martyn, J. & Chambers, E. (1741). *Philosophical history and memoirs of the Royal Society at Paris*. London: John and Paul Knapton.

Mayfield, R. (2004). Wikipedia reputation and the WeMedia Project. In *Many 2 Many*. Retrieved June 6, 2005 from http://www.corante.com/many/archives/2004/08/29/wikipedia_reputation_and_the_wemedia_project.php.

McArthur, T. (1986). *Worlds of reference: Lexicography, learning and language from the clay tablet to the computer*. Cambridge: Cambridge University Press.

McCarthy, C. (2006). Colbert Speaks, America Follows: All Hail Wikiality! *c|net News.com Media Blog*. Retrieved Nov. 16, 2006 from. http://news.com.com/2061-10802_3-6100754.html.

McCorkle, B. (2005). Harbingers of the printed page: Nineteenth-century theories of delivery as remediation. *Rhetoric Society Quarterly,* 35, 25-49.

McKitterick, D. (2003). *Print, manuscript and the search for order 1450-1830*. Cambridge: Cambridge UP.

McNeely, I.F. & Wolverton, L. (2008). *Reinventing knowledge: from Alexandria to the Internet*. New York: W.W. Norton & Co.

"Memex." [Online image]. Retrieved June 6, 2009 from http://socialcomputing.tistory.com/tag/socialstream.

Metz, C. (2007, Dec. 4). Secret mailing list rocks Wikipedia. *The Register*. Retrieved May 23, 2009 from http://www.theregister.co.uk/2007/12/04/wikipedia_secret_mailing/.

Metzl, J.F. (1996). Searching for the catalog of catalogs. In Graubard, S.R. & LeClerc, P., (Eds.), *Books, bricks, & bytes*, (pp. 147-60). New Brunswick, NJ: Transaction.

Meyers, P. (2001, Sept. 20). Fact driven? Collegial? This site wants you. *The New York Times*. Retrieved Aug. 15, 2008 from http://query.nytimes.com/gst/fullpage.html?res=9800E5D6123BF933A1575AC0A9679C8B63&scp=2&sq=wikipedia&st=nyt
Milde Jr., K.F. (1969). Can a computer be 'an author' or an 'inventor'? *Journal of the Patent Office Society*, 378.

Miller, C.R. (1984). Genre as social action. *Quarterly Journal of Speech*, 70, 151-167.

Miller, C.R. (2001). Writing in a culture of simulation: ethos online. In Coppock, P. (Ed.), *The semiotics of writing: transdisciplinary perspectives on the technology of writing*, (pp. 253–279). Turnhout, Belgium: Brepols.

Miller, C.R. (2004.) Expertise and agency: transformation of ethos in human-computer interaction. In Hyde, M. (Ed.), *The ethos of rhetoric*, (pp. 197–218). Columbia, SC: University of South Carolina Press.

Miller, C.R. (2007). What can automation tell us about agency? *Rhetoric Society Quarterly*, 37.2, 137-157.

Milton, J. (1694). Areopagitica. In Flannagan, R. (Ed.), *The Riverside Milton*. (pp. 987-1024). Boston: Houghton Mifflin Company.

Minnis, A.J. (1988, 1995). The significance of the medieval theory of authorship. In Burke, S. (Ed.), *Authorship from Plato to the Postmodern*, (pp. 23-30). Edinburgh: Edinburgh University Press.

Moore-Howard, R. (1999). *Standing in the shadow of giants: plagiarists, authors, collaborators*. Stamford, CT: Ablex Publishing Corporation.

Moore-Howard, R. & Robillard, A. (2008). *Pluralizing plagiarism: identities, contexts, pedagogies*. Portsmouth, NH: Boynton-Cook.

Moschovitis, C. J.P., Poole, H., Schyler, T., & Senft, T.M., (1999). *History of the Internet: a chronology, 1843 to the present*, (pp. 107-109). Santa Barbara, CA: ABC-CLIO.

Moseley, J.M. (2008, Jan. 25). Long s. In *Typefoundry*. Retrieved May 20, 2009 from http://typefoundry.blogspot.com/2008/01/long-s.html .

Mott, F.L. (1962). *American Journalism*. New York: The Macmillan Company.

Mugglestone, L. (2005). *Lost for words: the hidden history of the Oxford English Dictionary*. New Haven: Yale UP.

Nagle, C. (2003). Sterne, Shelley, and sensibility's pleasures of proximity. *ELH,* 70.3, 813-845.

Nelson, T.H. (1993). *Literary machines 93.1*. Sausalito, CA: Mindful Press.

Nesbit, M. (1987). What was an Author? *Yale French Studies,* 73, 229-257.

Nyce, J.M. & Kahn, P. (Eds.) (1991). *From Memex to hypertext: Vannevar Bush and the mind's machine*. Boston: Academic Press.

Ong, W.J. (1982). *Orality and literacy: the technologizing of the word*. New York: New Accents.

Pacey, A. (1983). *The culture of technology*. Cambridge, MA: The MIT Press.

Patterson, A. (2005, April 4). New features on MSN Encarta. *Encarta Space*. Retrieved Aug. 16, 2008 from http://encarta.spaces.live.com/?_c11_BlogPart_ BlogPart=blogview&_c=BlogPart&partqs=amonth%3d4%26ayear%3d2005.

Patterson, L.R. (1968). *Copyright in historical perspective*. Nashville: Vanderbilt UP.

Phillips, K. (Speaker). (2005, Dec. 5). Interview with John Seigenthaler and Jimmy Wales. CNN [Television broadcast]. New York and Washington DC: CNN. Transcript retrieved Aug. 15, 2008 from http://transcripts.cnn.com/TRANSCRIPTS/0512/05/lol.02.html.

Plato. (1999). Phaedrus. In J. Neinkamp (Ed.), *Plato on Rhetoric and Language*, (pp. 165-214). Mahwah: Hermagoras Press.

Porter, J.E. (1998). *Rhetorical ethics and internetworked writing*. Greenwich, CT: Ablex.

Posner, R.A. (2007). *The little book of plagiarism*. New York: Pantheon Books.

Priedhorsky, R., Chen, J., Shyong K.L., Panciera, K., Terveen, L., & Riedl, J. (2007). Creating, destroying, and restoring value in Wikipedia. *ACM Group 2007 Conference Proceedings*.

Procopio, C.H. & Procopio, S.T. (2007). Do you know what it means to miss New Orleans? Internet communication, geographic community, and social capital in crisis. *Journal of applied communication research*. Feb. 2007, 35.1, 67-87.

Project Xanadu. Retrieved July 18, 2009 from http://www.xanadu.net/.

Racine, S.J. (2002). *Changing (inter) faces: a genre analysis of catalogues from Sears, Roebuck to Amazon.com*. Unpublished doctoral dissertation, University of Minnesota, Twin Cities.

Ray, A. & Graeff, E. (2008). Reviewing the author-function in the age of Wikipedia. In Eisner, C. & Vicinus, M. (Eds.), *Originality, imitation, and plagiarism: teaching writing in the digital age*, (pp. 39-47). Ann Arbor: University of Michigan Press.

Reagle, J. (2005). A case of mutual aid: Wikipedia, politeness, and perspective taking. In *Proceedings of Wikimania* 2005. Retrieved July 5, 2005 from http://en.wikibooks.org/wiki/Wikimania05/Paper-JR1.

Rettberg, J.W. (2008). *Blogging*. Malden, MA: Polity Press.

Reyman, J. (2006). Copyright, distance education, and the TEACH Act: implications for teaching writing. *College Composition and Communication,* 58.1, 30-45.

Reyman, J. (in press). *Toward a new rhetoric of intellectual property: copyright law and the regulation of digital culture*. New York: Routledge.

Rice, R.E. & Love, G. (1987). Electronic emotion: Socio-emotional content in a computer-mediated communication framework. *Communication Research* 14(1), 85-105.

Ritvo, H. (1997). *The platypus and the mermaid and other figments of the classifying imagination*. Cambridge: Harvard UP.

Rose, M. (1993). *Authors and owners: The invention of copyright*. Cambridge: Harvard UP.

Rosenbaum, S. (2009). Can 'curation' save media? *The Silicon Valley Insider*. Retrieved May 29, 2009 from http://www.businessinsider.com/can-curation-save-media-2009-4.

St. Clair, W. (2007). *The reading nation in the romantic period*. Cambridge: Cambridge UP.

Saffady, W. (2001). *Micrographics: technology for the 21st century*. Prairie Village, KS: ARMA International. pp. 15.
Sanger, L. (2001). Is Wikipedia an experiment in anarchy? Metafilter. Retrieved July 13, 2009 from http://meta.wikimedia.org/wiki/Talk:Is_Wikipedia_an_experiment_in_anarchy.

Sanger, L. (2006). The early history of Nupedia and Wikipedia; a memoir. In DiBona, C., Cooper, D, and Stone, M. (Eds.), *Open Sources 2.0: the continuing evolution*, (pp. 307-338). Beijing: O'Reilly.

Schiavo, L.B. (2003). From phantom image to perfect vision: Physiological optics, commercial photography, and the popularization of the stereoscope. In Gitelman, L., & Pingree, G. (Eds.) *New media 1740-1915*. (pp. 113-138.) Cambridge: MIT Press.

Schiff, S. (2006, July 31). Can Wikipedia conquer expertise? *The New Yorker*. Retrieved Aug. 15, 2008 from http://www.newyorker.com/archive/2006/07/31/ 060731fa_fact.

Schryer, C.F. (1993). Records as genre. *Written Communication,* 10.2., 200-234.

Seelye, K.O. (2005a, Dec.4). Snared in the web of a Wikipedia liar. *The New York Times*. Retrieved Aug. 13, 2008 from http://www.nytimes.com/2005/12/04/weekinreview/04seelye.html.

Seelye, K.O. (2005b, Dec. 11). A little sleuthing unmasks writer of Wikipedia Prank. *The New York Times*. Retrieved Aug. 13, 2007 from http://www.nytimes.com/2005/12/11/business/media/11web.html?_r=1&oref=slogin.

Segaller, S. (1999). *Nerds 2.0.1: a brief history of the Internet*. New York: TV Books. pp. 286-288.

Seigenthaler Incident (2008, Aug. 11). In *Wikipedia*. Retrieved Aug. 15, 2008 from http://en.wikipedia.org/wiki/John_Seigenthaler_Sr._ Wikipedia_biography_ controversy.

Seigenthaler, J. (2005, Nov. 29). A false Wikipedia 'biography.' *USA Today*. Retrieved Aug. 15, 2008 from http://www.usatoday.com/news/ opinion/editorials/2005-11-29-wikipedia-edit_x.htm.
Selber, S. (2006). *Multiliteracies for a Digital Age*. Carbondale: Southern Illinois UP.

Shirky, C. (2004). Who's afraid of Wikipedia? In *Many 2 Many*. Retrieved June 16, 2005 from http://www.corante.com/many/archives/ 2005/02/28/whos_afraid_ of_wikipedia.php.

Shirky, C. (2005a). Me on boyd on Sanger on Wales. In *Many 2 Many*. Retrieved June 14, 2005 from http://www.corante.com/many/archives/ 2005/01/05/wikipedia_me_on_boyd_on_sanger_ on_wales.php.

Shirky, C. (2005b). Wikipedia: The nature of authority, and a LazyWeb request..." In *Many 2 Many*. Retrieved June 14 , 2005 from http:// www.corante.com/many/archives/2005/01/06/wikipedia_the_ nature_of_authority_and_a_lazyweb_ request.php.

Shirky, C. (2008). *Here comes everybody: the power of organizing without organizations*. New York: The Penguin Press.

Singer, S. (2003, Sept. 7). Encyclopedias a click away. *The Washington Post*. F07.

Smith, C.R. & Lybarger, S. (1996). Bitzer's model reconstructed. *Communication Quarterly,* 44.2, Spring 1996, 197-213.

Smith, D. & Revill, J. (2006, Sept. 10). Wikipedia defies China's censors. guardian.co.uk. Retrieved June 14, 2009 from http://www.guardian. co.uk/technology/2006/sep/10/news.china

Smith, M.R. (1994). Technological determinism in American Culture. In Smith, M.R., & Mark, L. (Eds.), *Does technology drive history? The dilemma of technological determinism*, (pp. 1-36). Cambridge, MA: MIT Press.

Smith, M.R., & Marx, L. (1994). *Does technology drive history? The dilemma of technological determinism*. Cambridge, MA: MIT Press.

Soojung-Kim Pang, A. (1998). The work of the encyclopedia in the age of electronic reproduction. *First Monday*, Sept 7. 1998.

Spigelman, C. (2000). *Across property lines: textual ownership in writing groups*. Carbondale: Southern Illinois UP.

Spinuzzi, C. (2005). Lost in the translation: shifting claims in the migration of a research technique. *Technical Communication Quarterly,* 14.4 (Autumn), 411-446.

Stake, R.E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications.

Standage, T. (1998). *The Victorian Internet*. New York: Walker & Co.

Stone, M.S. (1997). In search of patient agency in the rhetoric of diabetes care. Technical Communication Quarterly 6.2. pp 201.

Stubbs, K. (2003). Telegraphy's corporeal fictions. In Gitelman, L. & Pingree, G. (Eds.) *New Media 1740-1915*. (pp. 91-112.) Cambridge: MIT Press.

Sunstein, C.R. (2006). *Infotopia: how many minds produce knowledge*. New York: Oxford UP.

Swartz, A. (2006). Who writes Wikipedia? Retrieved May 28, 2009 from http://www.aaronsw.com/weblog/whowriteswikipedia

Sweeney, C. (2009). Britannica 2.0 shows Wikipedia how it's done. *TimesOnline*. Retrieved 21 Feb. 2009 from http://technology.timesonline.co.uk/tol/news/tech_and_web/article5564836.ece

Tapscott, D. & Williams, A.D. (2006). *Wikinomics: how mass collaboration changes everything*. New York: Portfolio.

Talk:Syracuse, NY. (2009, March 7). In *Wikipedia*. Retrieved June 7, 2009 from http://en.wikipedia.org/wiki/Talk:Syracuse,_New_York.

"Truthiness." In *Wikipedia*. Retrieved July 22, 2008 from http://en.wikipedia.org/wiki/Truthiness.

Turkle, S. (1995). *Life on the Screen*. New York: Simon & Schuster.

User:Arkybot. (2009, July 28). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/User:ArkyBot.

User:BotMultichill. (2008, June 7). In *Wikipedia*. Retrieved April 17, 209 from http://en.wikipedia.org/wiki/User:Multichill.

User:Capitalbot (2007, Oct. 16). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/User:CapitalBot.

User:Detroiterbot. (2009, April 4). In *Wikipedia*. Retrieved April 17, 209 from http://en.wikipedia.org/wiki/User:Detroiterbot.

User:KevinBot (2009, April 15). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/User:KevinBot

User:Rambot. (2008, April 7). In *Wikipedia*. Retrieved May 14, 2008 from http://en.wikipedia.org/wiki/User:Rambot.

User:Rambot/translation. (2008, Nov. 8). In *Wikipedia*. Retrieved April 15, 2008 from http://en.wikipedia.org/wiki/User:Rambot/translation.

User:Rei-bot. (2008, Oct. 23). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/User:Rei-bot.

User:SieBot. (2009, March 9). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/User:SieBot

User:Sinebot. (2009, April 28). In *Wikipedia*. Retrieved April 15, 2009 from http://en.wikipedia.org/wiki/User:Sinebot.

User:The Anomebot2 (2008, Dec. 4). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/User:The_Anomebot2.

User:Themfromspace (2009, May 8,). In *Wikipedia*. Retrieved May 23, 2009 from http://en.wikipedia.org/wiki/User:Themfromspace.

User:TXiKiBoT. (2009, April 5). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/User:TXiKiBoT.

Vaidhyanathan, S. (2004). *The anarchist in the library: how the clash between freedom and control is hacking the real world and crashing the system*. New York: Basic Books.

Van Gelder, L. (1990). The strange case of the electronic lover. In Gumpert, G. & Fish, S.L. (Eds.), *Talking to Strangers: Mediated Therapeutic Communication*, (pp. 128-142). Norwood: Ablex.

Vatz, R.E. (1973, reprinted 1999). The myth of the rhetorical situation. In Lucaites, J.L., Condit, C.M., & Caudill, S. (Eds), *Contemporary rhetorical theory: a reader*. (pp. 226 - 231.) New York: The Guilford Press.

Viégas, F. B., Wattenberg, M., & Dave, K. (2004). Studying cooperation and conflict between authors with history flow visualizations. In *CHI 2004*. Retrieved June 30, 2005 from http://web.media.mit.edu/~fviegas/papers/history_flow.pdf.

Villadsen, L.S. (2008). Speaking on behalf of others: rhetorical agency and epideictic functions in official apologies. *Rhetoric Society Quarterly,* 38.1, 25-45.

Virgil. (1909). *Aenid*. (J. Dryden, Trans.) Cambridge: Harvard Classics.

Virgil. (1988). *Georgics*. (R. Thomas, Trans.) Cambridge: Cambridge University Press.

Walker, L. (2004, Sept. 9). Spreading knowledge, the wiki way. *The Washington Post*. E01.

Walsh, L. (2003). The rhetoric of oracles. *Rhetoric Society Quarterly,* 33.3, 55-78.

Ward, J. (2005, Sept. 7). Disgrace signs. In *this Public Address*. Retrieved May 24, 2009 from http://thispublicaddress.com/tPA4/archives/2005/09/disgrace_signs.html.

Warnick, B. (2002). *Critical literacy in a digital era: technology, rhetoric, and the public interest*. Mahwah, NJ: Lawrence Ehrlbaum.

Warnick, B. (2007). *Rhetoric online: persuasion and politics on the World Wide Web*. New York: Peter Lang.

Watts. I. (1720, reprinted 1796). *Divine and moral songs for children*. Cornhill: Samuel Hall. 39.

Weinberger, D. (2007). *Everything is miscellaneous: the power of the new digital disorder*. New York: Times Books.

Weinberger, D. (2009). How important is Wolfram Alpha? In *Joho the Blog*. Retrieved May 29, 2009 from http://www.hyperorg.com/blogger/2009/05/04/how-important-is-wolframalpha/.

Weiss, A. (2005, Feb. 10). The unassociated press. *The New York Times*. Retrieved Aug. 15, 2008 from http://www.nytimes.com/2005/02/10/technology/circuits/10wiki.html?_r=1&scp=14&sq=wikipedia&st=nyt&oref=login.

Welch, K. (1999). *Electric rhetoric: classical rhetoric, oralism, and a new literacy*. Cambridge: MIT Press.

Wells, H.G. (1938). *The World Brain*. Garden City, NY: Doubleday, Doran & Co.

Wendorf, R. (1978). Robert Dodsley as editor. *Studies in Bibliography,* 31, 235-48.

Wikiality: The Truthiness Encyclopedia. Retrieved July 21, 2008 from http://www.wikiality.com/Main_Page.

wikiHow. (2008, Aug. 20). Retrieved Aug. 20, 2008 from http://www.wikihow.com/Main-Page.

Wikipedia:Articles_for_deletion/Harvey_Jackson. (2005, Sept. 8). In *Wikipedia*. Retrieved May 22, 2009 from http://en.wikipedia.org/wiki/Wikipedia:Articles_for_deletion/Harvey_Jackson.

Wikipedia:Bot Policy. (2008, May 11). In *Wikipedia*. Retrieved May 14, 2008 from http://en.wikipedia.org/wiki/Wikipedia:Bots.

Wikipedia:Bots/Requests for approval/Lightbot 3. (2009, Feb. 26). In *Wikipedia*. Retrieved April 17, 2009 from http://en.wikipedia.org/wiki/Wikipedia:Bots/Requests_for_approval/Lightbot_3.

Wikipedia:Database download. (2009, March 31). In *Wikipedia*. Retrieved April 6, 2009 from http://en.wikipedia.org/w/index.php?title=Wikipedia:Database_download&action=history.

Wikipedia:Disambiguation. (2009, April 6). In *Wikipedia*. Retrieved April 6, 2009 from http://en.wikipedia.org/w/index.php?title=Wikipedia:Disambiguation&action=history.

Wikipedia:Five Pillars. (2009, May 28). In *Wikipedia*. Retrieved May 28, 2009 from http://en.wikipedia.org/wiki/Five_pillars_of_Wikipedia.

Wikipedia:Flagged revisions. (2009, May 21). In *Wikipedia*. Retrieved May 23, 2009 from http://en.wikipedia.org/wiki/Wikipedia:Flagged_revisions

Wikipedia:Neutral point of view. (2009, Feb. 26). In *Wikipedia*. Retrieved Feb. 26, 2009 from http://en.wikipedia.org/w/index.php?title=Wikipedia:Neutral_point_of_view&action=history.
Wikipedia:Plato. (2007, April 6). In *Wikipedia*. Retrieved April 6, 2007 from http://en.wikipedia.org/wiki/Plato.

Wikipedia:Wikipedia in the media. (2009, Dec. 7). In *Wikipedia*. Retrieved April 6, 2009 from http://en.wikipedia.org/wiki/Wikipedia:Wikipedia_in_the_media

Wikipedia:WikiProject_Categories. (2009, May 28). In *Wikipedia*. Retrieved May 28, 2009 from http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Categories

Wikipedia and the Citizendium. (2008, April 8). In *Citizendium*. Retrieved Aug. 15, 2008 from http://en.citizendium.org/wiki/CZ:FAQ#Wikipedia_and_the_Citizendium.

Wikipedia in Popular Culture. In *Wikipedia*. Retrieved July 22, 2008 from http://en.wikipedia.org/wiki/Wikipedia_in_ popular_culture.

Wikipedia to require contributors to register. (2005, Dec. 6). Talk of the nation. [Radio broadcast.] Washington, DC: National Public Radio. Retrieved Aug. 15, 2008 from http://www.npr.org/templates/story/story.php?storyId=5041077.

Winchester, S. (2003). *The meaning of everything: the story of the Oxford English Dictionary*. Oxford: Oxford UP.

Winsor, D. (2006). Using writing to structure agency: an examination of engineers' practice. *Technical Communication Quarterly,* 15.4 (Autumn), 411-430.

Wisse, J. (1989). *Ethos and Pathos from Aristotle to Cicero*. Amsterdam: Adolf M. Hakkert.

Wolf, G. (1995). The Curse of Xanadu. In *Wired* 3.06. Retrieved July 18, 2008 from http://www.wired.com/wired/archive/3.06/xanadu.html.

Woodmansee, M. (1994). Genius and the copyright. In *The author, art and the market: rereading the history of aesthetics*, (pp. 35-55). New York: Columbia UP.

Wu, A.J. (1997). From video games to artificial intelligence: assigning copyright ownership to works generated by increasingly sophisticated computer programs. *AIPLA Quarterly Journal*, 131, 133-178.

Yankovic, A. (1989). The biggest ball of twine in Minnesota. On *UHF*. [CD]. Santa Monica: Scotti Brothers Records.

Yeo, R. R. (2003). "A solution to the multitude of books: Ephraim Chambers's Cyclopædia (1728) as 'the Best Book in the Universe'." *Journal of the History of Ideas,* 64.1, 61-72.

Yeo, R.R. (1996). "Ephraim Chambers' Cyclopædia (1728) and the tradition of commonplaces." *Journal of the History of Ideas*. 57.1, 157-175.

Yeo, R.R. (2001). *Encyclopædic visions: scientific dictionaries and Enlightenment culture*. Cambridge: Cambridge University Press.

Yin, R.K. (2003). *Case study research: design and methods*, 3rd ed. Thousand Oaks, CA: Sage Publications.

Zachry, M. (2009). Negotiating with strangers: rhetorical practices supporting collective work in online environments. March 11, 2009. ATTW.