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IN GOOD FAITH:
WIKIPEDIA COLLABORATION AND
THE PURSUIT OF THE UNIVERSAL ENCYCLOPEDIA

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In the following pages I observe that building an encyclopedia is a cumulative and interdependent activity, this work is no different. While I might have the occasionally interesting thought and I've no doubt make a few errors, this dissertation is a fabric woven from the contributions of many. So much so that it seems impossible to properly acknowledge all those who have influenced and supported this work. But as in any other seemingly impossible task, like creating an encyclopedia, one must start somewhere—and the perfect is the enemy of the good.

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CHAPTER I

INTRODUCTION

Wikipedia is not merely an online encyclopedia; although the Web site is useful, popular, and permits nearly anyone to contribute, the site is only the most visible artifact of an active community. Unlike previous reference works which stand on library shelves distanced from the institutions, people, and discussions from which they arose, Wikipedia is a community and the encyclopedia is a snapshot of its continuing conversation. This conversation is frequently exasperating, often humorous, and occasionally profound. Most importantly, it sometimes reveals what I call a “good faith” culture. I believe Wikipedia and its collaborative culture is a realization—even if flawed—of a century’s old pursuit of a universal encyclopedia: a technological inspired vision seeking to wed increased access to information with greater human accord. Elements of this good faith culture can be found in the following conversation about a possible “neo-Nazi attack” upon Wikipedia.

In early 2005 members of Stormfront, a “white pride” online forum, focused their sights on Wikipedia. In February, they sought to marshal votes against the deletion of the article “Jewish Ethnocentrism,” an article favored by some “white nationalists” and making use of evolutionary psychologist Kevin MacDonald’s controversial theories of a Jewish people in competition with and subjugating other ethnic groups. Their “alert,” forwarded by Wikipedian AndyL (2005a), was surprisingly sensitive to the culture of Wikipedia by warning “you must give your reason as to why you voted to keep the article - needless to say you should do so in a cordial manner, those wishing to delete the article will latch

onto anything they can as an excuse to be hostile towards anybody criticising Jewish culture.” Six months later AndyL (2005b) again noticed that participants of Stormfront, perhaps dissatisfied with their earlier efforts, were considering using the software that runs Wikipedia, or even some of its content, to create their own (“forked”) version more to their liking.

The charge of “Nazism” has a long and odd history in the realm of online community. One of the most famous aphorisms from earlier Internet discussion groups is Godwin’s Law: “As an online discussion grows longer, the probability of a comparison involving Nazis or Hitler approaches one” (Godwin, 1994a).¹ Godwin’s Law speaks to a tendency of online participants to think the worst of each other. Yet, throughout the immense Wikipedia discussion threads prompted by a potential “neo-Nazi attack” no one compared anyone else to Hitler. Granted, some Stormfront members are self-identified Nazis for whom the term would not be an insult, but there was also serious disagreement between Wikipedians—and even the white racialsists reminded themselves they need be cordial on Wikipedia.

In August of the same year Wikipedia user Amelkite, the owner/operator of the white supremacist Vanguard-News-Network, had his Wikipedia account blocked. MattCrypto, a Wikipedia administrator, thinking it unfair to block someone because of their affiliation rather than Wikipedia actions unblocked him. This prompted another administrator, SlimVirgin, to reblock pointing out Amelkite had posted a list of prominent Wikipedians thought to be Jews, or their conspirators, as well as information on how to counter Wikipedia controls of disruption. The conversation between Wikipedia administrators remained civil:

MattCrypto: Hi SlimVirgin, I don’t like getting into conflict, particularly with things like block wars and protect wars, so I’m unhappy about this.

SlimVirgin: I take your point, Matt, but I feel you ought to

¹Wikipedians have proposed nearly 100 laws and corollaries describing their interaction, five of which are adapted from Godwin’s Law (Wikipedia, 2006j).

have discussed this with the blocking admin, rather than undoing the block.

This interaction prompted Jimmy (‘Jimbo’) Wales, Wikipedia cofounder and leader, to write: “SlimVirgin, MattCrypto: this is why I love Wikipedians so much. I love this kind of discussion. Assume good faith, careful reasoning, a discussion which doesn’t involve personal attacks of any kind, a disagreement with a positive exploration of the deeper issues” (Wales, 2005g). Whereas Godwin’s Law recognizes the tendency to think the worst of others, Wikipedia culture encourages contributors to treat and think of others well. For example, participants are supposed to abide by the norm of “Wikiquette” (Wikipedia, 2006v), which includes the principles of “Assume Good Faith” (AGF) (Wikipedia, 2006m) and “Please Do Not Bite the Newcomers” (Wikipedia, 2006ab). Contributions to Wikipedia articles are supposed to be written from a “Neutral Point of View” (NPOV) (Wikipedia, 2006x), which means articles should explain without advocating and characterize debates without engaging in them. Such Wikipedia norms and their relationship to the technology, discourse, and vision of a universal encyclopedia prompt me to ask: How should we understand this community’s collaborative—“good faith”—culture? I claim that Wikipedia (the textual artifact, the community, and its culture) is the closest realization yet of a long held aspiration for a universal encyclopedia; I do this by way of history and ethnography in three parts.

I start part 1 by arguing that Wikipedia is an heir to a twentieth century vision of universal access and goodwill; an idea advocated by H. G. Wells and Paul Otlet almost a century ago. This vision is inspired by technological innovation—microfilm and index cards then, digital networks today—and driven by the encyclopedic impulse to capture and index everything known. In some ways my argument is an update to that made by Boyd Rayward (1994) who notes

similarities between Paul Otlet's information "Repertory" and Project Xanadu, an early hypertext system. My effort entails not only showing similarities in the aspirations and technical features of these older visions and Wikipedia, but also the recovery and placement of a number of Wikipedia's predecessors (e.g., Project Gutenberg, Interpedia, Nupedia) within this history. Most importantly, until recently the universal encyclopedic vision had largely gone unfulfilled. With the relative success of Wikipedia, one can then ask: what makes it different?

One typical response to the question of Wikipedia's success is, of course, to focus on how it is produced. Unfortunately, while there is a rich literature on the production of reference works (e.g., McArthur, 1986; Stockwell, 2001; Yeo, 2001) Wikipedia is rarely framed within this historical context. In an article for *Wired* Daniel Pink (2005) proves to be an exception. Pink posits three periods (types) of encyclopedia production: the "One Smart Guy" model of the earliest encyclopedias, the "One Best Way" model of *Britannica's* corporate knowledge production (in both a collective and commercial sense), and the "One for All" model of Wikipedia. While I appreciate this effort to think historically, in chapter 3, I also challenge Pink's periodization. I adopt Pink's three periods as my foil: adding some historical detail, and sometimes confirming and sometimes complicating the boundaries between the periods of lone genius and corporate activity. At the same time I engage the secondary literature on reference works to place Wikipedia within a history of knowledge production, focusing on their (often fervent) creators, and the cooperation, competition and plagiarism encountered in their production.

And while there is a burgeoning literature on the character of Wikipedia contribution including theories of production (e.g., Ciffolilli, 2003), motivation (e.g., Bryant et al., 2005; Rafaeli et al., 2005; Kuznetsov, 2006; Schroer and Hertel, 2007; Johnson, 2007), content structure (e.g., Voss, 2005; Buriol et al.,

2006; Capocci et al., 2006), the strength and distribution of edits among participants (e.g., Kittur et al., 2007b; Ortega and Gonzalez-Barahona, 2007, 2008), and article quality (e.g., Anthony et al., 2005; Duguid, 2006; Viegas et al., 2007; Ball, 2007), I find the actual community and its collaborative culture to be most salient. For example, I believe to characterize Wikipedia as a “one for all,” or even a “free-for-all,” is incomplete because it neglects the importance of cultural norms within the community.

Therefore, in part 2 I turn to an ethnography of Wikipedia community, culture, and leadership. In chapter 4 I briefly describe Wikipedia community and test it against the criteria of what I call an *open content community*. This notion is inspired by Free and Open Source Software (FOSS) and the subsequent popularization of “openness” (as discussed in Reagle, 2006b) but focuses on community rather than copyright licenses. I then consider three cases that challenge Wikipedia’s openness as “the free encyclopedia anyone can edit”—an appropriate motto for the universal vision of increased information access.

And while openness might be considered a virtue, it unfortunately does not mean all interaction is necessarily productive or enjoyable; in fact, openness often poses significant challenges to the community. These challenges can, in part, be addressed by the community’s collaborative culture. The relevance of “prosocial” (Bowles and Gintis, 1998; Sproull et al., 2004) culture has been noted by other scholars in the online context (e.g., von Krogh, 1998; Jarvenpaa and Leidner, 1999; Preece and Ghazati, 2001; Preece, 2004) and Wikipedia provides an excellent opportunity, because of its reflective documentation and discourse, to see how such norms emerge and how they are enacted and understood. In particular, in chapter 5 I focus on the norms of “Neutral Point of View” and “Assume Good Faith” to argue that an open perspective on both *knowledge claims* and *other contributors*, respectively, makes for extraordinary collaborative potential in

addition to coinciding with the earliest visionaries' call for international goodwill.

And just as the complexities inherent in the understanding and practice of openness and good faith reveal the character of Wikipedia, and prompt theoretical insights into this type of community, leadership, too, is fascinating and potentially generative. In open content communities, like Wikipedia, there is often a seemingly paradoxical use of the title “Benevolent Dictator” for leaders. In chapter 6, I explore discourse around the use of this moniker so as to address how leadership works in open content communities and provide the background for some of the concerns and norms encountered in earlier chapters. I first review existing literature on “emergent leadership” (Bass, 1990; Yoo and Alavi, 2004) and FOSS leadership (O’Mahony and Ferraro, 2003, 2004; Bosco, 2004; O’Mahony and Ferraro, 2007) and then relate excerpts from community discourse on how leadership is understood, performed, and discussed by Wikipedians. I conclude by integrating concepts from existing literature and my own findings into a theory of “authorial” leadership: leaders must parlay merit resulting from authoring something significant into a form of authority that can also be used in an autocratic fashion, to arbitrate between those of good faith or defend against those of bad faith, with a soft touch and humor when—and only when—necessary.

Finally, in part 3 I focus on the cultural reception and interpretation of Wikipedia. The way in which Wikipedia is collaboratively produced has caught the attention of the world. Discourse about the efficacy and legitimacy of such work abound, from the news pages of *The New York Times* to the satire of *The Onion*. Building on the literature around controversies surrounding specific reference works (e.g., Einbinder, 1964; Morton, 1994; Wallace, 2001) I make a broader argument that reference works can serve as a flashpoint for larger social anxieties about technological and social change. With this understanding in hand, I try to make sense of the social unease embodied in and prompted by Wikipedia

by way of four themes present throughout this work: collaborative practice, universal vision, encyclopedic impulse, and technological inspiration.

I conclude with a reflection upon the metaphor of a jigsaw puzzle. In his 1936 manifesto for a *World Brain*, H. G. Wells proposed to bring together the puzzle pieces of “all the scattered and ineffective mental wealth of the world into something like a common understanding” (Wells, 1936, p. 920). Seventy years later, Wikipedia’s logo is that of a not yet complete global jigsaw puzzle. I think this coincidence is representative of a shared dream across the decades. I also think the metaphor is useful in understanding Wikipedia collaboration: “Neutral Point of View” ensures that the scattered pieces of what we think we know *can be* joined and good faith facilitates the actual *practice* of fitting them together. I offer this metaphor of a puzzle as a means of understanding both Wikipedia’s heritage and its collaborative culture today.

A description of my aspirations, influences, and research practice is also provided as a methodological postscript.

A Wikipedia Primer

Before launching into my discussion of reference works, I want to briefly introduce Wikipedia (and wikis) and the core principles of its collaborative culture. With these in mind, I hope the reader can easily follow the rest of this work.

Wikipedia

Wikipedia is an online “wiki” based encyclopedia. “Wiki wiki” means “super fast” in the Hawaiian language, and Ward Cunningham chose the name for

his project in 1995 to indicate the ease with which one could edit Web pages. In a sense, wikis captures the original conception of the World Wide Web as both a browsing and editing medium; the latter capability was largely forgotten when the Web began its precipitous growth and the most popular clients did not provide the ability for users to edit Web pages.

The wiki changed this asymmetry by placing the editing functionality on the server. Consequently, if a page can be read, it can be edited in any browser. With a wiki, the user enters a simplified markup into a form on a Web page. Using the Wikipedia syntax one simply types “# this provides a link to [[Giddens]]” to add a numbered list item with a link to the “Anthony Giddens” article. The server-side Wikipedia software translates this into the appropriate HTML and hypertext links. To create a new page, one simply creates a link to it. Furthermore, each page includes links through which one can sign in (if desired), view a log of recent changes to the page (including the author and time), or participate in a discussion about how the page is being edited on its “Talk” or “Discussion” page—and this too is wiki. The application of the simple and general wiki platform enables surprisingly sophisticated content creation.

Because users are working together on a single server, other useful features have been implemented. The “Watchlist” is a special page, like a collection of Wikipedia bookmarks, that permits a user to keep track of edits to articles she is concerned with (i.e., “watching.”) A wiki template is “a page which can be inserted into another page via a process called transclusion” (Wikipedia, 2007ah). These small template “pages” (usually no more than a few lines of text) can include warnings about the status or quality of an article. Templates are most often invoked by way of a shortcut that is specified via a pair of curly parentheses. So, with the inclusion of the “{{pp-vandalism}}” tag a Wikipedia page will include a warning box that “this page is currently protected from editing to deal

with vandalism.” A special page can then easily list all pages presently using that template, so Wikipedians can keep an eye on those pages that are being locked. And, as we will see throughout this work, wikis are often thought of as potent collaborative tools because they permit asynchronous, incremental, and transparent contributions from many.

Yet, as is often the case, the consequence of this quick and informal approach of editing the Web was not foreseen—or, rather, was pleasantly surprising. The wiki-based Wikipedia is the populist offshoot of the Nupedia encyclopedia project started in March of 2000 by Jimbo Wales and Larry Sanger. Nupedia’s mission was to create a free encyclopedia via rigorous expert review under a free documentation license. Unfortunately, this process moved rather slowly and having recently been introduced to wikis, Sanger persuaded Wales to set up a scratch-pad for potential Nupedia content where anyone could contribute. However, “There was considerable resistance on the part of Nupedia’s editors and reviewers . . . to making Nupedia closely associated with a website in the wiki format. Therefore, the new project was given the name ‘Wikipedia’ and launched on its own address, Wikipedia.com, on January 15 [2001]” (Wikipedia, 2006c).

Wikipedia proved to be so successful that when the server hosting Nupedia crashed in September of 2003 (with little more than 24 “complete” articles and 74 more in progress (Wikipedia, 2006h)) it was never restored. As of September 2007 there are over “75,000 active contributors working on more than 5,300,000 articles in more than 100 languages” (Wikipedia, 2007av); the original English version exceeds 2,000,000 articles, having long ago subsumed most of the original Nupedia content. The Wikimedia Foundation, incorporated in 2003, is now the steward of Wikipedia as well as a wiki based dictionary, compendium of quotations, collaborative textbooks, and a repository of free source texts.

The Core Content Policies

The three core policies of Wikipedia are “Neutral Point Of View” (NPOV) (Wikipedia, 2006x), “No Original Research” (NOR) (Wikipedia, 2006y) and “Verifiability” (Wikipedia, 2006af). Understanding these complementary concepts goes a long way towards understanding Wikipedia culture itself.

While NPOV at first seems like an impossible, or even naïve, reach towards an objectively neutral knowledge, it is quite the opposite. The NPOV policy instead recognizes the multitude of viewpoints and provides an epistemic stance in which they all can be recognized as instances of human knowledge—right or wrong. The NPOV policy seeks to achieve the “fair” representation of all sides of the dispute such that all can feel represented (Wikipedia, 2006x). Hence, the clear goal of providing an encyclopedia of all human knowledge explicitly avoids many entanglements. Yet, when disagreements do occur they often involve alleged violations of NPOV. Accusations of and discussions about bias are common within the community and any “POV pushing”—as Wikipedians say—is seen as compromising the quality of the articles and the ability for disparate people to work together. Almost a century ago H. G. Wells also appreciated this point as it related to his proposal for a *World Brain*: an “encyclopedia appealing to all mankind” must remain open to corrective criticism and be guarded “with utmost jealousy against the incessant invasion of narrowing propaganda;” it must have the “general flavor” of skepticism and that for “myth, however venerated, it must treat as myth and not as symbolical rendering of some higher truth or any such evasion” (Wells, 1938, p. 55). However, violations of NPOV are not necessarily purposeful, but can result from the ignorance of a new participant or the heat of an argument. In some circumstances, the debate legitimately raises substantive questions about NPOV. In any case, while some perceive NPOV as a

source of conflict, it may act instead as a conduit: reducing conflict and otherwise channeling arguments in the productive context of the primary goal of developing an encyclopedia.

The last two policies are both about attribution, meaning “All material in Wikipedia must be attributable to a reliable, published source” (Wikipedia, 2007az). The notion of “No Original Research” (NOR) (Wikipedia, 2006y) permits the community to avoid arguments about crackpots, pet theories, neologisms, and vanity links (i.e., a person links from Wikipedia to a site they wish to promote). If someone has “a great idea that you think should become part of the corpus of knowledge that is Wikipedia, the best approach is to publish your results in a good peer-reviewed journal, and then document your work in an appropriately non-partisan manner” (Wikipedia, 2006y). Interestingly, one of Wells contemporaries in time and vision, the Belgian “documentalist” Paul Otlet, had a similar notion for his own project: “Readers, abstractors, systematisers, abbreviators, summarizers and ultimately synthesizers, they will be persons whose function is not original research or the development of new knowledge or even teaching existing systematic knowledge. Rather their function will be to preserve what has been discovered, to gather in our intellectual harvests, classify the elements of knowledge” (Otlet, 1990a, p. 83-84). Since Wikipedia does not publish original research, *Verifiability* then implies that “any reader must be able to check that material added to Wikipedia has already been published by a reliable source” (Wikipedia, 2006af).

These three policies of “Neutral Point of View,” “No Original Research,” and “Verifiability” have been characterized as the “holy trinity” of Wikipedia (GeorgeLouis, 2006), without one being preminent over any other, according to Wales:

I consider all three of these to be different aspects of the same

thing, ultimately. And at the moment, when I think about any examples of apparent tensions between the three, I think the right answer is to follow all three of them or else just leave it out of Wikipedia. We know, with some certainty, that all three of these will mean that Wikipedia will have less content than otherwise, and in some cases will prevent the addition of true statements. For example, a brilliant scientist conceives of a new theory which happens to be true, but so far unpublished. We will not cover it, we will not let this scientist publish it in Wikipedia. A loss, to be sure. But a much much bigger gain on average, since we are not qualified to evaluate such things, and we would otherwise be overwhelmed with abject nonsense from POV pushing lunatics. There is no simple a priori answer to every case, but good editorial judgment and the negotiation of reasonable people committed to quality is the best that humans have figured out so far. :) –Jimbo Wales 15:33, 15 August 2006 (UTC) (Wales, 2006g)

These norms will be more fully discussed in the following chapters.

A Bibliographic Note

The type and number of bibliographic sources of this work merit comment.

First, most of the primary sources are exclusively online. Quotations from e-mail and most online resources have no page numbers associated with them. Also, my intention is to present quoted text verbatim, with minimal corrections or editorial caveats such as “[sic].” Given the large amount of grammatical and syntactical deviations online, I fear it would interfere with the text, consequently I usually make such interventions only when they are necessary to comprehension.

Second, many of the printed sources (primary and secondary) are now online. This is common in recent works where authors place versions of a print publication online, or where older works are now in the public domain and have been republished online. In such cases I use the publication date of the version I used. If necessary, I include the original publication date in prose adjacent to the reference, and I include it in the title of the work in the bibliography. For example

the bibliographic entry for the republication of H. G. Wells' "A Modern Utopia" would be:

Wells, H. (2004). A modern utopia (1905). (6424). Retrieved on September 20, 2006 from <<http://www.gutenberg.org/dirs/etext04/mdntp10h.htm>>.

The page numbers associated with print-only sources obviously correspond to the printed page. For those sources that are also online, the page number might be associated with the pagination of the printed online resource from which I first took my notes, or the printed material, for which I later found an online copy. I believe it will be clear to the reader which is the case.

Finally, Web sources do change, particularly wiki pages! Wherever possible I include the date of the version of the source to which I am referring. Wikimedia resources are also identified by their versioned, "stable" or "permanent," URL. On a couple of occasions, I do reference different versions of the same wiki page.

All of this may sound confusing, and it was no easy task coming to this understanding, but in the end I hope it is useful. If the intention of bibliography is to permit the reader to follow the author's journey through the sources, the ready accessibility of online resources is a boon to all.

HISTORICAL HERITAGE

A hazard in thinking about new phenomena—such as the Web, wiki, or Wikipedia—is to aggrandize novelty at the expense of the past. To minimize this inclination I remind myself of the proverb “the more things change, the more they stay the same.” In the next two chapters I hope to demonstrate this maxim with respect to Wikipedia and its reference work predecessors. In chapter 2, I step back nearly 100 years to the beginning of the twentieth century to argue that Wikipedia is an heir, and perhaps the fulfillment, of a modern vision of a universal reference work inspired by technology and its collaborative potential. In chapter 3 I look even further back in time, spanning millennia, to consider other features Wikipedia might share with reference works including the manic and eccentric characters putting them together, and the ways in which cooperation, competition, and plagiarism have been entailed in their production.

CHAPTER II

WIKIPEDIA'S HERITAGE: THE UNIVERSAL ENCYCLOPEDIA

In March of 2000 Jimmy Wales, cofounder of Wikipedia and its Nupedia predecessor, sent his first message to the Nupedia e-mail list:

My dream is that someday this encyclopedia will be available for just the cost of printing to schoolhouses across the world, including '3rd world' countries that won't be able to afford widespread internet access for years. How many African villages can afford a set of Britannicas? I suppose not many... (Wales, 2000a)

In this statement one can find a particular type of Enlightenment aspiration: a *universal* encyclopedic vision of increased access and goodwill. Richard Schwab (1963), a scholar of the Enlightenment and *Encyclopédie*, wrote that at this time “the members of the European international Republic of Letters were developing an awareness that cumulatively they were a force in the world” and that along with this new awareness they “recognized a new solidarity and power to advance human affairs” (p. xii). For example, Denis Diderot (1713-1784), editor of the famous French encyclopedia, wrote that the *Encyclopédie* was developed by a “society of men of letters and skilled workmen, each working separately on his own part, but all bound together solely by their zeal for the best interests of the human race and the feeling of mutual goodwill” (as cited in Rockwell, 1999, p. 6). French social thinker and encyclopedist Henri Saint-Simon (1760-1825) argued that men of science could resolve conflict between nations via agreement upon a world encyclopedia; he optimistically forecast that once begun it would “take less than a year to achieve a lasting peace between France and England” (as cited in Yeo, 2001, p. 244). Richard Yeo describes the universalistic principles underlying

so much of the Enlightenment culture as “the ideal of transportable knowledge, the communication of ideas across national and confessional boundaries; the ability of individuals, where ever they lived, whatever their social status, to participate in a universal conversation. . . . These [reference] works offered the possibility of a reliable codification of knowledge by seeking to record any consensus, and by fixing the meaning of terms” (Yeo, 2001, p. 57).

Interestingly, whereas Wales conceived of his encyclopedia reaching those without the Internet, technology is central to the modern version of the vision of producing the universal encyclopedia. Technology is expected to facilitate a radically accessible resource: low-cost, if not free. Additionally, the accessibility is not only in consumption but in production: a widening of participation and a bridging of differences via collaboration.

Surprising in hindsight, I wrestled with various words before settling upon the term “universal.” In an earlier draft I spoke of a “global digital” vision and also toyed with the terms “electronic” and “networked” among others. In the end I took inspiration from Belgian bibliographer Paul Otlet’s usage of the term “universal” to describe many of his projects, as I describe below. “Universal” is evocative of the spirit of accessibility and collaboration while also inclusive of those visionaries inspired by different technologies: microfilm then and computer networks today. As my research continued, I learned others had reached the same conclusion (Muddiman, 1998; Stallman, 1999). Additionally, “universal,” rather than “digital,” permits me to distinguish between the set of projects with which I am concerned and proprietary products like the *Academic American Encyclopedia*, which was made available online in the 1980s, or Compton’s 1989 Multimedia CD-ROM (Encarta, 2006).

In this chapter I trace the universal encyclopedic vision, a technologically inspired reference work with progressive intentions, from Otlet to Wikipedia;

along the way I ask why it took so long for this vision to become a reality.

The Index Card and Microfilm

Paul Otlet and the Universal Bibliographic Repertory

Much as Peter Burke (2000, p. 109) argues reference works arose as a response to the proliferation of printed materials after the advent of the printing press, one might characterize library and information science as a renewed effort to systematically classify the continued proliferation of printed information. In the late nineteenth century, Melvil Dewey (1851-1931), author of the famous Dewey Decimal Classification (DDC) (Dewey, 2004), established librarianship as a systematic profession with the founding of the Library Journal, co-founding of the American Library Association (ALA) and the Columbia School of Library Economy. Despite the intensity of Dewey's aspirations for reform (including American spelling simplification and metric system adoption)—as a teenager he purchased cufflinks with the letter “R” on them as a reminder of his life goal to transform “certain mistakes and abuses” in society (as cited in Wiegand, 1996, p. 8)—they were (relatively) limited when it came to how he conceived of information. Dewey's aspiration is perhaps best captured in the ALA motto that he penned in 1879: “The best reading for the largest number at the least expense” (as cited in Wiegand, 1996, p. 61). While commendable, this does not reach beyond the management of publications.

Even so, the DDC was to inspire a young Belgian lawyer by the name of Paul Otlet (1868-1944). Throughout his life Otlet was beholden to a vision of technology as a means of disassembling, synthesizing, and distributing knowledge on an international scale. Even as a boy Otlet played at the task of extracting and organizing knowledge: he and his brother drew up a charter for a “Limited

Company of Useful Knowledge” (Legbagede, 2001, p. 1). At the age of 18 he wrote in his diary, “I write down everything that goes through my mind, but none of it has a sequel. At the moment there is only one thing I must do! That is, to gather together my material of all kinds, and connect in with everything else I had done up till now. . . .” (as cited in Rayward, 1975, p. 18). Something like the DDC would be of immense use to Otlet in gathering and connecting such an accumulation of material. On March 24, 1895, Otlet wrote to Melvil Dewey asking if he could employ Dewey’s system: “I have made the acquaintance of your work, a masterpiece of ingenuity . . . could we proceed to a French translation and on what terms?” (as cited in Legbagede, 2001, p. 2). Graciously, Dewey responded to the request permitting Otlet to adopt and adapt the classification provided it would not be available in English and compete with his own scheme (Rayward, 1994, p. 7). Otlet and his Belgian colleague Henri La Fontaine, a famous statesman and fellow internationalist, began to extend and expand the DDC, calling the result the Universal Decimal Classification (UDC) system.

Yet, the UDC was but a single facet of Otlet’s vision which also included a universal bibliographic database/encyclopedia, an international library and museum, and numerous international associations (Rayward, 1991, p. 4). Whereas Dewey was a librarian, Otlet, and his collaborators, considered themselves “documentalists.”¹ Otlet wanted to free information from the bindings of books:

This book, the ‘Biblion,’ the Source, the permanent Encyclopedia, the Summa, . . . will constitute a systematic, complete current registration of all the facts relating to a particular branch of knowledge. It will be formed by linking together materials and elements scattered in all relevant publications. (Otlet, 1990a, p. 83)

¹The difference between a librarian and documentalist continues to be a topic of an interesting, though perhaps moot, discussion (Garfield, 1953; Meadows, 1990). Today, Dewey is often referred to as the father of Library Science; Otlet is credited with founding Information Science and coining the term “documentation.”

Otlet believed his vision was supported by “three great trends” of his time: “the power of associations, technological progress and the democratic orientation of institutions” (Otlet, 1990c, p. 148). New technologies of the day included loose-leaf binders, index cards, and microphotography. Otlet and Robert Goldschmidt (1990, p. 93), an engineer and micro-photography pioneer, estimated that a small can of film could hold 80,000 square meters of photographic documents such that books would soon be compact, light, permanent, inexpensive, durable, and easy to produce, conserve, and consult (p. 89). Yet, it was the humble 3x5 index card in particular that enabled Otlet to begin to compile his “Repertory” (Fontaine and Otlet 1990; Otlet 1990c, p. 150), often referred to as the “Permanent Encyclopedia” (Otlet, 1990a, p. 83). (Otlet’s occasional use of superlatives and the many interrelated projects, which underwent various merges and name changes, can make it difficult, if not foolish, to speak of a single project.)

An organizing tenet of the Repertory was what Otlet came to call the “Monographic Principle” which permitted one to “detach what the book amalgamates, to reduce all that is complex to its elements and to devote a page [or index card] to each” (Otlet, 1990c, p. 149). Pages and cards would not be bound, but “movable, that is to say, at any moment the cards held fast by a pin or a connecting rod or any other method of conjunction can be released” (Otlet, 1990c, p. 149). (This is a perfect example of the ideal of “transportable knowledge” Richard Yeo (2001, p. 57) spoke of with respect to the Enlightenment.) Otlet further wrote, “The external make-up of a book, its format, the personality of its author are unimportant provided that its substance, its sources and its conclusions are preserved and can be made an integral part of the organization of knowledge...” (Otlet, 1990b, p. 17). As I discuss in chapter 7, this idea of modular knowledge can also be found, and is fiercely criticized, in today’s discourse about “Web 2.0.”

In 1895 the Institut International de Bibliographie (IIB), organized by Otlet and La Fontaine, began the task of “reducing” knowledge and media. The Repertory grew from an initial bibliographic repository in 1895 (with author and classified subject files) to also include image files (“iconographic”) in 1905 and full text files (“dossiers”) in 1907. The repertory grew quickly; by 1912 the repertory contained over 9 million entries, by 1914 “this unusual approach to encyclopedia [the textual dossier alone] contained a million items in 10,000 subject files” (Rayward, 1997b, p. 7).

And while the UDC was only a piece of his vision, it was key. Much like the URLs of today’s Web, the UDC enabled one to locate anything deposited in the massive inventory of the Repertory. In addition to the relatively simple scheme of decimal division, Otlet complemented his system with a set of symbols specifying addition, extension, algebraic sub-grouping, and language (Rayward, 1994, p. 14). For example the UDC notation ‘069.9(100)“1851”(410.111)’ specifies The Great Exhibition (069.9(100)) of London (410.111) of 1851 (McIlwaine, 2006). This capability made the UDC more than a classification system: it’s a query language. Indeed, Otlet’s Office of International Bibliography provided a search service with documented guidelines for queries. Initially, search results were copied for a fee of 27 francs per 1000 cards in 1902 (Rayward, 1997a, p. 293) and query services were provided until the early 1970s (p. 294). Much like database systems of the 1980s and 90s, if clients did not make requests with sufficient specificity the office would respond that the result was likely to generate more than 50 results, so “as to obviate surprise” (Rayward, 1994, p. 9).

Otlet also specified types of furniture, divisional colored cards, and atlases for managing information. As the collections grew so did the scope of his thoughts as reflected in his most famous publication of 1934: *Trait de Documentation* (Otlet, 1989). He planned a type of desk in the form of a wheel from which

different projects (workspaces) could be switched as they rotated—foreshadowing the multiple desktops and tabs of contemporary computer interfaces. Inspired by the arrival of radio, phonograph, cinema, and television, Otlet also posited that there were yet many “inventions to be discovered” including the reading and annotation of remote documents, and computer speech (Rayward, 1997b, p. 18).

Additionally, Otlet was an internationalist and supported the foundation of the League of Nations and The International Institute for International Cooperation (which would become UNESCO) with his colleague Henri La Fontaine. Whereas La Fontaine would be recognized with a 1913 Noble Peace Prize for his international efforts, Otlet’s documentation efforts were largely forgotten. Prior to WWII the Belgian government withdrew its funding, and many of the holdings were lost when the Repertory’s home (the Mundaneum) was occupied by German forces; what was left continued to fall into decay throughout the intervening decades.

While the UDC is Otlet’s most lasting contribution, it was not until Boyd Rayward (1994) “rediscovered” Otlet and argued that his vision anticipated the early hypertext of Ted Nelson’s Xanadu project that Otlet was again appreciated by those interested in the history of information science. Rayward wrote his essay in 1994, unaware that Xanadu would never be deployed or of the nascent Web. In this chapter, I make a similar argument, but that Otlet’s Repertory foreshadows Wikipedia. The Repertory was international, multilingual, collaborative, and predicated on technological possibility, much like Wikipedia.

H. G. Wells and the *World Brain*

H. G. Wells, the English novelist, was no librarian, but he too was captivated by advances in technology and the notion of a universal reference

work. (While Rayward (1999, p. 32) could find no evidence of direct contact between Wells and Otlet, he thinks it very likely that they at least knew of each other from their mutual attendance at the 1937 Documentation Congress in Paris.) Like Otlet, Wells' notion of a universal reference work was not an immediate and solitary brainstorm; it was the culmination of a number of long-standing interests as prompted by the circumstances of his time. First, in 1905, Wells wrote of the utopian implications of index cards—though many would think his vision of the state keeping tabs on its citizens to be more dystopian than otherwise:

A little army of attendants would be at work on this index day and night. . . . constantly engaged in checking back thumb-marks and numbers, . . . of applications to post offices for letters, of tickets taken for long journeys, of criminal convictions, marriages, applications of public doles and the like. So the inventory of the State would watch every man and the wide world would write its history as the fabric of destiny. (Wells, 2004, pp. 164-165)

Second, since at least 1928, Wells had been advocating for an internationalist revolution, one world government, or “Open Conspiracy” (Wells, 1933). Dave Muddiman aptly identifies the key elements of this “modern” program as: “universalism and the ‘World State’; planning and a central organization; a faith in scientific and technical advance, education, professionalism, expertise and benevolent socialism” (Muddiman, 1998, p. 87). Third, Wells was beginning to think of artifacts like books and institutions like museums as a type of “super-human memory” which would prompt a mental expansion for which “the only visible limit is our planet and the entire human species” (Wells et al., 1931, p. 1451). Each of these threads found their way into his 1936 proposal for a world encyclopedia, or, as he liked to call it, a “World Brain.” (Otlet, too, at least once made reference to an “artificial brain” (Otlet, 1990b, p. 17).) As I alluded to in the introduction, given advances in technology and the insecurity of the interwar period, Wells believed that intellectual resources were squandered, that

“professional men of intelligence have great offerings but do not form a coherent body that can be brought to general affairs” (Wells, 1936, p. 920). He hoped that a world encyclopedia could “solve the problem of that jig-saw puzzle and bring all the scattered and ineffective mental wealth of our world into something like a common understanding” (p. 920). This was not simply an educational resource, but an institution of “adjustment and adjudication; a clearinghouse of misunderstandings” (p. 921). It was hoped that such an institution would further the movement towards “unification and perhaps the abandonment of war” (Wells et al., 1931, p. 1471).

Given the resources of “micro-photography” Wells felt: “the time is close at hand when a student, in any part of the world, will be able to sit with his projector in his own study at his or her convenience to examine any book, any document, in exact replica” (Wells, 1938, p. 54). He proposed that the encyclopedia be in a single language, English, as it was difficult to otherwise conceive of a polyglot project satisfying his goals of social unity. Yet, it is also difficult to conceive how any such project could be genuinely universal when limited to a single language. In the case of Wikipedia, it began as an English language work, and this version remains the largest, but there are now other language encyclopedias. While policy for the Wikimedia projects at large continues to be discussed on the English-language e-mail lists and the “Meta” wiki, each language project has some degree of autonomy and articles in one language now provide links to their alternative language versions.

An additional feature of Wells’ *World Brain* was that it “should consist of selections, quotations, and abstracts as assembled by authorities—one need not create summaries” (Wells, 1936, p. 921). This was much like Otlet’s sentiment, mentioned in the introduction, that there would be no original research, rather information should be harvested and classified (Otlet, 1990a, p. 83-84). While

this focus on primary texts is novel relative to our current reference works, it is actually true to one of the encyclopedia's roots: the commonplace books in which Renaissance scholars collected and sometimes shared excerpts and notes from their readings (Yeo, 2001, p. 155). Wells may have used this liberal notion of borrowing in the creation of his own book, *The Outline of History*, for which he was accused of plagiarism by Florence Deeks, whom he dismissed in his *Experiment in Autobiography* as conceiving "the strange idea that she held the copyright to human history" (Wells, 1934, p. 619). (Though Wells did describe his practice as writing with "the Encyclopædia Britannica at my elbow, to get the general shape of history sketched out" (p. 614) and then "mugging up" the material with the help of assistants, rewriting most all of it himself, and then getting it vetted and revised, "and, in one part, rewritten by specialists" (p. 618).) And while I agree with Wells' sentiment—and the ambiguities and social construction of plagiarism is a topic of the next chapter—it appears that Deeks did not object to his scope of human history, but that he copied text from her own manuscript, likely given to Wells by their publisher. A.B. McKillop (2002) concludes her treatment of this incident with an unfavorable portrait of Wells as "a man and an author for whom everyone and every body existed for the purpose of self-appropriation. He found women useful when they reflected elements of himself, but when they found their own voices he discarded them. And so it was, too, with the words of others" (p. 395).

Despite this failing—and there are other issues on which his character and ideas can be faulted—he was a dedicated internationalist and forever looking towards the future; like La Fontaine and Otlet, Wells thought the examples of The League of Nations, the Committee on Intellectual Cooperation in Paris, and the World Congress of Documentation were models, in spirit and application, for his own project. Yet, unlike Otlet's efforts which were well known in their time, the

“World Brain” never materialized beyond the ardent vision of an author.

Vannevar Bush and the Memex

In 1945 Vannevar Bush (1890-1974), an electrical engineer and advocate of America’s war research program, published “As We May Think” in the *Atlantic Monthly*. Bush motivates the article by noting the glut of information that confounds researchers and impedes progress. For example, Mendel’s laws of genetics were lost to science for a century because “his publication did not reach the few who were capable of grasping and extending it” (Bush, 1945, §1). This “growing mountain” of information could be managed by a memex, an electromechanical microfilm “device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory” (§6). The bulk of the essay contains the predictions for which it is now famous: speech recognition, reliable computing, intuitive user interfaces, the Web and Semantic Web, and indexing and associative searching. He also addressed its encyclopedic potential. Noting that for a nickel, the *Britannica* could be placed on 8.5 x 11 microfilm form and mailed anywhere for a cent, Bush predicted “wholly new forms of encyclopedias will appear, ready-made with a mesh of associative trails running through them, ready to be dropped into the memex and there amplified” (§8). Thus science and mankind might continue to advance without abandoning the wisdom of hard-earned experience, including that of the “cruel [nuclear] weapons” that could terminate human progress and life altogether.

Digital Computers and Networks

In the proposals of Otlet, Wells, and Bush we can discern a technologically inspired vision of a universal encyclopedia. This vision included collaborative capabilities—or, as Bush spoke of, “amplifying” the contributions of others. For Otlet and Wells this collaboration was also part of their ethical commitment to world peace. The French documentalist Suzanne Briet (1894-1989) captured this sentiment when she wrote of her library’s reading room of three hundred patrons: “peaceful with their books. Peace through books” (as cited in Maack, 2004, p. 5). Even Bush, an architect of the atomic weapons program, hoped a better (machine aided) memory would not let us forget the horrors of war. Yet, in the first half of the twentieth century, these visions were never satisfactorily fulfilled. Microfilm, the inspirational technology, wasn’t up to the task. However, in the latter half of the twentieth century a new technology, the computer network, engendered new possibilities and thus inspired new directions in the creation of encyclopedias. And while the expectation that a networked encyclopedia would herald in a new era of world peace lessened, the likelihood of a widely accessible and collaborative encyclopedia increased. Even so, why did it take so long for the vision of “wholly new forms of encyclopedias” (Bush, 1945, p. 8) to be realized in the form of Wikipedia? The answer, presented in this section, was that it required an alignment of a coherent goal, technical practicality, and serendipity: vision, pragmatics, and happenstance.

Project Gutenberg

Project Gutenberg, a source of thousands of e-books, was started in 1971 by Michael Hart, a student at the University of Illinois. The story of its birth is rendered in almost mythical terms. Through friends Hart gained access to a Xerox

Sigma Five mainframe computer at the university's Materials Research Lab; such a machine was extraordinarily expensive, and consequently, access to it was a valuable privilege. In fact, many of Project Gutenberg introductory materials stress that such access was worth hundreds of thousands if not millions of dollars.

At any rate, Michael decided there was nothing he could do, in the way of "normal computing," that would repay the huge value of the computer time he had been given . . . so he had to create \$100,000,000 worth of value in some other manner. . . . (Hart, 1992)

Envisioning a time when computers would be widely accessible—indeed, this computer was one of the first 23 that would become the Internet (Hart, 2006; Zakon, 2005)—Hart began typing in a copy of the United States *Declaration of Independence* he happened to have in his backpack:

. . . and project Gutenberg was born as Michael stated that he had 'earned' the \$100,000,000 because a copy of the Declaration of Independence would eventually be an electronic fixture in the computer libraries of 100,000,000 of the computer users of the future. (Hart, 1992)

Beyond being one of the first free publicly accessible cultural resources on the Internet, Project Gutenberg is relevant to the history of the universal encyclopedic vision and Wikipedia for two additional reasons.

Initial contributions to Project Gutenberg were like those of Hart's *Declaration of Independence*: a single contributor typing in the whole text. Whereas Marie Lebert (2004) claims that Hart typed in the first 100 books, Hart's (2006) own recollection is that "... I had plenty of help, even back in those days, though it was mostly anonymous, and even I did not know who typed most of the first dozen or two that I didn't do." This was laborious work, and in time the majority of texts being submitted were scanned and interpreted by Optical Character Recognition (OCR) software. Yet, this is an imperfect technology as

books age and typefaces can be quite varied. The greatest challenge to Project Gutenberg was how to apportion and coordinate the work of volunteers who might have enough time to correct a chapter's worth of work, but not a whole book. In 2000 Charles Frank launched Distributed Proofreaders, a complementary project to Gutenberg that would "allow several proofreaders to be working on the same book at the same time, each proofreading on different pages" (Proofreaders, 2004). Each page of the work undergoes two proofreadings that are reconciled by a "post-processor." The importance of distributed proofreading is that it permits massive collaboration. Research on Free and Open Source software (FOSS) development has identified this characteristic of content production as incremental "micro-contributions" (Benkler, 2002; Sproull et al., 2004). Indeed, Distributed Proofreaders' maxim is "a page a day"—but on average readers proof 10 or more pages a day. This feature of allowing many contributors to produce overlapping work in bite-sized chunks—though often becoming a consuming passion—is a powerful motif in open content communities.

Project Gutenberg was also responsible for one of the first publicly available reference works on the Internet, or a least part of it: *Volume A* of the 1911 *Encyclopædia Britannica*. In January 1995 Project Gutenberg published the first volume of the 1911 edition, which had passed into the public domain. However, the work stalled and was only resumed by Distributed Proofreaders when in October 2004 Part I of Volume II was posted with much fanfare. Continuing with the mythic character of its origins, this event was characterized as the long-awaited return to an ancient struggle:

On the morning of October 8, 2004, near his library window overlooking a quiet lake in upstate New York, David Widger ran a series of final checks and verifications on a partitioned element of the 11th edition of the *Encyclopædia Britannica*. Yes, that same EB11 which has long been known as a formidable processing challenge throughout the Project Gutenberg community. This latest

approach towards its digital conversion did little to diminish that reputation. . . . This “slice” of EB11 was not simply another single project being posted to the PG shelves, but the final component in a varied and impressive collection [that marked] the completion of Distributed Proofreaders’ 5,000th unique title produced for Project Gutenberg and the digital public domain. (Proofreaders, 2005)

Outside of Project Gutenberg, questions of how to incorporate the 11th edition into Wikipedia—and even the Interpedia, a pre-Web predecessor—also proved difficult. In 2002 all 28 volumes of the 11th *Britannica* were published at <http://1911encyclopedia.org/>. Some saw this as an opportunity to populate Wikipedia with high quality materials: the 1911 edition was considered one of the best references of Western knowledge at the start of the twentieth century, even if rather dated by its end. Yet, copyright, trademark, and substantive issues were to prove difficult. The organization that published the 28 volumes online claimed a copyright in the work they posted, arguing that their edition was a value added improvement upon a public domain work. Additionally, even if the text was now in the public domain the term “Encyclopædia Britannica” remained a trademark. For this reason, the Project Gutenberg version is referred to as the Gutenberg Encyclopedia. Yet, even the terms of the Gutenberg Encyclopedia proved to be confusing to some Wikipedians who wished to cite the source of the work (*Britannica* or Gutenberg) without violating trademarks and their associated licenses. And substantively, some thought that any material from a 1911 work was of little use, even for historical subjects. While some material was imported as a starting point for subsequent editing, these difficulties and the extraordinary growth of home-grown content on Wikipedia has rendered the issue moot.

Aside from the two obvious connections between Project Gutenberg and Wikipedia, there is a lesson here central to the theme of this chapter. A strength of Project Gutenberg was that the simple vision of sharing accessible e-books was directly satisfied by technology available at the time: type existing public domain

books into a networked computer using “plain vanilla ASCII.” ASCII is the legacy standard for representing characters because it concisely represents digits and the Roman alphabet used by early computer and network developers; it is still in use today. However it has no representation for accented characters, much less non-Roman scripts. And, a file of ASCII characters is rather sedentary. No underlines, italics, or bolds—Project Gutenberg represents all of these as uppercase. Nor does ASCII accommodate links or other hypertextual innovations.

This term, “plain vanilla ASCII,” is repeated in full, like a mantra, in Project Gutenberg materials; Michael Hart was well-known for his opposition to any exclusive reliance upon more sophisticated textual representations such as PDF or HTML: documents, with few exceptions, must at least be available in “plain vanilla ASCII” which could then be complemented by other formats (Hart, 2006). While frustrating to some, this insistence may have prevented the project from becoming ensnared in endless debates about formats and permitted it to achieve the success it has. However, that success had not been able to yield a complete and free online encyclopedia.

Interpedia

Unlike Project Gutenberg, the Interpedia project was conceived of as an encyclopedia, but this conceptualization was confused by a plethora of technical options. The Interpedia FAQ introduces the project by noting a resurgence in the early 90s of the notion of a freely accessible encyclopedia:

According to Michael Hart the idea for a net encyclopedia has been around nearly as long as the net, at least back to 1969-71. This recent burst of activity is the result of a post to several newsgroups by Rick Gates with his idea to write a new encyclopedia, place it in the public-domain, and make it available over the Internet. Among the first responses to Rick’s message was one by Gord Nickerson

who suggested that this Internet Encyclopedia be fully hypertexted using a markup language such as html. . . (Wilson and Reynard, 1994, question 1)

In October 1993, when the project was proposed by Rick Gates on the alt.internet.services USENET newsgroup (Wikipedia, 2006d), Internet usage was reaching a critical mass. Non-technical members of universities and technology companies were beginning to use e-mail and USENET. Computer hobbyists who typically communicated via dial-up bulletin board systems were developing Internet gateways so they too could access the Internet. And most importantly, new applications, and their network protocol and document formats, were proliferating. In addition to FTP (file repositories and transfer), e-mail (correspondence between specified recipients), and USENET (discussion forums), three new technologies were vying as the next prominent Internet service. WAIS (Wide Area Information Service) retrieved documents based on keyword queries. Gopher permitted one to browse information using menu traversal: to dig down into a publisher's taxonomy from general to specific. And, of course, there is the Web.

The conundrum of which system to use is apparent in the Interpedia's Frequently Asked Questions (FAQ) document:

The gopher system is widely available but is not sufficiently easy to use to satisfy many people, and it does not support hypertext. Perhaps gopher software could be improved, but it doesn't seem appropriate yet.

The WWW has many advantages over earlier approaches (e.g. gopher), but is not to everyone's liking. Many people do not like navigating around in hypertext, and insist that an encyclopedia must provide keyword and/or alphabetical access. Perhaps the WWW could be improved to support the Interpedia project, but it doesn't seem quite appropriate yet. It might be a good starting point though. (Wilson and Reynard, 1994, question 2.6)

Additionally, Doug Wilson wrote, “the term Interpedia is ambiguous—to some it means the text, to some software, and to others what we will have when we have both” (question 1.2). A consequence, in part, of this technical uncertainty was an ambiguity in vision. Would the Interpedia be part of the Internet, or, if it references existing services, would it be something “that ends up **being** the net” (question 1.1). This confusion is further demonstrated in answer to the question on other parallel projects to the Interpedia, including Frequently Asked Questions, FTP- and Gopher-based resource guides, collections of electronic art, and the Web itself (question 4.5).

For about half a year Interpedia participants were relatively active on the mailing lists and USENET group. Yet, perhaps because of these ambiguities and the explosive growth of the Web, the project never left the planning stage. Even so, this project is of interest for three reasons. First, in response to the hypertextual identity crisis of being part of the Web, or the Web itself, project participants envisioned at least a core or default set of encyclopedic articles. Articles could be submitted by anyone and quality and legitimacy would be arbitrated by a collection of decentralized seal of approval systems. No acceptance or rejections were necessary, instead, a seal “indicates that some article is good” and would be used by both people and the software to govern the accessibility of articles (question 4.2). Second, the 1911 *Encyclopædia Britannica* also proved to be a source of controversy as a strategy for initially populating the Interpedia. (In fact, Michael Hart was an Interpedia member; other members eagerly anticipated Project Gutenberg providing all 28 volumes of the Gutenberg Encyclopedia. As noted, the first and only volume of the 1990s was posted in January 1995). Third, the process and culture of Interpedia would be facilitated by editors, whose responsibilities were “to act in good faith in the advancement of the Interpedia” (Wilson and Reynard, 1994, question 3.5.2). This notion of contributors acting in

good faith anticipated a cultural norm that I will argue is central to Wikipedia's collaborative culture in chapter 5.

Distributed Encyclopedia

Though the actual Interpedia project fizzled, its newsgroup continued to be a forum for the occasional question or announcement for years to come. The notion of an Internet-based encyclopedia was no longer novel, and as the '90s progressed the Web became the obvious platform for any such project. In hindsight, the formation of such a reference work seems inevitable. Yet, at the time, there was little clarity on how such a project would work. Ideas and half-starts came and went—or as Foster Stockwell (2001), a historian of reference works, noted in explaining why he didn't concern himself much with online works, they are “here today gone tomorrow.” In 1997, Jorn Barger posted a message entitled “Beyond the Interpedia” to the newsgroup. He wrote, “from time to time, people ask if the Interpedia project—to get a full, free Encyclopedia on the net in some form—is still happening anywhere” (Barger, 1997). The “closest descendent” known to Barger was the Distributed Encyclopedia.

Beyond this newsgroup posting, there are very few references to this project on the Web today. Its project pages themselves can only be found in the Internet Archive and do not give the impression of being more than a manifesto (Encyclopedia, 1999) of a very small, if not single, number of authors. Still, the project's introduction clearly reflects the stabilization of a number of pragmatic questions: it would benefit from many contributions and it would be distributed, meaning there will be no central authority (beyond simple stylistic conventions) or repository: each article will be hosted by the author and linked to from a central index at the project.

The irony here is that while it became clear that the Web would play a fundamental role, and an enormous strength of the Web is its hypertextual and decentralized character, the Wikipedia itself is not decentralized in this way. It is not a collection of articles, each written by a single author, strewn across the Web. Instead, many authors can collaborate on a single article, stored in a central database which permits easy versioning, formatting, and stylistic presentation. Furthermore, there is a vibrant common culture among Wikipedians that contributes to its coherence.

Nupedia

In January of 2000, a few months prior to the first e-mails to the Nupedia list, Larry Sanger e-mailed Jimmy “Jimbo” Wales with a proposal. Wales, an Internet enthusiast since his days of playing in Multi-User-Dungeons (MUDS) in college (Barnett, 2005), had been toying with the idea of an Internet encyclopedia. When Sanger e-mailed him about a blog-like successor to “Sanger and Shannon’s Review of Y2K News Reports”—Y2K passed without much incident and both Sanger and Shannon were looking for new (funded/sponsored) activities (Shannon, 2000)—Wales counter-proposed his encyclopedia idea and asked Sanger if he would be interested in leading the project. Each man’s career path made for a fruitful collaborative potential. Wales obtained bachelor’s and master’s degrees in finance and took courses in the Ph.D. programs at the University of Alabama and Indiana University, but never wrote a dissertation; he instead turned to the marketplace as a futures/options trader. During the explosive growth of the Internet, Wales also began investing in, and founded his own, Internet business. Sanger (2000d) was a doctoral candidate in philosophy finishing his dissertation on *Epistemic Circularity: an Essay on the Justification of Standards*

of Justification. (This topic was to influence Sanger’s approach to addressing issues of bias and neutrality in both the Nupedia and Wikipedia.) Both men were well-educated, comfortable with technology, familiar with the norms of online community and discussion, and between them had the financial, philosophical, and academic resources behind them to launch and sustain such a project.

In February of 2000, Sanger moved to San Diego to start work at Bomis, Wales’ Internet portal company. In the months before the March 9 public announcement, Sanger drafted many ideas and policies in discussion with Wales and another Bomis partner, Tim Shell (Sanger, 2005a), about how to run Nupedia. In the March 10 *PC World* article about the launch, the project was presented as ambitious and in need of contributors:

The site’s managers are seeking contributors and editors with expertise in, well, almost anything. The contributors will provide the diverse content, which will be offered free of charge to both consumers and businesses. Anyone is welcome to peruse Nupedia, and any other Web site may post Nupedia’s content on its own. They need only to credit Nupedia as the source. (Gouthro, 2000)

The article also notes that Nupedia was inspired by other open-source projects like Linux and the Open Directory Project, the goal was to be open to all expert contribution and free of charge to all users, and Sanger’s quoted aspiration was for the Nupedia to become “the world’s largest Encyclopedia.” Similarly, the signature appended to the very first Nupedia e-mail sent to the list states “Nupedia.com building the finest encyclopedia in the history of humankind” (Sanger, 2000c).

Unlike the Interpedia—and certainly the Distributed Encyclopedia—Nupedia shows the benefit of the resources of Wales (Bomis) and efforts of Sanger. Wales wrote to the Nupedia list:

The company behind Nupedia, Bomis, Inc., has a great deal of experience designing and promoting high-traffic websites. We

intend to put that experience (and the profit from that!) behind the Nupedia project to insure that it is a success. (Wales, 2000a)

In the course of the first year Sanger was the picture of frenzied cheer-leading activity. In March, Sanger reported the project had 602 members and of the 140 who had filled out membership forms “about 25-40% of these (or 35-56) are Ph.D.’s or otherwise clearly bona fide experts” (Sanger, 2000a). By the summer the first article (atonality) was formally published and the Advisory Board was in place (Sanger, 2005a). By November version 3.31 of the Nupedia.com “Editorial Policy Guidelines” (Nupedia, 2000) was published. Software was frequently updated throughout the year. And, throughout, Sanger was always trying to recruit new members, including the offering of T-shirts, coffee cups, and an end of the year membership drive with cash prizes. By January 2001 there were approximately 2,000 people on the Nupedia e-mail list (Sanger, 2005a).

Despite these efforts and progress, Nupedia was struggling. The recruitment efforts are evidence of the difficulty in procuring commitments from volunteers for the significant work entailed in writing an article and seeing it through the complex Nupedia editorial process. The universal vision, this time in the form of a “dream” of a low cost encyclopedia available to “schoolhouses across the world” seems reasonable, certainly compared to earlier hopes for world peace. The technology, too, seemed capable of inexpensively supplying information throughout the world, and even facilitating the work of distant contributors. Yet something more was needed and it would only be found by (seeming) accident. But before I turn to wiki, there’s one more encyclopedic project before Wikipedia.

In January 2001, the same month in which the Nupedia mailing list had reached 2,000 subscribers, a controversy erupted around a Slashdot posting entitled “Will The Real Nupedia Please Stand Up?” (Wales, 2001e). Richard Stallman, father of the Free Software movement, and an inspiration for the Nupedia project, announced a competing project led by Hector Arena. Under the aegis of the Stallman’s GNU organization the GNUPedia would implement a proposal Stallman had drafted in 1999 for a “free universal encyclopedia and learning resource.” (GNU stands for “GNU is not Unix” and set out to replace the proprietary Unix system with a similar but free system.) Stallman’s proposal for a “free universal encyclopedia” had been presented in various venues in 1999 (e.g., the SIGCSE conference in March and the MacArthur Fellows Reunion in October (Stallman, 2005b)), but only came to be known publicly when it was made available on the Web as part of the controversial GNUPedia project announcement in 2001. Stallman (1999) outlined a vision of single author articles distributed throughout the Web but indexed by the central project—much like the Distributed Encyclopedia. This vision purposely eschewed any type of central authority besides a commitment to freedom, meaning any article that is linked to must satisfy the criteria of permitting universal access, mirror sites, translation into other languages, quotation with attribution, and modified versions. Additionally, Stallman encouraged contributions from educators (whose disciplines he thought were becoming increasingly commercialized), and envisioned peer review and endorsements—similar to Interpedia seals of approval.² Given the lack of central control, these criteria would be enforced by compliant articles or indexes refusing to link to any encumbered article failing to satisfy these requirements.

²As of September 2007, long discussed experiments in rating the quality of Wikipedia articles and contributors are supposedly underway (Moeller, 2007a).

Again, in this proposal, the Web-like assumption of decentralization is present. And “freedom” was ensured by the same reciprocity required by copyright licensees that govern most of Free Software: non-free is kept separate from the world of the free. Most importantly, the proposal recognized important challenges previous projects failed to meet: contributors should appreciate that “small steps will do the job” when one “takes the long view” (Stallman, 1999).

Even so, this humble and ambitious sentiment of the tortoise getting there in the end wasn’t enough; an actual system was never realized. Because the name and the announcement were not meant to intentionally interfere with Nupedia, GNUPedia refocused as a “library of options” or “knowledgebase” and changed its name to GNE, a recursive acronym, like GNU, standing for “GNE is Not an Encyclopedia.” Stallman (2005d) wrote to me that this incident was a simple case of confusion as he was in discussion with multiple people about encyclopedic projects without remembering that they were distinct, but he wanted to ensure any such project would respect freedom in any case. Yet, while GNE project participants wrestled with their new purpose, at the same time expressing concern about the centralization and complexity of the Nupedia process, Wikipedia quickly overtook both.

The Web and Wikis

To understand the success of Wikipedia as the most credible realization of the universal encyclopedic vision, one must also understand a failing of the Web as we know it, but not as it was first conceived. In his memoir of the Web, Tim Berners-Lee (1999) notes that in January 1993 there were nearly 50 different web browsers (p. 67), inspired by his original Web client and roughly implementing the HTTP, HTML, and URL specifications that Berner-Lee drafted. However,

one client was to stand out among others: Mosaic and, subsequently, Netscape. Unfortunately, some Mosaic developers were seemingly intent on overshadowing the World Wide Web and failed to implement the critical feature of editing a web page:

Marc and Eric [Mosaic developers] explained that they had looked at that option and concluded that it was just impossible. It can't be done. This was news to me, since I had already done it with the World Wide Web [client] on the NeXT—though admittedly for a simpler version of HTML. (p. 70)

Consequently, for many people the Web became a browsing only medium unless they were savvy enough to know how to manually publish web pages, or were fortunate enough to use a fully featured Web client such as Arena or AOLPress. Until, that is, the WikiWikiWeb.

“Wiki wiki” means “super fast” in the Hawaiian language, and Ward Cunningham chose this name for his wiki project in 1995 to indicate the ease with which one could edit Web pages. In a sense, wiki captures the original conception of the World Wide Web as a browsing *and* editing medium. Wiki makes this possible by placing a simple editor within a Web page form and the functionality of formatting and linking on the wiki server. Consequently, if a page on Wikipedia (an encyclopedia on a wiki server) can be read, it can be edited.

At the beginning of January 2001 there was an increasing frustration associated with the Nupedia productivity. The need to publish more articles, as well as a greater popular interest in contributing, was not well matched by the expert dependent multi-step editorial process. Hence, the stage was set for the introduction of a wiki. On January 2, Sanger had lunch with Ben Kovitz, an old friend from Internet philosophy lists, during which Kovitz introduced the idea of wikis to Sanger. Sanger immediately saw this as a possible remedy to Nupedia's problems, permitting wider “uncredentialed” contribution and

collaboration on articles that would then be fed to Nupedia's "credentialed" editorial review. Within a day, Sanger proposed the idea to Wales and Nupedia's wiki was announced on January 10 in a message entitled "Let's make a Wiki":

No, this is not an indecent proposal. It's an idea to add a little feature to Nupedia. Jimmy Wales thinks that many people might find the idea objectionable, but I think not. . . .

As to Nupedia's use of a wiki, this is the ULTIMATE "open" and simple format for developing content. We have occasionally bandied about ideas for simpler, more open projects to either replace or supplement Nupedia. It seems to me wikis can be implemented practically instantly, need very little maintenance, and in general are very low-risk. They're also a potentially great source for content. So there's little downside, as far as I can see. . . . If a wiki article got to a high level it could be put into the regular Nupedia editorial process. . . . On the front page of the Nupedia wiki we'd make it ABSOLUTELY clear that this is experimental, that Nupedia editors don't have control of what goes on here, and that the quality of articles, discussion, etc., should not be taken as a reflection of the quality of articles, review, etc. on the main part of the Nupedia website. (Sanger, 2001c)

However, Nupedia contributors resisted Nupedia being associated with a web site in the wiki format. Therefore, the new project was given the name "Wikipedia" and launched on its own address, Wikipedia.com, on January 15, 2001 (Wikipedia, 2006c).

Wikipedia

Since its start, Wikipedia's growth has been extraordinary. Within six months Sanger (2001e) announced that "the Wikipedia is now useful" and in September Sanger (2001b) proclaimed on USENET that the "Interpedia is dead—long-live the Wikipedia." Wikipedia proved to be so successful that when the server hosting Nupedia crashed in September of 2003 (with little more than 24 complete articles and 74 more in progress) it was never restored

(Wikipedia, 2006h). As already mentioned, there are now scores of active language encyclopedias, millions of articles, and a handful of other Wikimedia projects.

And while this is a remarkable realization of a century old vision, the end of this story is not as happy as it might otherwise be—nor is it really the end, just where I finish this part of the tale. In the first year of Wikipedia’s life, its radical openness and explosive growth was never reconciled with the Nupedia’s goal of an authoritative expert-driven reference work. Once it was clear that a wiki could be useful, Sanger tried to introduce the idea again for Nupedia:

But by the summer of 2001, I was able to propose, get accepted (with very lukewarm support), and install something we called the Nupedia Chalkboard, a wiki which was to be closely managed by Nupedia’s staff. It was to be both a simpler way to develop encyclopedia articles for Nupedia, and a way to import articles from Wikipedia. No doubt due to lingering disdain for the wiki idea—which at the time was still very much unproven—the Chalkboard went largely unused. The general public simply used Wikipedia if they wanted to write articles in a wiki format, while perhaps most Nupedia editors and peer reviewers were not persuaded that the Chalkboard was necessary or useful. (Sanger, 2005a)

Stretched between continuing frustration with Nupedia’s progress, problems with unruly Wikipedians, and a widening gap between the two, Sanger failed to save the Nupedia project and alienated some Wikipedians who saw his actions as increasingly autocratic (Sanger, 2001d). Additionally, with the burst of the Internet bubble, Sanger, among many others in the industry, was laid off from Bomis and resigned from his Wikipedia role shortly thereafter. Sanger’s subsequent commentary from the sidelines, particularly his continued criticism of Wikipedia not respecting the authority of experts, has prompted additional negativity towards him. In April of 2005, Sanger published his memoirs of Nupedia and Wikipedia which sparked a controversy over whether Sanger even

deserved credit as a cofounder of Wikipedia (Wales, 2005e). Sanger's exit from Wikipedia will be further touched on in chapter 6 when I consider what type of leadership style may work best in such communities, and the continuing issue of "expert versus amateur" is part of the discussion I review in chapter 7.

Conclusion: Predicting the Future, Reading the Past

A teacher of mine wisely noted "historians stink at predicting the future." This seems especially true when making predictions related to technology (Brody, 1997; Ceruzzi, 1997), and its implications on reference works. Yet even those who help "make" the future are no better at prediction. In this chapter I considered those looking back, forward, and those struggling in their present to implement a universal encyclopedic vision. For a long time, no one got it quite right. But people, being people, try, and try again. And that story is revealing in at least two ways.

First, even unfulfilled visions, failed projects, and erroneous predictions tell us something about those people and their time. I believe the history recounted in this chapter speaks to the alluring and enduring notion of an ambitious project of human knowledge production and dissemination: a universal encyclopedia. This vision persisted throughout the twentieth century even though each instance was prompted by different technologies and entailed differing levels of accessibility in production: Otlet's documentalists, Wells' diplomats, Nupedia's scholars, and Wikipedia's "anyone."

Second, a question throughout this chapter is why did it take so long for the vision to be realized? I believe one can detect possibilities in the overlapping spheres of vision, pragmatics, and happenstance; interesting things happen when those stars align. Perhaps the best example of this can be seen in the expectation

(i.e., the Distributed Encyclopedia and GNUPedia) that once it was clear the Web would be a platform for such an encyclopedia, it would also be decentralized. But, Wikipedia is centralized, in part, because wikis made editing the Web possible again for many people, the loss of which was seemingly another chance event. Wikis have other features that make it useful (e.g., versioning, simple inter-wiki linking, etc.) for an encyclopedia—though, seemingly, Wales himself thought such a notion would not be received well and Ward Cunningham predicted that the result would be more a wiki than an encyclopedia (Sanger, 2005a).

In any case, the projects discussed in this chapter are attempts at realizing a universal vision, encompassing the goodwill of collaborators and reaching towards global accord. While it is a mistake to argue all reference works are necessarily progressive, as I warn in chapter 7, even *Britannica*—often thought to be the conservative opponent of the *Encyclopédie* in the 1800s and Wikipedia today—shared this sentiment in a preface to a 1940s edition: “To the men, women, and children of the world who, by increasing their knowledge of the earth and its people, seek to understand each other’s problems and through this understanding strive for a community of nations living in peace, the *Encyclopædia Britannica* dedicates this volume” (as cited in Jacobs, 2004, p. 341).

A Timeline of Events

1895 Otlet’s Permanent Encyclopedia: liberating ideas from the binding of books

1936 Wells’ World Brain: a vision of a worldwide encyclopedia using microfilm

1945 Bush’s Memex: a vision of a hypertextual knowledge space and new forms of encyclopedias

1965 Nelson’s Xanadu: a vision of hypertext

1971 Hart's Project Gutenberg: a vision of providing e-books through achievable means ("plain vanilla ASCII")

1980s Academic American Encyclopedia is made available in an online experiment; multimedia CD-ROMs soon follow

1991 Berner-Lee's World Wide Web: a vision of highly accessible read/write

1993 Interpedia: an ambiguous vision lost among too many infrastructural options

1995 Cunningham's WikiWikiWeb: making the Web easy to collaboratively edit

1999 Distributed Encyclopedia: many people should contribute independent essays that could be sensually indexed

1999 Stallman's "The Free Universal Encyclopedia and Learning Resource"

2000 Distributed Proofreaders: distributing the task of proofreading among many

2000 (March 9) Nupedia launched: a FOSS-inspired expert-driven free encyclopedia

2001 (January 10) "Let's make a Wiki"

2001 (January 16) GNE Project Announced

2001 (September) "Interpedia is dead—long-lived Wikipedia"

CHAPTER III

THE PRODUCTION OF REFERENCE WORKS

In the previous chapter I identify a universal vision for reference works: technologically inspired, universally accessible, and fostering collaborative goodwill. But what of their actual production? In order to highlight the novelty of Wikipedia, Daniel Pink (2005) posits three periods (types) of encyclopedia production. The “One Smart Guy” model of the earliest encyclopedias represents the genius and prodigious effort of a lone man, such as Pliny or Aristotle. The “One Best Way” model of *Britannica* and others applied methods of scientific and industrial management to aggregate the efforts of dozens of experts working in their piecemeal domains under central editorial control. Finally, the “One for All” model “draws on thousands of fairly smart guys and gals—because in the metamathematics of encyclopedias, 500 Kvarans [an ordinary Wikipedia user] equals one Pliny the Elder” (p. 1). This trait, in addition to—what he calls—its “decentralization,” yields an encyclopedia which is “fluid, fast, fixable, and free.”

Although Pink provides a useful frame for introducing Wikipedia collaboration to *Wired*’s readers, in this chapter I challenge this periodization. One can find the same compulsive monomania in present day Wikipedia contributors that the historical “smart guys” are known for. Furthermore, compiling reference works has always been a “social” sort of activity. These are not individual poems written on the back of a fallen leaf and put to the fire. A hermit’s encyclopedia would have little to build upon, and be of little use to others if written in complete isolation. Additionally, notions of authorship and originality are social constructions that have changed over time. In this chapter I expand upon each of these

claims in order to better understand the character, and what I believe to be a genuine uniqueness, of Wikipedia collaboration that is then the subject of subsequent chapters.

Smart Guys and Wikiholics

A popular perspective on the reference work is the biography of the people who created them.¹ The range of personality types spans a spectrum of noble self-improvers to the criminally insane, though they all shared a commitment to their craft.

As we saw with Otlet and Wells, idealists are not at all uncommon in the roster of those concerned with collecting knowledge. The famous eighteenth century romanticist Samuel Coleridge concocted a scheme with friends for Pantisocracy, a commune in the Americas, and *Metropolitana*, an encyclopedia organized according to the branches of human knowledge rather than alphabetically. Pantisocracy was never realized and after *Metropolitana*'s initial publication, with editorial changes not to his liking, Coleridge withdrew from the project and it subsequently failed. However, his introduction expounding upon its "method" of organizing knowledge according to a progression of intellectual disciplines, rather than alphabetically, would influence other encyclopedists (McArthur 1986, p. 157; Stockwell 2001, p. 109). Frederick James Furnivall, a founding personality

¹Sadly, few women prominently appear in the historical record as of yet—though this is not surprising given the patronizing attitude towards women that reference works exhibited, as I note in chapter 7. The few women I have encountered in my readings are mostly in the domain of documentalists, such as Suzanne Briet and her peaceful reading room, and librarians. Yet even Dewey's advocacy for women in the library profession is marred by alleged discrimination and personal scandal (Wiegand, 1996). This juxtaposition of limited advances in the context of continuing bias is also a theme in Gillian Thomas' (1992) *A Position to Command Respect: Women and the Eleventh Britannica*, the only book I've found so far to address this issue directly.

behind the nineteenth century *Oxford English Dictionary* (OED) was known as an agnostic, vegetarian, and Socialist—characteristics for which many thought him foolish (Winchester, 1998, p. 38). And *OED*'s editor, James Murray, who Furnival befriended and introduced to the delegates of the Oxford University Press, had a few bookish eccentricities as well. Simon Winchester (1998) entitles his biographical chapter on Murray, who otherwise led an extraordinarily sound and respectable career, "The man who taught Latin to cattle" for his boyhood practice of naming and calling to the cattle of the family's herd in Latin.

But perhaps the most well-known personality is also one of the most tragic. Winchester's (1998) *The Professor and the Madman* is the story of the relationship between Murray and one of the *OED*'s most fecund contributors, Dr. William Minor. Winchester's history is actually a more accurate portrayal of a relationship brought to popular attention in 1915 by the American journalist Haden Church. In Church's rendition, Murray, the respected officer of one of Britain's greatest cultural institutions, traveled to the manor of the reclusive Dr. Minor. Upon introducing himself to the man behind the large desk, stating that it was a "pleasure to at long last make your acquaintance," and presuming he stood before Dr. Minor, he was informed:

"I regret, kind sir, that I am not. It is not at all as you suppose. I am in fact the Governor of the Broadmoor Criminal Lunatic Asylum. Dr. Minor is most certainly here. But he is an inmate. He has been a patient here for more than twenty years. He is our longest-staying resident." (as cited in Winchester, 1998, p. xi)

In reality, unlike in Church's story, while Murray did not know of Minor's condition from the start, he was aware of Minor's circumstances by the time they first met.

It is not clear what caused Minor's paranoid delusions, which eventually drove him to mistake and murder an innocent for the phantasms that tormented

him in the night. Yet, Winchester argues that Minor's devotion to the project—Minor submitted 10,000 citation slips to the *OED* documenting the early usage of terms—was perhaps one of his few solaces: partially replacing his paranoid compulsions with a constructive one that gave Minor some sense of purpose and connection to others.

Regardless of whether these men were self-improvers or madmen, their passion and commitment is aptly characterized by Thomas McArthur (1986) in his history of reference works:

In this they epitomize an important element in the history and psychology of reference materials: the passionate individuals with the peculiar taste for the hard labor of sifting, citing, listing and defining. In such people the taxonomic urge verges on the excessive. Thus, the wife of the Elizabethan lexicographer Thomas Cooper grew to fear that too much compiling would kill her husband. To prevent this, she took and burned the entire manuscript upon which he was working. Somehow, Cooper absorbed the loss—and simply sat down and started all over again. (p. 93)

An early example of such diligence, and Otlet's Monographic Principle, is that of Pliny the Elder's thirty-seven volume *Natural History*, the "the oldest extent Western Encyclopedia" (Wells, 1968, p. 2). A respected Roman admiral, statesman, and author, Pliny wrote his work of 20,000 facts with a genteel diligence. His nephew and protégé, Pliny the Younger, wrote to a friend of his uncle's work habits:

From the Feast of Vulcan (August 23rd) onwards, he began to work by lamplight, not with any idea of making a propitious start but to give himself more time for study, and would rise half-way through the night; in winter it would often be at midnight or an hour later, and two at the latest. . . On returning home [from work], he devoted any spare time to his work. . . in summer when he was not too busy he would often lie in the sun, and a book was read aloud while he made notes and extracts. He made extracts of everything he read, and always said that there was no book so bad that some good could not be got out of it. . . A book was read aloud during the meal and he took rapid notes. I remember that

one of his friends told a reader to go back and repeat a word he had mispronounced. “Couldn’t you understand him?” said my uncle. His friend admitted that he could. “Then why make him go back? Your interruption has lost us at least ten lines.” To such lengths did he carry his passion for saving time. (as cited in Jashemski, 1999)

Although it was not his encyclopedic passions which directly killed Pliny, the curiosity underlying those passions prompted his efforts to investigate the eruption that buried Pompei. Pliny the Younger wrote to the historian Tacitus that upon receiving a letter from a friend near the base of Mount Vesuvius, his uncle “accordingly changed his first intention, and what he had begun from a philosophical [spirit], he now carried out in a noble and generous spirit” (as cited in Bullard, 1968, p. 441). Had he lived, he surely would have written of the eruption in *Natural History*.

Wikipedians can be a similarly compulsive and eccentric lot. So much so that some refer to themselves as Wikipediolics (Wikipedia, 2006aj) with a case of editcountitis: “a serious disease consisting of an unhealthy obsession with the number of edits you have made to Wikipedia. It may even be fatal in its later stages. If caught early, though, a full recovery can be expected” (Wikipedia, 2006u). One’s edit count is a sort of coin of the realm. Although it is acknowledged as an arbitrary number (e.g., some might save a Wikipedia page after every tweak, whereas others may edit “offline” and paste it back when done generating a single edit only) one’s count is a rough approximation of one’s involvement and commitment to the project. In recent Wikimedia board elections only those with 400 edits could participate (Wikimedia, 2006c). The “Deceased Wikipedians” article states: “Please do not add people to this list who were never an integral part of the community. People in this list should have made at least several hundred edits or be known for substantial contributions to certain articles” (Wikipedia, 2006s).

But wait, a list of deceased Wikipedians? Indeed. Historically many reference work contributors compelled by the encyclopedic impulse also recognized that their passion would not bring them great rewards or fame. As Samuel Johnson wrote in his preface to *A Dictionary of the English Language*, “Every other author may aspire to praise; the lexicographer can only hope to escape reproach, and even this negative recompense has been yet granted to very few” (as cited in Morton, 1994, p. 1). So, in this small way, deceased Wikipedians are acknowledged. And the list also gives a flavor of the Wikipedia character itself. A consequence of subsuming one’s self in a reference work is an appreciation of its quirks, a sense of the personalities and preoccupations of those behind the seemingly staid resource. When A. J. Jacobs (2005) undertook the immense task of reading the whole *Britannica* he concluded that among the best ways to get one’s own entry was to get beheaded, explore the Arctic, get castrated, design a font, or become a mistress to a monarch (p. 88). These were seemingly popular topics among *Britannica* editors. Similarly, the lists of Wikipedia give a similar sense of the tastes of its contributors. In fact, the “List of Lists of Lists” is one article among a dozen that were nominated as the weirdest of Wikipedia articles, giving a skewed but amusing perspective. Other weird articles included: “List Of Fictional Expletives,” “Heavy Metal Umlaut,” “List Of Songs Featuring Cowbells,” “List Of Strange Units Of Measurement,” “Professional Farter,” “List Of Problems Solved By MacGyver,” “Spork,” “Navel Lint,” “Exploding Whale,” and “Twinkies in Popular Culture” (holotone, 2006).

Whereas tens of thousands of Wikipedians make a handful of changes, there are those that are extraordinarily prolific. For example, Simon Pulsifer, a Canadian in his mid-20s, has created more than 2,000 pages and edited more than 78,000 (Shimo, 2006). How does such a habit form? Andrew Lih, a fellow Wikipedia researcher, referred me to the story of “the red dot guy,” Seth Ilys, who

tells of his slip into the work as follows:

Sometime early in 2004, I made a dot-map (example) showing the location of my hometown: Apex, North Carolina. Then I decided, what the heck, since I've done that and have the graphics program open, why don't I make maps for every town in the county. That afternoon, I did about a third of the state and it didn't make any sense to stop there, so, like Forrest Gump, I just kept on running. Eerily enough, other people started running, too, and before long nearly all of the User:Rambot U.S. census location articles will have maps. (Wikipedia, 2006k)

This indicates to me that it is not only the personality types of reference work compilers that are relevant, but the character of the work itself. There is something about perusing, summarizing, compiling, and indexing. (I prefer to call this an “encyclopedic impulse” instead of McArthur’s “taxonomic urge” to indicate a greater scope beyond classification, but I think we each mean the same thing.) Perhaps it is the focused, piecemeal but cumulative work that grabs some people and makes an “addict” of them. Or, as seen in the previous chapter with Paul Otlet and H. G. Wells, the idea of liberating facts from the binding of a book is an enchanting one. (Both the character of the work and the potential of extracted, and maybe even “neutral”, knowledge are the subject of future chapters.) And while the eccentricities are humorous and charming for the most part, there is a hint of distress in those that complain of staying up too late, falling behind with work, and sore wrists. The Wikipedia article on blocking users states, “Self-blocking to enforce a Wikiholiday or departure are specifically prohibited” (Wikipedia, 2006o). Again, it is somewhat funny that someone would have to resort to getting themselves blocked to stop editing, but is also potentially sad.

The Busy Bees of Knowledge Production

Although the monomania of the smart guys of old are present today, I believe that even the most reclusive of “smart guys” are still engaged in a social sort of activity. Pliny’s 20,000 facts were collected from 2000 different sources (McArthur, 1986, p. 43) and his work has been cited at least as many times. And it is important to recall Winchester’s (1998) argument that Minor’s prolific lexicographic efforts in an asylum were in fact one of the few ways in which he transcended his tortured delusions and took a place among society as a contributor, as recognized in the 1888 “Preface” of the first complete volume, *A-B*. Nor was Minor the only contributor to the *OED*; almost 800 volunteers read 924 books in order to return 361,670 quotations to the *OED*’s offices (Mugglestone, 2000, p. 8). Consequently, in the following sections I offer a different understanding of how all reference works are at least to some extent “social.”

Wasps, Shoulders, Ladders, and Bees

Earlier I claimed that a hermit’s encyclopedia would be of little value. Although recluses sometimes do produce enormous amounts of writing these are of little value as a reference work. At the end of his life science fiction author Philip K. Dick wrote an 8,000 page “exegesis” that few would be interested in aside from the student of psychiatry or slavish fan. Although such a text is intensely personal, reference works, if they are to be useful, are not. By this I mean unlike the subjectivities of a fictional author, reference works arise from the intersubjectivities of many to make claims about an objectivity all are presumed to share. Granted, my claim floats upon deep philosophical waters that I will not tread long except to (1) observe that this prompts much discussion about bias in

reference works and to (2) make an argument about their cumulative character. I address questions of bias and neutrality in subsequent chapters, to the question of the accumulation of knowledge I offer a metaphor borrowed from the natural sciences.

Stigmergy is a term coined by Pierre-Paul Grasse to describe how wasps and termites collectively build complex structures; as Istvan Karsai (2004, p. 101) writes, it “describes the situation in which the product of previous work, rather than direct communication among builders, induces [and directs how] the wasps perform additional labor.” In addition to my proposal that this notion might be helpful in understanding Wikipedia collaboration (Reagle, 2005b), Mark Elliott (2006) has also, more thoroughly, argued the same: “As stigmergy is a method of communication in which individuals communicate with one another by modifying their local environment. . . the concept of stigmergy therefore provides an intuitive and easy-to-grasp theory for helping understand how disparate, distributed, ad hoc contributions could lead to the emergence of the largest collaborative enterprises the world has seen” (p. 4). However, we need not apply this notion only to new media. For example, stigmergy might also be applicable to Newton’s seemingly generous sentiment of acknowledging the contributions of his predecessors: “If I have seen further [than you and Descartes] it is by standing upon ye shoulders of giants.” (As cited in a 1676 letter from Newton to Hooke by Robert Merton (1993) who provides a history of this popular aphorism; Stephen Hawking (2002) further explains the now common belief that Newton was probably being less than magnanimous and was actually insulting Robert Hooke, his short and hunchbacked rival.)

So, even while reference work production remained an individual pursuit, any “One Smart Guy” was actually relying upon the work of predecessors, using the cumulative knowledge as a ladder of sorts. Many early producers of reference

works admitted this explicitly and saw themselves as collecting the best of others' work. Richard Yeo, in *Encyclopedic Visions*, writes of the development of three seminal encyclopedias between 1700-1820. He notes that among the three major works (*Cyclopaedia*, *Encyclopædia Britannica* and *Lexicon Technicum*) and four minor competitors, "All borrowed from each other, and especially from Chambers who had himself used earlier material" (Yeo, 2001, p. 206). Chambers, author of *Cyclopaedia*, felt no shame in the practice:

He admitted that his dictionary contained "little new, and of my own growth," but felt no embarrassment: the work was professedly "not the produce of one man's wit" but a collection from the world of learning: in "nobody that fell in my way has been spared, ancient nor modern, foreign nor domestic, Christian nor Jew, nor Heathen: philosophers, divines, mathematicians, critics, casuists, grammarians, physicians, antiquaries, mechanics, have been all brought under contribution." (p. 205)

What should we even call people like Chambers: an editor, author, or compiler? While reference works brought a new salience to this question, it is also an ancient one. A thirteenth century Franciscan, St. Bonaventura, distinguished between a scribe ("writes the works of others"), a compiler ("writes the work of others with additions which are not his own"), a commentator ("writes both others' work and his own, but with the others' work in principle place, adding his own for purposes of explanation") and author ("writes both his own work and others' but with his own work in principle place adding others' for purposes of confirmation") (Eisenstein, 1993, p. 85). Yet, even these distinctions assume that one can always easily distinguish between one's own work and memory, and one's influences. Furthermore, Yeo (2001) argues that encyclopedias were linked to the private practice of the "commonplace book," in which a scholar recorded notes and thoughts prompted by reading and study:

The editors of the *Supplement to Harris' Lexicon* published in 1744 complained that Chambers did not supply adequate references

for his information. Moreover, in their entry for “Common-Place Book” (largely copied from Chambers) they added a paragraph drawing on the comments of a recent work that ridiculed the excesses of “Common-Placing”, or “taking an Author to Pieces”. (p. 117)

To some extent, I’m convinced by Foucault’s (1984) argument that the notion of the “author” is historically situated and provides numerous functions (description, designation, categorization) within its social context—as does “a work” and “writing.” To this end, an author is the functional principle by which a culture “limits, excludes, and chooses” the meaning of the text. So, while today it might appear that issues of authorship, rights, and other characteristics of print are “obvious, self-evident, even necessary,” Adrian Johns (2001) argues in *The Nature of the Book* that the “essential elements and necessary concomitants of print are in fact rather more contingent than generally acknowledged” (p. 2). In particular, the “stigmergy” of knowledge production has come to be masked by maximalist copyright policy. Peter Jazi (1994) argues “Copyright law, with its emphasis on rewarding and safeguarding ‘originality,’ has lost sight of the cultural value of what might be called ‘serial collaborations’—works resulting from successive elaborations of an idea or text by a series of creative workers, occurring perhaps over years or decades” (1994, p. 40). Furthermore, copyright law has become so officious that, as Rebecca Moore Howard (1999) argues, it prompts a form of hypocrisy around what she calls “patchwriting,” “a form of imitatio, of mimesis” (p. xiii) that is inherent in professional writing and student learning. Scholars on the practice of writing and the history of “plagiarism” conclude that plagiarism is a complex and constructed notion, presently overreaching, and inappropriate in many of its contemporary applications; what we should focus upon and sanction is intellectual fraud, as Judge Richard Posner argues in *The Little Book of Plagiarism* (Posner, 2007).

Additionally, one of the most important meanings of the text, its authority in relation to the author, has changed over time. Prior to the advent of “science” the authority of the text is closely associated with an ancient’s name (Foucault, 1984, p. 109)—even if there is little evidence that the text was actually authored by that person. After the scientific method came to reign supreme, it was the methodological apparatus and publishing context that came to lend a work its authority.²

Yet, whatever we call this practice of “borrowing,” reference work compilers tended to be rather liberal in justifying it. As Chambers wrote in his “Preface”:

’Tis vain to pretend anything of property and things of this nature. To offer our thoughts to the public, and yet pretend a right reserved therein to one’s self, if it be not absurd, yet it is sordid. These words we speak, nay, the breath we emit, is not more vague and common than our thoughts, when divulged in print. (as cited in Yeo, 2001, p. 215)

In another practice not at all uncommon to early reference works, Chambers expresses his personal views in the actual entry on ‘Plagiary,’ linking the practice to scientific contribution to a humble bumble bee, foreshadowing the concept of *stygmergy*:

Their [dictionary compilers’] Works are supposed, in great Measure, Assemblages of other Peoples; and what they take from others they do it avowedly, and in the open Sun. In effect, their Quality gives them a Title to everything that need be for their purpose, where ever they find it; and if they rob, they don’t do it in any otherwise, than as the Bee does, for the public Service. Their Occupation is not pillaging, but collecting Contributions. (as cited in Yeo, 2001, p. 216)

If a compiler was not willing to grant and justify verbatim copying

²Stephen Jay Gould (2000) reminds us that the difference between the Renaissance and the Enlightenment was that the former was a rediscovery of the ancients whereas the latter was a discovery of new knowledge using new methods.

outright, they might argue that improvements were made: many articles of the *Encyclopédie* were lifted directly from Chambers, though Diderot claimed most had been reworked (Yeo, 2001, p. 126). Some thinkers of the time went further in dismissing proprietary claims. Lord Camden in 1774 opposed perpetual literary property because “science and learning are in their nature publicii juris, and they ought to be as free and general as air or water. . . Knowledge has no value or use for the solitary owner; to be enjoyed it must be communicated” (as cited in Yeo, 2001, p. 204). This is similar to Jefferson’s famous sentiment expressed in a letter to Isaac McPherson: “He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me” (Jefferson, 1813).

Yet, not all encyclopedists were so forthright as to defend their practices explicitly and soberly. William Smellie, the compiler of the first *Encyclopædia Britannica* is said to have admitted over a drink “with paste pot and scissors I compose it” (as cited in McArthur, 1986, p. 107) and in another account he confessed that he “made a Dictionary of Arts and Sciences with a pair of scissors, clipping out from various books a quantum sufficit of matter for the printer” (as cited in Yeo, 2001, p. 182).

Not surprisingly, the question of compilation and plagiarism goes back to Pliny the Elder himself, who attributed his work as a compilation of over 2000 sources (McArthur, 1986, p. 83). Stockwell (2001, p. 19) argues that “the work of Gaius Julius Solinus of the third century draws so heavily (about 90%) on Pliny’s *Natural History*, without acknowledgment, and on other works of the time that one hesitates to list them at all except for the fact that several medieval writers copied parts of it into their own encyclopedias.”

These practices and their moral ambiguities were present among lexicographers as well. At the time of its release in 1755, Johnson’s famous *Dictionary*

had been criticized as too costly. His publishers intended to remedy this with an inexpensive serialization of 165 installments. Unfortunately, their efforts were frustrated by a strategy of leapfrog and lockstep. Joseph Nichol Scott resurrected the title of Nathan Bailey's 30-year-old *A New Universal Etymological Dictionary of the English Language* upon a largely plagiarized version of Johnson's dictionary, which Scott also sold in installments. He had no difficulty releasing his installments at the same time as Johnson's publishers, since he had access to the full edition of Johnson's *Dictionary*! Scott was not alone in his use of Johnson. *OED* editor James Murray acknowledged that many of Johnson's explanations were adopted without change, for "when his definitions are correct, and his arrangement judicious, it seems to be expedient to follow him. It would be mere affectation or folly to alter what cannot be improved" (as cited in Hitchens, 2005, p. 247). Noah Webster, Johnson's American counterpart, also lifted many of Johnson's definitions, but otherwise loathed the dictionary and Johnson's reliance on the vulgarity of Shakespeare (Hitchens, 2005, p. 245). Yet, Webster too would come to complain of plagiarism. His assistant while working on the American dictionary, Joseph Worcester, had his own plans. After publishing *Johnson's English Dictionary as improved by Todd and abridged by Chalmers, with Walker's Pronouncing Dictionary Combined* in 1828—this title alone is evidence of busy bees—Worcester moved on to "abridge" Webster himself in 1829 (House, 2006).

Whatever justifications editors gave for borrowing from other works—if they bothered with such reflection—this did not prevent them from attempting to protect their own work by applying for and prominently displaying the sovereign grants ("letters patents") that granted a publication monopoly. This practice persisted even after the first copyright law was passed in 1709, the Statute of Anne, given continued ambiguities with respect to the statute's relationship to existing common law, grants, and the types of works involved. Yet, even when

literary works manage to receive some protection in their home nation, they were often quickly reproduced in other countries. Herman Kogan has described these publishers as “ethical pirates” and noted that the American immigrant Thomas Dobson issued the first American version (of the third edition) of the *Britannica* in 1790; he charged six dollars for the entire set (less than a third of the original) and his customers included the likes of George Washington, Thomas Jefferson, and Alexander Hamilton (Kogan, 1958, p. 25). One can understand why republication was common when one considers that the *Cyclopedia* was one of the most valuable literary works of its day; Yeo notes that any copyright worth over £400 was prized and the average value for a single work was £200; it’s estimated that the *Cyclopedia* was worth £5,000 in the 1740s (Yeo, 2001, p. 199).

Today, given the massive popularity of Wikipedia people have begun estimating how much the site would be worth if it were to provide search service and banner ads, with one person positing a \$35M profit per year (froosh, 2006). Yet, such a practice might then expose Wikipedia to much more scrutiny about its own copyright violations. In the fall of 2005, my adviser, Helen Nissenbaum, noted that material appearing in the “Jeremy Bentham” Wikipedia article was a verbatim copy of text found elsewhere. Instead of immediately deleting the material, I instead posted it to the copyright problem page of Wikipedia (2006r). Within the month the copyright violation was mitigated: Wikipedia user Arniep identified Susurrus as the contributor of the offending text, and the latter subsequently redrafted it:

Hi I was just going through WP:CP#September_29 and I noticed that Jeremy Bentham has been listed as a copyvio of the biography at the UCL site <http://www.ucl.ac.uk/Bentham-Project/info/jb.htm>. If you did copy this from there can you ask permission from Irena Nicoll (email i.nicoll@ucl.ac.uk) if they don’t give permission the article will need to be redrafted. . . . Cheers Arniep 00:37, 12 October 2005 (UTC)

So redrafted, with apologies. –Susurrus 05:04, 12 October

2005 (UTC) (Wikipedia, 2006i)

However, even if the technical copyright infringement has been avoided, I think most would consider the text to still be plagiarism by contemporary scholarly standards—until other busy bees change the text beyond recognition. Yet, in discussion with others, many do not consider this to be a significant concern. Perhaps this is so because of the long-standing difficulties in making ownership claims to writings about “common” knowledge, and because Wikipedia is a nonprofit and voluntary effort.

”The Best Way”

It would be unfair of my challenge to Pink not to acknowledge there is merit in his historical periodization. Although I argue for the importance of the social character of even ancient reference works, and the contributions of dedicated smart guys and gals to Wikipedia, it is not now as it was then. Returning to Karsai’s (2004, p. 101) definition of stigmergy it occurs without “direct communication among builders.” Today, producing a general reference work exceeds the bounds of what any single person could do without interactively communicating with others. I argue there were two factors in this shift: the change in the human relationship to knowledge, and the commercial opportunities of reference work publishing.

Memory and the Deluge of Knowledge

As noted in an earlier chapter, Burke (2000) argues the encyclopedia became necessary because there were many more people reading many more books (p. 109); reference books were one way to keep abreast of the proliferation

of other books. Stockwell (2001, p. 47) estimates that as of 1500 more than eight million books had been printed; by the end of the sixteenth century the number exceeded 200 million. In the face of this deluge, questions of worldviews and taxonomies—a preoccupation of the Ancients that has not completely receded even today—began to appear irrelevant if not impossible. The explosion of disciplines and the breathtaking advances of the sciences and trades rendered efforts to organize knowledge in a perfect circle as moot. (The term encyclopedia derives from the Greek notion of a liberal arts and the “circle of knowledge,” *enkykloos paideia* (McArthur, 1986, p. 40).) Alphabetization became the dominant method of organizing knowledge because the old categories could not keep up (Burke, 2000, p. 110); furthermore, combined with movable type reference works could more easily be updated and revised using the alphabetical system (Stockwell, 2001, p. 47).³

The earlier scholastic relationship to knowledge was to organize and learn everything there was to know—with the faculty of memory enjoying a status higher or equal to that of reason (Yeo, 2001, p. 79); as Hughes de Saint Victor wrote, “learn everything; later you will see that nothing is superfluous” (as cited in McArthur, 1986, p. 52). The new notion was to learn what you can in your specialty and consult an encyclopedia otherwise.⁴ Diderot and d’Alembert thought that no man could comprehend the whole of the *Encyclopédie*: “What man, then, could be so brash and so ignorant in understanding as to undertake single-handedly to treat all the sciences and all the arts?” (as cited in Yeo, 2001, p. 79).

³The history and practice of categorizing knowledge, via classical ontologies or contemporary “folksonomies,” is the subject of David Weinberger’s (2007) *Everything Is Miscellaneous: the Power of the New Digital Disorder*.

⁴The interesting history of mnemonic techniques such as St. Teresa’s “Interior Castle”—much like the present day Memory Palace technique—is addressed by Foster Stockwell’s (2001) *A History of Information Storage and Retrieval*.

Rather than cherishing every parchment, scholars began to complain of the glut of information. In 1680, this led Leibniz (the famous philosopher, mathematician and librarian with his own encyclopedic plans) to propose that in order to bridle the “horrible mass of books” the King should organize a canonical set of texts based on the recommendations of the best experts in each profession. Also, he proposed standards for stopping bad books from being published and announcing new proposals (Yeo, 2001, p. 94). Five year later the French scholar Adrien Baillet wrote that he feared “the multitude of books, which grows every day in a prodigious fashion, will make the following centuries fall into a state as barbarous as that of the centuries that followed the fall of the Roman Empire;” this danger can only be prevented by “separating those books which we must throw or leave in oblivion from those which one should save. . .” (as cited in Johns, 2001). The deluge never abated, even in the twentieth century knowledge workers still complained. Philip Gove, editor of the *Webster’s Third*, instituted a policy—anticipating present-day office workers having “email-free Fridays”—by requiring that questions be written on pink slips in order to avoid interruptions (Morton, 1994, p. 72). (Interestingly, the asynchronous character of e-mail, like the pink slips, was one of its original benefits. However, the constant stream of asynchronous events and the seeming human preference for “easy” multi-tasking is leading to concerns about focus and productivity.) In exasperation at the mounting piles of reading, the famous MIT professor Norbert Wiener is said to have declared “keep the monkeys away from the typewriters” (as cited in Stockwell, 2001, p. 97). In chapter 7 I show that this frustration with a deluge of mediocre content, again attributed to monkeys on typewriters, is also raised by critics of Wikipedia.

The point of this digression on the capacity of human memory is to note that if, as Diderot and D’Alembert argued, that no single individual could com-

prehend all knowledge, neither could an individual—no matter how consumed—compile all knowledge, in this regard, Daniel Pink is right.

The Corporate Production of Reference Works

An early exemplar of eighteenth century production was that of the Franciscan friar Vincenzo Marco Coronelli, a famous map maker. He was inspired by the *Natural History* of Pliny and began to publish *Biblioteca Universale Sacro-Profana* in 1701. Indicative of stygmergy he took biographical data from Moréri, as corrected by Boyle, and geographical data from Baudrand, as corrected by Sanson. He was also one of the first to alphabetize, and, most interestingly, he was able to coerce contributors:

As minister-general of the Franciscan order, he ordered Franciscan monasteries to subscribe to his encyclopedia. He also insisted that friars contribute entries and that they educate the lower ranks of the order, so they could contribute too. He also solicited information and articles from many well-placed individuals who he knew throughout Europe, asking all contributors to subscribe to earlier volumes and subscribers to contribute to future ones. According to Fuchs, “for the more people there were to contribute, the more information there was to be shared; and the more diverse this group of contributors and subscribers was, the more opportunities that were for people to learn from each other, and to expand each other’s horizons.” (Headrick, 2000, p. 154)

In particular, two aspects of Coronelli’s scheme that are worth considering further are the role of subscription and serialization. The sale of books on subscription plans provided the useful feature of gauging the market for demand before embarking on the risky endeavor of printing (Yeo, 2001, p. 49). This was most applicable to the multivolume reference works as their production could be costly and, more importantly, a lengthy process. Furthermore, serialization permitted the correction of errors in subsequent editions of previous serials

(p. 49). Additionally, subscription, whereby prominent and wealthy sponsors would be solicited for a commission to begin the work, became one of the first forms of salesmanship: commercial practices which would soon become integral to the publication of reference works. Stockwell (2001, p. 131) cites a salesman commenting that “the *Britannica* is sold with shoe leather.” Pears’ *Cyclopedia* contained soap advertisements (p. 125), and *The World Book Encyclopedia*, which outsold more than the next top three encyclopedias, came to be owned by the purveyors of another door-to-door item: the vacuum cleaner (p. 136).

Yeo (2001, p. 47) notes that the list of subscribers to a book often included prominent names removed from the normal alphabetical order so as to highlight prestigious persons, for their own benefit as well as that of the publications. Kogan (1958, p. 10) notes that as far back as 1552 John Coxe’s *Tables of Grammar* included a subscription roster including the eight lords of the Privy Council. Additionally, Yeo (2001) argues that subscriptions “encouraged the sense of corporate involvement in a large publication” (p. 52):

Hence, when combined, the practices of subscription and serialization made readers of these works akin to corporate authors: it was their support, at the start, that ensured the appearance of the work; it was their reception of it, as it appeared in parts, that might adjust the content or presentation. In a sense the list of subscribers was a corporate identity as well as a mode of feedback to the compiler.
(p. 53)

Yet, the method of purchasing these works was not the only broadening of participation in their production. As editors recognized the expanse in knowledge, they turned to experts to author particular articles. Just as subscribing to a work might further one’s prestige, so did a contribution. The 11th edition of the *Encyclopædia Britannica* was associated with prestigious Cambridge University, had 1500 contributors, of which 166 were fellows of the Royal Society, 56 were presidents and secretaries of learned societies, and 47 were on the staff

of the British Museum (Stockwell, 2001, p. 115). In fact much prestige could come to the editors themselves. For his work on the *Cyclopaedia* Chambers was inducted into the Royal Society (p. 55) and *OED*'s Murray was knighted in 1908 (Winchester, 2003, p. 223).

However, to claim that reputation motivated contributions is not to state that all participants were simply seeking fame. In fact, Thomas Young, the natural philosopher who worked on the wave theory of light while also deciphering the Rosetta Stone, agreed to contribute to the *Britannica*, but required anonymity in any subject "not immediately medical"; Young did not want scientific controversies to weaken the confidence the public had in his capacities as a physician (Yeo, 2001, p. 265). Today, Wikipedians edit anonymously or under a pseudonym for similar reasons, or even more frighteningly because of the possibility of Wikipedia disagreements turning into stalking or the "outing" of one's Wikipedia identity with the other facets of one's life (orthogonal, 2006).

While collaborative production provided benefits, it also produced conflicts and challenges which are with us even today. One of the novel features of the production of the *OED*, and which permitted someone like Dr. Minor to contribute, was that it solicited the public for citations of word usage. (An interesting side project of Furnivall was to first publish ancient manuscripts as books which could then be distributed to readers for culling.) This led to asymmetries in the type of work done. Philip Gove, editor of *Webster's Third*, preferred paid readers because the *OED* volunteers tended to collect too many citations for unusual words and too few for ordinary words (Morton, 1994, p. 95). For example, Murray had 50 quotes for *abusio* but only five for *abuse* (Winchester, 1998, p. 137). To be fair, as Lynda Mugglestone (2000, p. 7) notes, Murray admitted this was perhaps the fault of the instructions given to readers. Yet, this tendency seemingly persists in contemporary volunteer projects: in

Free and Open Source development many note that the “sexy” work, such as developing new features, often receives more attention than the mundane work of bug fixes and documentation (Sterling, 2002; Levesque, 2004). One can see this tension in the following comment by wiki commentator Kelly Martin:

... the German Wikipedia is apparently discussing a proposal to disable new article creation one week out of each month; this proposal is not faring well. I suppose it is more fun to create than it is to maintain. Open source software has the same problem—which is why there are hundreds of half-written IRC clients out there. The only way we got GIMP to 1.0 was to declare a “feature freeze” and to spend a couple of months doing nothing but killing bugs. Wikipedia needs to do essentially the same thing: stop adding new stuff until they get the old stuff organized, at least a bit more. Until they do, the bleeding will not stop. (Martin, 2007b)

Additionally, an editor of a collaborative effort will have frustrations likened to “herding cats.” These issues are well demonstrated in the compilation of the *Britannica*’s 1816 *Supplement* in which Macvey Napier, the editor, sought to include only original and novel contributions from external experts: “This led to some tense exchanges,” writes Yeo (2001) “as Napier had to settle a number of issues, such as the appropriate level of difficulty, especially in mathematical topics such as the calculus, the inclusion of unpublished experimental measurements by the contributor, or the refusal to do a useful summary of a field in a reasonable space” (p. 263). Wikipedia, too, confronts issues of notability (Wikipedia, 2006z), accessibility (Wikipedia, 2006ae), and age appropriateness (Wikipedia, 2006ad). Though on Wikipedia these issues are “settled” before the watching world: so much so that the seemingly innocuous deletion of a stub article for a South African sandwich shop, authored by Jimmy Wales, merited a *LA Times* article (Sarno, 2007)!

Wikipedia and “One for All”

Pink (2005) characterizes the Wikipedia period as one that draws upon “thousands of fairly smart guys and gals.” What do we know this actual work? A lot, but not enough.

I sometimes make two provocative statements about Wikipedia: “Wikipedia was a mistake,” and “We don’t know how it works.” (I say this when confronted by the type of overly confident hyperbole—positive and negative—about Wikipedia that is the subject of chapter 7.) The first claim is one that I think is well supported by the history recounted in the previous chapter. The second is an exaggeration.

While scholars have not yet done much to contextualize Wikipedia in reference work history, they have brought social science concerns, theories, and methods to bear on its production. Here, we have the benefit of going beyond archives and actually observing or surveying participants. So, again, what do we know?

We do know that Wikipedia is produced by thousands and some contribute more than others. The balance between the few who contribute a lot (i.e., the “elite”) and the many who contribute a little (i.e., the “bourgeoise,” “long tail,” “crowd,” or “mob”) is one of the most active areas of research. Jimmy Wales (2005h) originally noted in December of 2005 that “half the edits by logged in users belong to just 2.5% of logged in users.” This has been confirmed by some (Voss, 2005) but has since been complicated when one asks the question of what is meant by a contribution (Swartz, 2006; Priedhorsky et al., 2007) or could this even be changing as Wikipedia matures (Ball, 2007)? Recently, some researchers conclude that “elite” contributions are less powerful relative to the long tail of small contributors (Kittur et al., 2007a) though this conclusion is challenged when

one changes how the categories of “elite” and “bourgeoisie” are constituted for the analysis (Ortega and Gonzalez-Barahona, 2007, 2008): the discrepancy between high contributing and low contributing editors is argued to still be significant.

The research question of motive is similarly active and builds upon the work on Free and Open Source Software (FOSS) developers who seemingly received no remuneration for their contribution, therefore questions of credit are important, and particularly so in the case of Wikipedia in which contributions might be minor in significance, and pseudonymous or anonymous (Forte and Bruckman, 2005). Some Wikipedia researchers explicitly compare this to the work on FOSS (e.g., Kuznetsov, 2006; Schroer and Hertel, 2007) and some of the most common motivations discerned relate to personal satisfaction, identification with the values and goals of the project, the sharing of information and reciprocity, a sense of fulfillment, and the development of knowledge and skills (Rafaeli et al., 2005; Johnson, 2007). This research permits us to substantiate what, from a historical perspective, might be called the “taxonomic urge” or “encyclopedic impulse,” particularly for ordinary contributors.

And researchers also closely follow article structure, its maturation, and connections to other articles (e.g., Voss, 2005; Buriol et al., 2006; Capocci et al., 2006); as well as article quality (e.g., Anthony et al., 2005; Duguid, 2006; Viegas et al., 2007; Ball, 2007), among other topics. Furthermore, in social science the theories of a phenomenon are as important as the description of it. Wikipedia, and FOSS, have been of such interest because they are not easily explained by pre-existing theory. For example, the corporate production I mention in this chapter (in the collective and commercial sense) has typically been explained by economists via property- and contract-based models of firms and markets. However, with the rise of open content communities new ways of conceiving of collective production had to be formulated, including the highlighting of how

this approach entails “improved information about, and allocation of, human creativity” (Benkler, 2002, p. 9), a reconsideration of the notion of “public goods” (Ciffolilli, 2003), “transaction costs” (Aigrain, 2003) and how common resources are managed (Benkler, 2006b; Viegas et al., 2007), and whether the traditional understanding of “freeriders” continues to make sense in this context (von Hippel and von Krogh, 2003).

Finally, I believe that a community’s collaborative culture is of particular importance to the question of Wikipedia production (e.g., Lio et al., 2005; Bryant et al., 2005; Kriplean et al., 2007), and the topic of much of the rest of this work.

Conclusion

Any historical periodization can be challenged by attacking the presumption that intervals of homogeneity are separated from other, equally bland, intervals by some cataclysmic event. History is often much more of a muddle. In this chapter I have adopted Pink’s model of three periods of encyclopedic production as my foil: adding some historical detail, and sometimes confirming and sometimes complicating the boundaries between the periods of lone genius and corporate activity.

In the case of Wikipedia, it is not produced by a lone genius, but they are certainly present among other types of contributors. Even if Wikipedia does not behave like a colony of ants, knowledge production, particularly reference works, are to some extent stigmergic—and even plagiaristic. Even if Wikipedia production is unlike that of any other reference work, there is still organization and structure. Most importantly, there is community and culture.

COMMUNITY AND COLLABORATION

In some ways, as previous chapters show, Wikipedia resembles its predecessors. But what, then, makes it different? I answer this question in three parts. First, the community that produces it is unlike that of any other encyclopedic undertaking. I describe the Wikipedia community, and other related projects, as an open content community. Second, I consider the particularities of Wikipedia collaborative culture and the centrality of notions such as “Neutral Point of View” and “good faith.” Finally, I posit a type of leadership within open content communities. I believe these models of community, culture, and leadership capture Wikipedia’s collaborative culture, and delineate some of the similarities, and novelties of Wikipedia relative to other projects. For me, they also give a sense of some of the practical difficulties inherent in the vision of Otlet and Wells, the problems encountered by a global project attempting to increase access to knowledge and further social accord.

Portions of chapter 4, 5, and 6 have appeared as fragments or in earlier form where I’ve addressed questions of openness (Reagle, 2006b,c, 2007b), neutrality (Reagle, 2005a, 2006a), and leadership (Reagle, 2007a).

CHAPTER IV

WIKIPEDIA AS AN OPEN CONTENT COMMUNITY

At the outset I claimed that “Wikipedia is a community and the encyclopedia is a snapshot of its continuing conversation.” But the collection of people involved in Wikipedia is different from that of any other encyclopedic undertaking. So how might we understand this particular community? I believe to understand Wikipedia one needs to appreciate it as an *open content community*. This is a concept I’ve developed elsewhere (Reagle, 2004) so as to distinguish between an open (or free) type of content, namely Free and Open Source Software (FOSS), and the community that produces it—because a “closed” group, such as a company, can produce software under a “open” license. Furthermore, “open” has become a bit of a buzz word, describing everything from democracy (Rushkoff, 2003) to religion (Krangel, 2007)—I review much of this usage in earlier work as well (Reagle, 2006b). Additionally, when contemporary sources speak of openness as an attribute of community, it is often in an inexact or overly simplistic way. Consider the slogan on the welcoming page of the English Wikipedia: “Wikipedia, the free encyclopedia that anyone can edit” (Wikipedia, 2006e). It would appear that the universal vision of increased access to information now includes its production as well as consumption. Yet, open source type projects like the Linux kernel, Apache Web server, and Wikipedia are often characterized incorrectly by way of an inappropriate, if not naïve, extreme. A utopian rendering of openness is that “anything goes”: there are no community structures or norms, anyone can do anything they please.

This understanding of “anything goes” is untenable: some level of struc-

ture is inevitable in social relations, and often necessary to support other values. In his 1911 book *Political Parties*, Rober Michels (2001, 6.2) wrote of the development of an oligarchy within democratic parties as an “Iron Law.” In 1970 Jo Freeman (1996, p. 1) wrote about the “tyranny” present in seemingly egalitarian feminist groups of the earlier decade: “‘Structurelessness’ is organisationally impossible. We cannot decide whether to have a structured or structureless group; only whether or not to have a formally structured one.” And more recently, Mitch Kapor expressed a similar sentiment with respect to the early management of the Internet when he noted that “Inside every working anarchy, there’s an Old Boy Network” (as cited in Reagle, 1999). Yet, this does not mean the notion of openness should be jettisoned altogether. The prevalence of the term “open” in contemporary discourse, arising largely from the popular attention on FOSS, is indicative of something important, as is coming to a better understanding of what it means for community, like Wikipedia, to be open or not.

To address this question of openness and Wikipedia, I first provide a thumbnail sketch of the scope of Wikipedia community. I then consider Wikipedia in light of five criteria I’ve previously specified for an open content community. This is juxtaposed with three cases in which Wikipedia’s openness is challenged. In the first case I return to the question of whether Wikipedia is really something “anyone can edit”? That is, when Wikipedia implemented new technical features to help limit vandalization of the site, did it make Wikipedia more or less open? In the second case I describe the way in which a maturing open content community’s requirement to interact with the sometimes “closed” world of law affects its openness. In this case, I review Wikipedia’s “office action” in which agents of Wikipedia act privately so as to mitigate legal problems though this is contrary to the community values of deliberation and transparency. Finally, I explore case in which a closed (female only) group is set up outside of, and perhaps because of,

the “openness” of the larger Wikipedia community.

The Wikipedia Community

After a couple of decades’ worth of literature on online communities, the proposition that there is a community associated with Wikipedia should be unremarkable. Granted, what exactly constitutes the Wikipedia community is an interesting question. For example, does the person who occasionally corrects a spelling count as a community member? In the previous chapter I do provide some references on the character of Wikipedia contribution, but more generally, for the purposes of this project I use the word community to speak of a group of interdependent people who “participate together in discussion and decision making and who share certain practices that both define the community and are restored by it” (Bellah et al., 1996, p. 333). Wikipedia community members do share common practices and norms, these are part of the collaborative culture discussed in the next chapter. Furthermore, the Wikipedia community can be further understood as “prosocial” (Bowles and Gintis, 1998; Sproull et al., 2004) in that exhibits behavior that is intentional, voluntary, and of benefit to others.

That said, do we have any sense of the scope and scale of the community? The “About” Wikipedia article states “There are more than 75,000 active contributors working on some 8,700,000 articles in more than 250 languages” (Wikipedia, 2007av). For those involved in administrative functions (e.g., protecting pages), “There are 1,382 (as of 8 November 2007) users with sysop rights (active and otherwise), 938 of them active (as of 2007-11-08)” (Wikipedia, 2007bf). In November 2007, I count almost 200 names on the #wikipedia chat channel and there are almost 700 subscribers to the community *Wikizine* bulletin (Walter, 2007). On the wikipedia-l (relatively low traffic relative to wikiEN-l) I count

over 300 unique posters from February 2005 to November 2007, though I am confident this is only a fraction of those subscribed. More topically, “Wikipedia Projects” are wiki pages in which contributors interested in a particular topic can plan and discuss their efforts (Wikipedia, 2007bq), of which there are over 200 on the English Wikipedia (Wikipedia, 2007bg). Furthermore, through Wikipedia “meetups” I’ve attended in New York and the annual Wikimania conferences I’ve met a couple dozen people. Many of these people I’ve spoken to more than once, and it’s quite easy to speak to a newly met Wikipedian about issues of concern to the community. In addition to the email lists and *Wikizine* there are other community fora such as the popular *Wikipedia Signpost* (Wikipedia, 2007bp), and various wiki blogs and their aggregators (Foundation, 2007a; Millosh, 2007; Open, 2007). Plus, there are dozens of communities around the different language Wikipedias. Therefore, I believe within the larger community of tens of thousands of active contributors who are familiar with the basic practices and norms of Wikipedia, there are also smaller communities on the scales of hundreds or dozens of members within language, geographical, functional, and topical boundaries.

In any case, my intention is not paint a demographic portrait of Wikipedia contributors but to provide a sense of the larger community and how it views itself on questions of openness. In “Notions of Openness” (Reagle, 2006c) I review the many uses of “open” as inspired by the success of Free and Open Source Software; from this I discern three shared features that are represented in the characterization of “openness” as an *accessible and flexible* type of *collaboration* whose result may be *widely shared*. I further specify that an open content community (Reagle, 2004) is one that delivers or demonstrates the following:

1. Open products: provides products which are available under licenses like those that satisfy the Open Source Definition.
2. Transparency: makes its processes, rules, determinations, and their ratio-

nales available.

3. Integrity: ensures the integrity of the processes and the participants' contributions.
4. Non-discrimination: prohibits arbitrary discrimination against persons, groups, or characteristics not relevant to the community's scope of activity. Persons and proposals should be judged on their merits. Leadership should be based on meritocratic or representative processes.
5. Non-interference: the linchpin of openness, if a constituency disagrees with the implementation of the previous three criteria, the first criteria permits them to take the products and commence work on them under their own conceptualization without interference. While "forking" is often complained about in open communities—it can create some redundancy/inefficiency—it is an essential characteristic and major benefit of open communities as well.

Although the first criterion provides a "bright line" with which one can distinguish between open products and their licenses, the social criteria of transparency, integrity, and nondiscrimination do not provide for an equally clear demarcation. (What counts as open or free content has not always been an easy question either, but at least we now have the "Free Software Definition" (Stallman, 2005e) and "Open Source Definition" (OSI, 2006b) to rely upon.) Indeed, a common behavior of an open community is the self-reflective discourse of what it means to be open on difficult boundary cases. Consequently, I argue that a test of an open community is if a constituency that is dissatisfied with results of such a discussion can fork (copy and relocate) the work elsewhere. Additionally, although the often voluntary character of the community is not explicitly articulated in my conceptualization, it is important to note that voluntariness is critical to

understanding the moral/ideological light in which many of the members view their participation.

In the following sections I present the Wikipedia community against the criteria of an open content community.

Open Products

What is often meant by the term “open” is a generalization from the FOSS movement. Communities marshaling themselves under these banners cooperatively produce, in public view, software, technical standards, or other content that is intended to be widely shared. Fortunately, there are now a number of excellent scholarly resources on the FOSS phenomenon (see Dibona et al., 1999; Williams, 2002; Weber, 2004; Chopra and Dexter, 2007); because of this I will provide only the briefest description of its history so as to understand what is meant by “open products.”

The Free Software movement was spearheaded by Richard Stallman at MIT in the 1980s. When Stallman found it difficult to obtain the source code of a troublesome Xerox printer, he feared that the freedom to tinker and improve technology were being challenged by a different, proprietary, conceptualization of information (Williams, 2002). To respond to this shift he created two organizations: the GNU Project in 1984, which develops and maintains free software, and the Free Software Foundation (FSF) in 1985 (Stallman, 2005f), which houses legal and advocacy efforts. Perhaps most importantly he wrote the first version of the GNU General Public License (GPL) in 1989. The GPL is the seminal copyright license for “free software”; it ensures that the “freedom” associated with being able to access and modify software is maintained with the original software and its derivations. It has important safeguards, including its famous reciprocal

provision: if you modify and distribute software obtained under the GPL license, your derivation also must be publicly accessible and licensed under the GPL. (Ensuring the “busy bees” of knowledge production referred to in the previous chapter are not hindered in their information cross-pollination.)

In 1991, Linus Torvalds started development of Linux: a UNIX like operating system kernel, the core computer program that mediates between applications and the underlying hardware. While it was not part of the GNU Project, and differed in design philosophy from the GNU’s kernel (named “Hurd”), it was released under the GPL. While Stallman’s stance on “freedom” is more ideological, Torvalds approach is more pragmatic. Furthermore, other projects, such as the Apache web server, and eventually Netscape’s Mozilla web browser, were being developed under similar open licenses except that, unlike the GPL, they often permit proprietary derivations. With such a license, a company may take open source software, change it, and include it in their product without releasing their changes back to the community.

The tension between the ideology of free software and its other, additional, benefits led to the concept of Open Source in 1998. The Open Source Initiative (OSI) was founded when Netscape was considering the release of its browser as free software; participants at the meeting “decided it was time to dump the moralizing and confrontational attitude that had been associated with ‘free software’ in the past and sell the idea strictly on the same pragmatic, business-case grounds that had motivated Netscape. They brainstormed about tactics and a new label. ‘Open source’, contributed by Chris Peterson, was the best thing they came up with” (OSI, 2006a). Under the Open Source banner the language and ideology of freedom was sidelined so as to highlight pragmatic benefits and increase corporate involvement.

The benefits of openness are not limited to software. Because the doc-

umentation that accompanies free software should also be free the FSF created the GNU Free Documentation License (GFDL) in 1999. Of course, in the new millennium this model of openness has extended to forms of cultural production beyond technical content. Wikipedia's co-founder, Jimmy Wales, has stated that a seminal article by Eric Raymond (1997) that likened FOSS production to that of a vibrant decentralized bazaar "opened my eyes to the possibility of mass collaboration" (as cited in Schiff, 2006, p. 3). In fact, in October 2001, not even a full year old, Wales collected those principles he thought were responsible, and would continue to be needed, for its success. In his "Statement of Principles," Wales (2001c) wrote that "Wikipedia's success to date is entirely a function of our open community." As Nupedia and Wikipedia were licensed under the GFDL from the start, "The GNU FDL license, the openness and viral nature of it, are fundamental to the long-term success of the site."

Ironically, Wikipedia is not looked upon favorably by some prominent FOSS developers. Eric Raymond himself has characterized Wikipedia as a "disaster" that is "infested with moonbats" (as cited in Schiff, 2006, p. 8); in this view Wikipedia is an unsuitable case of the open source model because the merit of software developers and their code can be judged by objective standards (e.g., speed or efficiency), but knowledge claims can not. A participant on the geek discussion site Kuro5hin writes, "People love to compare Wikipedia to Open Source but guess what: bad, incorrect code doesn't compile. Bad, incorrect information on the 'net lives on and non-experts hardly ever notice the mistake" (dharma, 2004). This difference between functional and expressive content is one of the many possible differences between "open source" and "open culture" as Felix Stalder (2006) puts it.

In time, because the GFDL was intended to accompany the textual documentation of software, and was perceived by some as not being flexible

enough, new non-software content licenses have appeared. More widely, the Creative Commons project, launched in 2001, provides licenses for the sharing of texts, photos, and music. Lawrence Lessig (2004), a founder of Creative Commons, helped popularize the notion of freedom and openness in domains beyond software with his book *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*. Wikipedia is probably the best known “open product” of the wider free culture movement today.

Transparency and Integrity

“An open content community should make its processes, rules, determinations, and their rationales available; the integrity of those processes and the participants’ contributions should be respected.” At first blush, and for the vast majority of cases, communities based on public wikis should do well on the criteria of transparency and integrity, particularly when you compare them to traditional organizations. On the Meatball wiki, “a common space for wiki developers and proprietors from all over the Internet to collaborate” (Meatball, 2006b), this criteria is partially captured by what it calls “Fair Process” (Meatball, 2007a) which itself includes the three principles of engagement, explanation, and clarity; fair process is particularly important in voluntary communities “because fair process builds trust and commitment, people will go above and beyond the call of duty” (Meatball, 2007a).

While some warn of “eroding accountability in computerized societies” (Nissenbaum, 1996), others have argued that the open development of FOSS may be an exception, and even provide a model for achieving accountability for other technologies or institutions (David, 2004). Consequently it shouldn’t be surprising that transparency has come to be an attributed feature of Wikipedia.

Jill Coffin explains that transparency “allows participants to understand the reasoning behind decisions, contributing to trust in the Wikipedia process. It also allows newbies a means to understand informal community protocol and culture, as well as reduce abusive practice” (Coffin, 2006). Wiki technology and culture promote the documentation of proposals, discussions, and decisions—everything actually. Integrity can then flow from the accountability inherent to such transparency: the record is there for all to see. Coffin relates this to a famous Linux aphorism: “Schlock and chaos are avoided due to the watchful eyes of the many, exemplifying Linus’ Law, coined and articulated by hacker Eric Raymond as ‘Given enough eyes, all bugs are shallow’” (Coffin, 2006). The importance and hoped for effects of transparency can be seen in the expectations of Wikipedia Stewards, who have significant power in administering all other user rights; they are expected to act transparently:

Steward activity is visible in the Meta rights log. When a request is fulfilled, stewards should note what they did at the local request page (each new request should be accompanied by a link to this) or on the Meta request page.

Steward discussions should occur on Meta, rather than by email, so people can understand the stewards’ decisions and ways of working. (Wikimedia, 2007b)

However, just as a naïve rendering of openness as “anything goes” is overly simplistic, so is the sense that just because something has been posted on the web then one has achieved a perfect level of accountability.

Non-Discrimination

“The criterion of non-discrimination prohibits arbitrary discrimination against persons, groups, or characteristics not relevant to the community’s scope of activity. Persons and proposals should be judged on their merits. Leadership

should be based on meritocratic or representative processes.” However, a common tendency in groups is to adopt an in-group/out-group mentality; Wikipedia cultural norms attempt to counter this. In the 2001 “Statement of Principles” Wales wrote “Newcomers are always to be welcomed. There must be no cabal, there must be no elites, there must be no hierarchy or structure which gets in the way of this openness to newcomers” (Wales, 2001c). This is further reflected in the famous Wikipedia maxim “Please Do Not Bite the Newcomers” (Wikipedia, 2006ab).

Beyond newcomers, there are also norms of nondiscrimination with respect to behavior and beliefs. In the *wiki-en-1* thread entitled “Wikipedia and autism” Tony Sidaway wrote of the treatment of two admittedly difficult contributors: “Both of them have expressed a strong wish to produce work for Wikipedia. Both of them produce articles that appear weird to non-autists. In my opinion, neither represents a threat to Wikipedia commensurate to the treatment they have received” (Sidaway 2005wa). Wikipedians then discussed how they might best work with and encourage such contributors. Also, as seen in the introductory scenario of chapter 1, Wikipedia administrator MattCrypto unblocked a “racialist” because he thought it was unfair to block someone because of their affiliation rather than Wikipedia actions. Even those with problems or criticisms of Wikipedia should be welcomed if they connect in a constructive way:

Anyone with a complaint should be treated with the utmost respect and dignity. They should be encouraged constantly to present their problems in a constructive way in the open forum of the mailing list. Anyone who just complains without foundation, refusing to join the discussion, I am afraid I must simply reject and ignore. Consensus is a partnership between interested parties working positively for a common goal. I must not let the “squeaky wheel” be greased just for being a jerk. (Wales, 2001c)

However, it is interesting to note that the “Statement of Principles” (Wales, 2001c) of October 27, which I think is a seminal articulation of the Wikipedia

ethos, appeared after two other messages relevant to Wikipedia openness. Jimmy Wales and Larry Sanger are often inappropriately placed at extremes of the “crowds versus experts” continuum; however, Sanger has welcomed mass participation under the guidance of experts and Wales has recognized the challenge of mass participation as Wikipedia continued to grow:

One of the wonderful things about the wiki software, and something that has served us very well so far, is that it is totally wide open. I suspect that any significant deviation from that would kill the magic of the process.

On the other hand, we really are moving into uncharted territory. Wikipedia is already, as far as I know, the most active and heavily trafficked wiki to ever exist. It seems a virtual certainty that the wide open model will start to show some strain (primarily from vandalism) as we move forward.

I have this idea that there should be in the software some concept of “old timer” or “karma points”. This would empower some shadowy mysterious elite group of us to do things that might not be possible for newbies. Editing the homepage for example. We already had one instance of very ugly graffiti posted there (a pornographic cartoon). Some principles that we should use if/when we move in that direction. . . . (Wales, 2001b)

This message is a bit of a faux pas on Wales’ part. In a subsequent chapter on leadership I note that an open content community is often led by a “benevolent dictator” and it deals with the anxiety arising from the tension between the egalitarian ethos and autocratic leadership by way of irony and humor. In this message Wales speaks of being a dictator and of a cabal in much the same way—without appreciating the joke doesn’t work when he tells it. One week later Wales was forced to explain:

In a letter to wikipedia-l, I injudiciously used the word ‘cabal’ and made reference to a ‘shadowy mysterious elite’. This was a very poor choice of words on my part. I thought that many or most people would understand it for what it was—the notion of a non-existent cabal, allegedly controlling things, when in fact there is not one, would be well understood.

Let me be clear. In wikipedia, there should be no elites.

All legitimate participants, no matter how much they may disagree on political, philosophical, or other issues, should always be able to edit pages in the same fashion as they can now. Only behavior that truly and clearly rises to the level of vandalism should be fought with extremely cautious uses of software security measures. (Wales, 2001d)

And the following day Wales posted his “Statement of Principles” on the wiki further highlighting the importance of openness to Wikipedia’s success. Even so, fears of a cabal continue to arise every so often; it is human nature and a social inevitability for practice to sometimes fall short of principle: Wikipedians frequently raise concerns about transparency, integrity, and discrimination (see Ronline, 2006; Martin, 2007a). Despite this, relative to the daily tasks of editing and most other practices, I believe Wikipedia satisfies the criteria—though the community’s discourse about these concerns will continue forevermore.

Non-Interference

Simply, if the content is available under an open/free license, those dissatisfied with any of the other criteria, or other issues, can take it and begin work on it within their own community and culture (Meatball, 2007c). Steven Weber (2004) notes the importance of forking by claiming: “The core freedom in free software is precisely and explicitly the right to fork” (p. 159). While I don’t consider it to be the “core freedom” but a critical social *implication* of free content, I do agree it is a “fundamental characteristic” of FOSS and that “to explain the open source process is, in large part, to explain why that [forking] does not happen very often and why it does when it does, as well as what that means for cooperation” (Weber, 2004, p.92). To this end, David Wheeler likens forking to “the ability to call for a vote of no confidence or a labor strike is important. Fundamentally, the ability to create a fork forces project leaders to pay attention to

their constituencies” (Wheeler, 2005).

Forks of Wikipedia content have happened and are even more frequently threatened and discussed. For example, because of a misunderstanding about the possibility of Wikipedia carrying advertising, the Spanish Wikipedia was forked into *Enciclopedia Libre Universal* (Suarez and Ruiz, 2005). (The misunderstanding has since become resolved and Spanish Wikipedia has superseded the fork.) Or, Larry Sanger, dissatisfied with a lack of respect for expert contributors at Wikipedia, has created a new project called Citizendium (Sanger, 2006b) which considered adopting Wikipedia content that it likes and wants to improve. However, definitively settling upon the license Citizendium would use was not a quick or easy process. One concern among some Citizendium contributors was that if they were to use the GFDL license, and therefore able to use (and improve upon) Wikipedia content, Wikipedia could import the improved Citizendium content back into itself. This was unacceptable to those who wished to distinguish themselves and the superiority of their approach. Therefore, as some Wikipedia content had already been adopted, depending on whether Citizendium chose a license compatible with GFDL, Citizendium experimented with the possibility of “unforking” their borrowed content (Sanger, 2007a)—rewriting it from scratch. In December of 2007 Citizendium chose the “Creative Commons Attribution-ShareAlike 3.0 Unported License (CC-by-sa)” which, after an orthogonal effort to make the GFDL compatible with this Creative Commons license, means “Wikipedia and the Citizendium will be able to exchange content easily” (Sanger, 2007b).

Challenges to Wikipedia's Openness

So far I have described the criteria of what I call an open content community and Wikipedia's applicability. In the following sections I focus more carefully on three particular cases which challenge Wikipedia's claims of openness. In the discipline of computer science, one's constructs are most severely tested by "boundary cases," and I think that considering the cases of whether anyone can really edit, office actions, and the WikiChix enclave give insight into what is meant by openness, and Wikipedia's claims upon it.

Can Anyone Really Edit?

As noted, the English Wikipedia declares itself as "the free encyclopedia that anyone can edit" (Wikipedia, 2006e). Presently, this includes the "anonymous," those who don't log in before editing. Despite the common retort that Wikipedia is "not an experiment in anarchy" (Wikipedia, 2006ag), among other things, the feature of openness and anonymous editing continues to be a valued part of Wikipedia's identity: even those who always log in to edit might still support the ability of others to edit without doing so.

Before proceeding with a discussion of how anonymous editing and blocking are employed in discussions about openness, a brief explanation is in order. Every edit to Wikipedia is logged and can be reviewed on the article's history page. Wikipedia contributors may choose to create an account with a name/identity of their choosing: it might be personally identifiable, or a pseudonym. Editors who have not logged in to such an account are often referred to as "anonymous." In the history log, the edit of an anonymous user is attributed to an IP address, the number associated with a user's computer by their Internet service provider. The reason the term anonymous is not strictly correct is that

there have been cases in which these numbers have been used to trace back an edit to a particular computer. For example, the offices of US Congressional representatives have been identified in removing true but embarrassing information about representatives (Lehmann, 2006; Wikipedia, 2007ac). In fact, those who wish to protect their privacy would be better off creating a pseudonym under which they edit. Then, only the few “checkuser” (Wikipedia, 2007ag) Wikipedians who have access to the server logs would be able to determine the IP address of the originating computer.¹

Unfortunately, Wikipedia is continually vandalized. However, there are various automated tools (“bots”) and groups of users (e.g., the “RC Patrol” who keep an eye on recent changes) that roll back or “revert” articles to their previous state. When it becomes clear that a particular user is persistently abusive, administrators may suspend her account for a period, or in serious cases they might ban her altogether (Wikipedia, 2007bb). However, there is little to prevent such a user from creating another account or editing anonymously. Consequently, administrators have the ability to block users based on their IP number. Whereas any given particular block might be contested, it is difficult to conceive of Wikipedia working at all without such a feature. As the “Wikipedia Is Not an Experiment in Anarchy” article states:

Wikipedia is free and open, but restricts both freedom and openness where they interfere with the purpose of creating an encyclopedia. Accordingly, Wikipedia is not a forum for unregulated free speech. The fact that Wikipedia is an open, self-governing project does not mean that any part of its purpose is to explore the viability of anarchistic communities. Our purpose is to build an encyclopedia, not to test the limits of anarchism. (Wikipedia, 2006ag)

¹Because the term “anonymous” is persistently used by the community, despite my caveat that it really means “not logged in,” I will hereafter use it myself without further qualification unless required by the context.

However, since IP numbers sometimes change, or many users may share an IP number, this approach sometimes blocks the innocent; a balance must be struck. This raises the question of “How Computer Systems Embody Values” (Nissenbaum, 2001)? Specifically, to what extent do technical features such as blocking vandals or requiring registration promote or constrain community values such as openness?

Consider the infamous Seigenthaler case of 2005 in which the biographical article of one of Robert Kennedy’s administrative assistants contained the unfounded claim that he was implicated in the assassinations of the Kennedy brothers. Much to the embarrassment of many Wikipedians, Seigenthaler objected in a widely discussed editorial opinion in *USA Today* (Seigenthaler, 2005). After the identity of the “anonymous” contributor was revealed as the author of a “prank gone wrong,” the press reported that Seigenthaler was not holding a grudge, nor supporting a regulatory crackdown on the Internet, but he did fear “Wikipedia is inviting it by its allowing irresponsible vandals to write anything they want about anybody” (Press, 2005).

In a message to one of the Wikipedia lists, Jimmy Wales objected to this as a mischaracterization of Wikipedia, and its openness. Wales argued that to equate openness with defamation is like equating a restaurant’s steak knives with stabbings. To force everyone in the restaurant to be isolated in steel cages because of the possibility of a stabbing would violate the values of “human kindness, benevolence, and a positive sense of community” and, consequently, “I do not accept the spin that Wikipedia ‘allows anyone to write anything’ just because we do not metaphysically prevent it by putting authors in cages” (Wales, 2005k). The question here seems to be to what extent does the phrase “allow anyone to edit” include the possibility of “allowing vandals to defame”? Seigenthaler’s position is that the first does include the latter, whereas Wales seems to be arguing such

a conclusion is misleading with respect to the community's intention and the balance of consequences. I believe that while vandalism is not condoned, and it is even actively repulsed, implementing technical or social structures that would make vandalism *impossible* would conflict with other community values. How might Wikipedia decrease the possibility of vandalism without unduly affecting other values such as openness?

In June 2006, approximately 6 months after the Seigenthaler incident, a new mechanism was deployed: "semi-protection" blocking (Wikipedia, 2006o). Previously, any user, anonymous or logged in, would be prohibited from making contributions if they were doing so from a blocked IP number which had been the source of problems. Now, logged in users associated with the blocked IP numbers would be able to edit (Wikipedia, 2006p). During the almost eight months of discussion about the feature, some had expressed a concern that it was contrary to the value of openness:

Personally, I think the new blocking policy ... will do more harm than good. The proposal would indubitably mean the blocking (using this logged-in only registration) of most AOL IPs, Netscape IPs, school districts, public-use computers, and major corporations. By only allowing logged-in users on these IPs (since it is inevitable that all of them would either be blocked indefinitely or blocked consistently), in my opinion, is against the spirit of the Wiki - we're here to allow **anyone** to edit, not just those who want to create accounts. ... This blocking policy proposal would take us one step closer to not allowing any anonymous editing - AOL, school districts, and public-use computers comprise a large amount of our editing, and many are valuable editors and contributors that we may lose if this policy is implemented. (Celloguy, 2005)

Others countered with a pragmatic argument. On the face of it, it might appear there are more restrictions as there is a new feature in the software, yet it would further the goal of greater access in practice:

I really can't figure out what you're arguing here, though. Because

right now, when an AOL IP is blocked, you can't edit using it regardless of whether or not you register. As I understand it, the proposal is to allow logged in users to edit when they otherwise wouldn't. Sure, this might lead to admins being more liberal with IP blocks, but it doesn't require it - whether or not admins are more liberal with IP blocks is a separate issue, and we could pass policies to ensure that this doesn't happen. (DiPierro, 2005a)

Much to the chagrin of the community, this proposal gained major attention with the publication of a *New York Times* article entitled "Growing Wikipedia Revises Its 'Anyone Can Edit' Policy" (Hafner, 2006). This led Wales to comment that:

... not every case of allowing more people to edit would count as "more open". For example, if we had a rule that "Only Jimbo is allowed to edit this article" then this would be a lot LESS open than "no one is allowed to edit this article". Openness refers not only to the number of people who can edit, but a holistic assessment of the entire process. I like processes that cut out mindless troll vandalism while allowing people of diverse opinions to still edit. Those are much better than full locking. (Wales, 2006c)

On June 21 the *New York Times* corrected its original article by noting that some form of blocking had always existed on Wikipedia, and the online version's headline now reads "Wikipedia refines" its policy, rather than "revises" it (Hafner, 2006). In July of 2006 acceptance of the blocking proposal was characterized as an "avalanche" of support (Wikipedia, 2006p) and I have seen little evidence that it has negatively affected users so far.

How does this story of anonymous users, vandals, and blocking engage my earlier notion of an open content community? I think there are four issues worth explicitly identifying so as to answer this question.

First, what is the scope of "anyone"? Does "anyone" include persistent vandals with no goal other than disturbing Wikipedia? The community has comfortably concluded that it does not—though it does continue to be quite

forgiving by preferring suspension and a process of escalation before outright banning occurs. Does “anyone” include anonymous editors? Historically it has, and continues to do so except in cases of suspected abuse.

Second, how to balance values? Openness is not the only value of Wikipedia, it is not even the primary one. The ultimate goal of Wikipedia is to produce a high quality encyclopedia. Many believe openness furthers the ultimate goal of producing quality content, but a quality encyclopedia should not be sacrificed in the face of a detrimental openness. Fortunately, the values of openness, quality, and kindness are often seemingly sympathetic to each other. Yet, as seen, there are cases in which they are in tension (Nagel, 1979) and require balancing, sometimes through technical intervention (Flanagan et al., 2006, p. 9). Sanger, with the Citizendium project, for example, has chosen a different balance by requiring all contributors to use real-world identities.

Third, does *possibly* imply *essentially*? In a variation of an argument by Langdon Winner (1986) wherein certain technologies (e.g. nuclear) can be inherently political (i.e., inherent to certain social and political relationships), some critics maintain that because certain things are *possible* on Wikipedia they are *essential* to Wikipedia. Whereas Winner argues that the dominant uses of the technology shape its relation to the social, Wikipedia critics argue that even a possibility is determining, or to put it another way, “because Wikipedia permits foo, it is foo’ish.” Others respond that marginal cases do not define the whole and should not be catered to if they conflict with more central values. To this end, Wales was quoted in the *New York Times* article as saying: “Protection is a tool for quality control, but it hardly defines Wikipedia. What does define Wikipedia is the volunteer community and the open participation” (as cited in Hafner, 2006).

Fourth, do technological constraints always imply movement away from openness? The ability to block anonymous users associated with an abusive IP

number was a new feature. Yet, innocent anonymous users would have been blocked before, as would have those users signed in at that IP address. With the new feature the latter group has access it did not before. In this case we see the relevance of historical context (existing practice) and practical effect on the meaning of a technical feature (Woolgar, 1991; Friedman and Nissenbaum, 1996). Consequently, “We must also study the complex interplay between the system or device, those who built it, what they had in mind, its conditions of use, and that natural, cultural, social, and political context in which it is embedded. . .” (Nissenbaum, 2001, p. 120).

Ultimately, how does this case bear upon my specification of an open content community? I believe the relevant criterion is that of nondiscrimination which, “prohibits arbitrary discrimination against persons, groups, or characteristics not relevant to the community’s scope of activity.” Although some might argue any effort to block even problematic users is a step away from openness, a chaotic culture of undisciplined vandals would equally disenfranchise those who wish to make a positive contribution.

Open Communities and Closed Law

In June of 2006 I noted, what I thought to be, three important stories for open content communities. The *Wikipedia Signpost*, Wikipedia’s local “newspaper,” reported on a new “oversight” feature that permits hidden edits to be made to Wikipedia. In the same month, it also reported that the Wikimedia Foundation had hired the same person as “general counsel and interim executive director” (Wikipedia, 2007bp). It was also at this time that it appeared the Debian Project, a GNU/Linux distribution, might sever its relationship with its legally chartered non-profit organization (Goerzen, 2006). What do these events have in

common? They demonstrate that open content communities with a formal legal standing are a conflicted beast.

Wikipedia's success has led to a difficult challenge of interfacing with the external world. As Wikipedia has grown in size and repute the likelihood of Wikipedia being subject to legal action has similarly grown. The tension between openness and closeness in such a community is no better demonstrated than by the WP:Office action (Wikipedia, 2006aa), the removal of illegal or risky material without public discussion or revision.

On Wikipedia one is expected to discuss the editing of an article with fellow contributors. Arguments are made in the open with reference to public policies. However, for those with a proprietary interest, this process of reasoned discussion can be circumvented via a call or letter to the "Wikipedia office," that is, formally contacting the Wikimedia Foundation. And, sometimes, rightfully so. What obligation did Seigenthaler (2005), someone completely unfamiliar with wikis, have to edit Wikipedia in order to remove the libelous claim that he was implicated in the assassination of the Kennedys? None. As Wales (2006d) wrote, "The problem we are seeing, again and again, is this attitude that some poor victim of a biased rant in Wikipedia ought to not get pissed and take us up on our offer of 'anyone can edit' but should rather immerse themselves in our arcane internal culture until they understand the right way to get things done."

However, unfortunately, the office mechanism can be abused by those pushing a non-encyclopedic point of view (POV), such as promoting (or censoring negative views of) a commercial product. If such people can't win their arguments on the merits of notability and neutrality within the community, having their lawyer call the office might prompt an office intervention—such as blanking or deleting the contentious article which would then be labeled with the WP:Office tag.

Something like WP:Office was an unfortunate though (probably) necessary mechanism whereby reasoned discussion is excepted so as to avoid legal problems. Yet, in an ironic twist, WP:Office soon became a red flag to those who dislike this intervention or otherwise like to make trouble for Wikipedia (e.g., copying sensitive or contentious materials off Wikipedia to continue a controversy). Whereas office actions were intended to quickly and quietly remove a potential liability, they became a flash-point. This led to the sad case in which office actions were taken without being labeled as such and a “good-faith” administrator was desysopped and blocked indefinitely because he had reverted the hidden landmine of an unlabeled office action. (Fortunately, his response (Moeller, 2006a) was an exemplar of Wikipedia tact and his position was soon restored.)

The realities of this tension between open collaboration and legal action were indicated by two Wikipedia announcements in 2006: the appointment to a CEO position (Foundation, 2006) of someone who will also act as general counsel, and the deployment of an “oversight” (revision hiding) feature (Wikipedia, 2007bj) which permits edits to be hidden from an article’s history page. Legal threats are clearly a top priority for Wikipedia.

The organizational scholar Edgar Schein (2004) argues that organizations are shaped by the crises they face in interaction with the external environment and how those events are internally integrated within the organization. This integration is not always smooth or successful, particularly for an open community. Another example of this has been a dispute in a different open content community, the Debian GNU/Linux distribution project. In a thread entitled “Who Can Make Binding Legal Agreements” (Goerzen, 2006), the Debian community argued over the licensing implications of Sun’s Java. For the sake of convenience, sometimes free software distributions will provide (controversial) “non-free”

repositories of popular applications that are often free to use (e.g., the Java development language, or the Opera browser) but do not satisfy the Free Software Definition. Sun had been tinkering with making Java more acceptable to the FOSS community, and with the help of some of Debian's leadership, Java was to be included in the non-free repositories. Other Debian contributors and Software in the Public Interest (SPI), Debian's legal parent organization, objected because of possible indemnity problems. Part of the discussion resolved around the questions of authority: community and legal. Can SPI preempt Debian leadership or decision making processes? Can Debian decisions foist liability upon SPI that SPI is unwilling to accept? In the current legal environment these are difficult issues for the type of open collaboration that Wikipedia and Debian represent.² Such concerns over copyright and liability have led Larry Sanger (2005b) to coin the neologism of "shopworks," for works that are "developed in a strongly collaborative way," and to argue they merit special protection under a law that is sensitive to the novel way in which they are produced.

In any case, what are the implications of organizational maturation on openness? The sociologist Max Weber made an important observation of how leadership often shifts from a charismatic leader to a more bureaucratic form of governance as a community matures (Weber 1978, p. 212-302; Mommsen 1992, p. 42). Clay Shirky, a contemporary scholar of organizations, has observed that "Process is an embedded reaction to prior stupidity," meaning "an organization slowly forms around avoiding the dumbest behaviors of its mediocre employees, resulting in layers of gunk that keep its best employees from doing interesting work..." (Shirky, 2003b).

Wikis do not add unnecessary process in and of themselves: they are simple, accessible, flexible, quick, and cumulative. Furthermore, community

²Though it took some time, Sun eventually released Java under the free software GPL license, making its inclusion in Debian much simpler.

process need not be overly specified in fear of a mistake since content changes are easily reverted. (The role of leadership relative to over-specifying process is discussed further in chapter 6.) However, an unforeseen implication of the wiki's ability to facilitate content creation is that policies are but another type of content. So, in the end, Wikipedia is no exception. In fact, despite the Wikipedia norm of "Avoid Instruction Creep" (Wikipedia, 2007ba) it seems unavoidable. For example, Andrew Lih, Wikipedia administrator and journalist, prompted a discussion over what he saw as an overly officious statement warning of the "speedy deletion" of a page he found useful. The deletion notice warned that the article, "is a very short article providing little or no context (CSD A1), contains no content whatsoever (CSD A3), consists only of links elsewhere (CSD A3) or a rephrasing of the title (CSD A3)" (Lih, 2007). Lih responded:

It's incredible to me that the community in Wikipedia has come to this, that articles so obviously 'keep' just a year ago, are being challenged and locked out. . . . 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's like I'm in some netherworld from the movie *Brazil*, being asked for my Form 27B(stroke)6. (Lih, 2007)

Some degree of policy is necessary in any community, and bureaucratization is a common—many would say unavoidable—feature of organizational development. And even in the face of a proliferation of process the open content community criteria of transparency and integrity is largely preserved. However, should the accretion of policy become too heavy integrity can become compromised by frustration and "Wikilawyering" (employing overly technical or legalistic arguments that focus on the letter of policy rather than its spirit) (Wikipedia, 2007bo). For example, the policy boom has prompted one Wikipedian to declare that he had "Kicked the Process Habit": "So as of today, I'm just going

to go ahead and edit. Lord knows the rules are making me nervous and depressed. So I'll follow all the stuff I can remember, and not try too hard to learn the other stuff" (Sandifer, 2006).

Finally, legal requirements for and upon an accountable agent of an open content community are problematic, no doubt. Actions taken outside the review of the community fall short on the criteria of transparency, and perhaps integrity. Hopefully, open content communities might bear this incongruity if incidents prompting such action remain rare and marginal.

Enclaves and Gender

One should not be surprised that a source of contention in open content communities is when a subset of community members create a closed space. The conditions that prompt such proposals and the rhetoric marshaled to support or attack them give insight into a community's attempts to understand and implement openness.

A common feature of online communities operating under an ethos of open and egalitarian values is frustration with the co-existence of group decision-making and seemingly contrary forms of autocratic authority. Evidence of this phenomenon includes the alleged "secret cabal" of USENET in the 1980s (Pfaffenberger, 1996), private "sysop" only e-mail lists or IRC channels, and "benevolent dictators" (Wikipedia, 2006b) of communities including Python, Linux, and Wikipedia. For example, consider the following comment on a Wikipedia e-mail list:

There are many private, semi-private and secret lists in which wikimedians make decisions with each other without ever telling anyone or explaining. Openness has gone overboard a very long time ago. Most things you read on the public lists have been discussed privately long before an outsider found out about them.

(van Kalken, 2006)

In a subsequent chapter, I argue that the open character of such communities fosters the emergence of strong leaders who make autocratic decisions when the community can not easily make the decision itself. Furthermore, such leadership must be exercised with humility and humor or the community may fork or fail. However, in this chapter I concern myself with another difficult situation for an open content community: the creation of an enclave (Sunstein, 2003, p. 158), or minority-specific space. For while cabal formation is a seemingly inevitable structural result of group decision making, and “closed law” is an inescapable reality of living in a litigious society, enclaves are purposely chosen by a subset of the community in seeming contradiction with the values of openness and equality. This was aptly demonstrated in the Wikipedia community by the announcement (Angela, 2006) of a “WikiChix” list for female only discussion:

Offlist chat about the recent discussions on systemic gender bias in Wikipedia made it clear that a number of women were not comfortable contributing to the conversation there. This inspired the creation of WikiChix in November 2006. WikiChix is a wiki and mailing list for female wiki editors to discuss issues of gender bias in wikis, to promote wikis to potential female editors, and for general discussion of wikis in a friendly female-only environment. (WikiChix, 2007)

Formally excluding anyone from the larger community prompts questions of fairness and discrimination. Some members reacted by arguing of a slippery slope towards absurdity, such as a need for “a mailing list for homosexual African-Americans from planets other than earth” (Alphax, 2006). In a similar spirit, another Wikipedian asks about the need for a “British-only or atheist-only” list but also acknowledges the specific motivations for the creation of Wikichix: “the list was organised to avoid a specific problem - women feeling uncomfortable posting to this male-dominated list where explicitly sexist statements (even if they weren’t

meant seriously) are left unchallenged by a large number of people” (Guettarda, 2006a).

In fact, the very notion of equality may inhibit constructive action towards mitigating bias. After interviewing male and female students about computer usage and its larger culture (i.e. reading computer magazines) Fiona Wilson (2003) argues that women who might otherwise object to informal bias might simply accept the presumption of equality or not want to challenge it so as to avoid being singled out. The model of female “chix” projects (e.g., LinuxChix, Ubuntu Women, Debian Women, KDE Women, WikiChix, etc.) appears to be a positive counterforce to this tendency.

Another response employed by those concerned with such spaces is not to object to the exclusion, but to the division of the larger community. Shouldn’t the community ensure the common space is accessible rather than spinning off groups? For example, “A better solution would be to kick any of the men that behave like that, not to assume that ‘all men are chauvinist pigs’” (Giusca, 2006). Of course, given the value accorded to free speech, the community would have a difficult time restricting the speech of “men who behave like that.” How would such a determination be made? One of the few standards available for the discrimination of speech in online communities is that of “trolling”: contentious speech, probably not even genuinely held, expressed for the sole purpose of inflaming discussion. But how would one distinguish between misogyny and trolling (Guettarda, 2006b)? (Or, how does one distinguish between genuine racism and provocation? Consider Michael Richards’, *Seinfeld*’s Kramer, 2006 claim that he is not a racist despite his racial tirade against hecklers: one need not actually believe the offensive statements one uses to antagonize others in a heated moment.) An irony is that falsely held misogynistic statements espoused for the purposes of trolling might be censured or censored, but a genuine misogynist

could claim that any formal censure is a form of “thought crime” which is generally anathema under free speech principles.

This type of discussion that traverses the difficult questions of freedom and equality often prompt extensive debate. Although discussion about these values sometimes creates a shared “productive ethical orientation” within the community (Coleman, 2005), they can also be alienating and seemingly endless. This is why such topics are so suitable to trolling in the first place, and for which community leaders often step in:

The point is, if the broad philosophical question is “Do we ban people for merely holding unpleasant or unpopular beliefs?” then the answer is “no, we never have, and there seems to be very little support for doing so”. If the point is “Does asserting unpleasant or unpopular beliefs automatically get you a free pass to be any sort of jerk you like, because we are planning to bend over backwards to make sure we don’t ever ever ever discriminate against Nazis?” then the answer is, “no, being a disruptive troll is still being a disruptive troll.” (Wales, 2006b)

Not surprisingly, it did not take long for the WikiChix proposal to be challenged; a longtime male contributor and self-described “overly combative” “anarchist” (Wikipedia, 2007ar) tried to subscribe to the list and was rejected. (I suppose this action was a violation of the norm “Do Not Disrupt Wikipedia to Illustrate a Point” (Wikipedia, 2006t), which brings some measure of sanity to difficult issues.)

The final, parliamentary, objection to the WikiChix proposal was that this exclusive list was being hosted by the Wikimedia Foundation. The other free software related women fora, while focused on being “women-friendly,” are more or less open and affiliated with the larger community. LinuxChix “is intended to be an inclusive group where everyone is and feels welcome. . . . LinuxChix is intended to be primarily for women. The name is an accurate reflection of that fact. Men are welcome because we do not want this group to be

exclusive” (Vesperman and Richardson, 2002). Debian Women states: “We’re not segregated. Debian Women is a subgroup of Debian that allows anyone to join and help” (Clark, 2005). On UbuntuWomen, “Membership is open to all” (Project, 2006). The KDE Women website is run by women so “you have to be a woman” (Webmaster, 2007), but in addition to the six listed female members, there are also five male “supporters” and men are present on the IRC channel and mailing list. The gender exclusivity of WikiChix is atypical and it is not clear to what extent this decision was considered, purposeful, and what the consequences might be relative to the other female friendly fora.

In the end, the WikiChix list was moved from being hosted by Wikimedia, which might carry the presumption of endorsing exclusive discrimination, to a non-Wikimedia host: “Excellent. I still think it’s a bad idea, but if it’s not being supported in any way by Wikimedia Foundation there’s no need to complain about it here any more” (Derksen, 2006). As is often the case on difficult issues, the conclusion to this argument was facilitated as much by exhaustion as by reason. Endless argument about whether bias exists, rather than partaking in constructive dialogue on how to counter it, is a reason such spaces are often created. By severing any support and official affiliation with the Wikimedia Foundation the topic became moot to the larger community.

While this particular case was resolved with a simple techno-institutional move, it still is illustrative of a challenge to openness. As Freeman (1996) noted informal—though no less exclusionary—boundaries may persist despite the absence of formal exclusions. Therefore “formal” enclaves can be a productive response to the “tyranny” of informal structures and biases of a larger community. To this end, Nancy Fraser (1992) proposes the notion of “subaltern counterpublics in order to signal that they are parallel discursive arenas where members of subordinated social groups invent and circulate counterdiscourses to formulate

oppositional interpretations of their identities, interests, and needs” (p. 123). Cass Sunstein (2003) recommends that in circumstances in which high status members dominate lower status members, “it can be indispensable to allow spaces in which members of minority groups, or politically weak groups, can discuss issues on their own. Such spaces are crucial to democracy itself” (p. 158).

Yet, WikiChix’s exclusion of males, rather than being open and pro-female, is obviously problematic with respect to the open content community criteria of transparency and nondiscrimination. Also, Sunstein (2003) recognizes enclaves can further group polarization and marginalization and recommends that enclave members be brought back into it contact with the larger community, otherwise, self insulation can yield extremism (p. 160-161). In following this issue I haven’t perceived a decrease in female presence after the provisioning of a female friendly space. A counter to the hypothesis that “women are abandoning the common space” is that “having a more supportive space to fall back upon will encourage comfort in speaking in common spaces.” Yet, these other female specific spaces are also open, whereas WikiChix is gender exclusive. In the end, time will tell, and I expect that because all constituencies still possess a common object (Wikipedia) marginalization and extremism will be minimal.

Conclusion

In this chapter I test the Wikipedia community against a normative specification of an *open content community*. While this notion was first developed in the context of FOSS, so as to be able to speak about the openness of a community rather than their copyright license, I believe it remains useful for communities that develop content beyond code, such as Wikipedia. Despite some difficulties, I believe Wikipedia largely satisfies the criteria.

I also explore three cases that challenge the “soft middle” of the criteria (i.e. transparency, integrity, and nondiscrimination). Boundaries are a fundamental feature of any community, but especially so for those that aspire to openness because it is rarely a simple binary: open or closed. As Clay Shirky (2006) writes, “successful open systems create the very conditions that require and threaten openness. Systems that handle this pressure effectively continue (Slashdot comments.) Systems that can’t or don’t find ways to balance openness and closedness—to become semi-protected—fail (Usenet.)” The question, then, is one of in what ways is a community open or to what degree? Even a theoretically perfect openness can lead to behavior and informal structures that are less than inclusive. So as to not be left with a gummy mess on the questions of transparency, integrity, and nondiscrimination, the open content community criteria do have a hard shell: products must be under an open license which also implies non-interference. Should some find themselves mired in controversies about cliques and discrimination they can copy the result of their collaborative efforts and work on it in a different setting (i.e., fork), which may be more or less open and, in time, forked again. This yields an important descriptive feature of an open content community: a lot of discussion about what it means to be open and threats of, or even instances of, forks. By this measure, Wikipedia certainly qualifies and, furthermore, is evidence of the continuance of the universal vision of increased access to knowledge and its production.

CHAPTER V

COLLABORATIVE GOOD FAITH CULTURE

In chapter 3 I concluded that Wikipedia production does have some similarities with traditional (i.e. stigmergic and corporate) reference work production. But how is it different? Wikipedia, benefiting from the abilities of wiki technology, is produced by an open content community. Yet, the openness of the community does not magically make it productive or civil. In fact, while openness might yield some benefits, it also carries its own set of challenges, as seen in the previous chapter. I argue Wikipedia's challenges are met, in part, through its collaborative culture.

In this chapter I describe two complementary postures at the heart of Wikipedia: the stances of "Neutral Point of View" and good faith. Whereas other open content communities may have a culture of good faith, assuming the best of others and acting with civility, few are concerned with producing an encyclopedia. The dovetailing of an open perspective on knowledge claims (epistemic) and other contributors (intersubjective) makes for extraordinary collaborative potential, and harkens back to the universal vision of increased access to information *and* social accord. Furthermore, perhaps an understanding of neutrality and good faith can serve as a rejoinder to a favorite quip about Wikipedia: that while it may very well work in practice, it can never work in theory (Wikipedia, 2006j).

Introduction

Before proceeding with a description of Wikipedia's collaborative culture and the two stances, I find it necessary to first frame and qualify my efforts. I start this introduction at the most abstract level: providing a context for my use of the term "collaborative culture." I then introduce a few ways of conceiving of practice and policy and how wikis close the gap between the two. I then launch my exploration of the history, theory, and practice of neutrality and good faith by way of example.

A Caveat about "Collaborative Culture"

Heretofore I have been using the term "collaborative culture" in a commonsensical manner, but if pressed for further explanations on what collaboration or culture mean one can find many and varied answers. Indeed, authors have commented on the variety of approaches to "culture" across disciplines: anthropology (Geertz, 1973), communications (Williams, 1983), and history (Sahlins, 2004). And within organizational studies itself, Edgar Schein (2004, p. 14) posits eleven different categories for how culture is commonly conceived of. In this project, I speak of culture as the "way of life of a people" (Blackburn, 1996), the value-laden system of "meaning making" through which a community understands and acts, including its own maintenance and reproduction: "culture acts as a set of basic assumptions that defines for us what to pay attention to, what things mean, how to react emotionally to what is going on, and what actions to take in various kinds of situations" (Schein, 2004, p. 32).

Similarly, "collaboration" can be an equally provocative term prompting debate, for example, about the difference between coordination, cooperation, and collaboration (Pollard, 2005; Montiel-Overall, 2005). Additionally, "collabo-

ration” stands among other related concepts such as dispute resolution, conflict management, and interdependent decision-making. Each of these literatures is useful but, alone, insufficient. For example, the notion of “dispute resolution” is surprisingly optimistic: as if agreement and harmony are the natural state from which disputes sometimes errantly arise and must be swiftly corrected. Yet to characterize social relations as inherently conflicted—as is sometimes done with Wikipedia, for instance when it is humorously characterized as an “argument engine” (Sjberg2006)—is also mistaken. Nor is conflict necessarily a bad thing; Cass Sunstein (2003) shows how dissent is a critical and generative contribution to society. For this reason, “management” seems to be preferred over “resolution.”¹ Consensus and dissensus each have an important, and unavoidable, role. In this way Wikipedia is like Free and Open Source Software (FOSS) communities as characterized by Steven Weber:

The open source software process is not a chaotic free-for-all in which everyone has equal power and influence. And is certainly not an idyllic community of like-minded friends in which consensus reigns and agreement is easy. In fact, conflict is not unusual in this community; it’s endemic and inherent to the open source process. (Weber, 2004, p. 3)

Finally, although the frame of “interdependent decision making” (Kelley et al. 2003) appropriately shifts the connotation away from “conflict-is-bad,” much more is involved in Wikipedia production than decision making. Consequently, I use the term collaboration as an interactive activity of shared purpose that often encourages and emerges from a common understanding between participants and often manifests a result for which the whole is greater than its sum parts; to collaborate is to “co-labor,” or work together, towards a common end.² Therefore,

¹Debates regarding assumptions of stability versus conflict within social theory have a long history. Burrell and Morgan (1979) distinguish the bias in such models as “regulation” or “radical”; Deetz (1996) as “consensus” or “dissensus.”

²The aphorism of a whole greater than its parts is often attributed to Aristotle’s

my use of the term “collaborative culture” refers to a set of assumptions, focus, meanings, and actions pertaining to working together within a community. In many ways my use of “collaborative culture” is like that of Henry Jenkins’s (1992) notion of “participatory culture” which originally arose in the context of consumer-only fans of commercial genres (e.g., sci-fi) who now participate and create within their own “fandom” communities. Jenkins has since defined participatory culture as one in which there are low barriers of engagement, support for creation and sharing, some form of mentorship or socialization, and members believe that their contributions matter and they “feel some degree of social connection with one another” (Jenkins, 2006). By these criteria, I think Wikipedia would qualify.

Wiki, Practice, and Policy

Douglas Engelbart, a father of hypertext and the modern computer interface, wrote in his essay “Augmenting Human Intellect” that computers would permit researchers themselves to benefit from the product of their work through a regenerative “feeding back of positive research results to improve the means by which the researchers themselves can pursue their work” (Engelbart, 1962, p. 2). More than 40 years later Christopher Kelty (2005) observed this phenomenon among technical communities using the Internet. Likely unaware of Engelbart’s prediction, Kelty chose to call such communities a “recursive public”: a form of “social imaginary” through which geeks collectively conceive their “social existence” and are capable of changing the very means (i.e. communication protocols) concern with the cause of things which are not “a mere heap, but the whole is something beside the parts,” and may be understood as when “the total value of a system (be it sentimental value, monetary worth, efficiency, utility, etc.) exceeds the combined worth of each individual component of that system” (ZenZagg, 2004).

of discourse. I can think of no better example of this notion of “regenerative” or “recursive” feedback than Wikipedia. To understand why, consider another complementary notion, Etienne Wenger’s (1998) “community of practice,” developed with Jean Lave, wherein people pursue a shared enterprise over time yielding a common identity and understanding of their environment, and accumulating a rich repertoire of cultural norms and actions.³ In addition to actual participation/practice, Wenger’s theory provides for reification: “the process of giving form to our experience by producing objects that congeal that experience into ‘thingness’” (p. 58). Whereas others have cast wikis as communities of practice (e.g., Reinhardt, 2003; Lio et al., 2005; Bryant et al., 2005; Rafaeli et al., 2005), I find one of the most interesting facets of the theory to be the relationship between practice (e.g., creating an encyclopedia) and its “reification” (e.g., documenting the community’s practice). Etienne Wenger (1998) argues that practice and reification are not opposites, but coexist in a “duality of meaning” of interaction and interplay (pp. 66-68). However, in many traditional projects and organizations the documentation of organizational culture and process (i.e. reification) is often dramatically out of step with actual practice. But the wiki can change this.

Wikis were born of an advocacy for a change in software development with respect to how application requirements were perceived (i.e., as patterns) and satisfied (i.e., agilely). In the 1990s a new way of perceiving software application requirements was becoming popular: the design pattern. Rather than confronting every new task as a new problem to be solved, it was believed that experience could be distilled into a shareable set of “design patterns.” (A pattern is a higher engineering level abstraction than that of the computer algorithm, which is a common way of addressing a particular computational task like sorting a list.) For example, a software engineer might be confronted with a task in which a service

³A joy of interdisciplinary work is finding such homologies between great thinkers of different fields.

acts on behalf of another. This might be an instance of the “proxy pattern” which might already be well understood. Ward Cunningham, an advocate of design patterns, attended a conference on pattern languages where he agreed to collect and post user submitted patterns if contributors sent him a structured text file, which he could then automatically process and post online (Rosenberg, 2007, pp. 138-139). This was surprisingly difficult for many: “And I was amazed at how people who sent me files couldn’t follow even the simple rules. I was three pattern documents into this thing, and getting pretty tired of it already. So I made a form for submitting the documents” (as cited in Rosenberg, 2007, p. 138). This user editable repository, started in 1995, would come to be known as The Portland Pattern Repository (Wikipedia, 2007ak) and the first wiki.

Furthermore, requirements, often perceived as patterns, would be satisfied differently too. Unlike earlier software development in which all requirements for a project were carefully collected and completely specified, and only then strictly implemented, “agile software development” advocates argued these steps should be collapsed and iterated in small increments. Instead of a large collection of requirements becoming out of date, requirements are often specified as a set of user scenarios and related test cases which can be objectively satisfied and tested for regressions—to prevent new code and even bug fixes from creating new bugs. The authors of the “Manifesto for Agile Software Development”, including Ward Cunningham, wrote that they valued:

Individuals and interactions over processes and tools. Working software over comprehensive documentation. Customer collaboration over contract negotiation. Responding to change over following a plan. (Beck et al., 2001)

A benefit of this approach is that at each step there is always some working code satisfying the requirements encountered so far, and the software is easily extended and adapted as requirements change, as they are bound to do. However,

there was still a need for quickly, flexibly, and collaboratively discussing software, “design patterns,” and the principles of this new paradigm. The wiki, evolving from Cunningham’s user editable pattern repository, satisfied these needs well, and in time, became a useful tool for many others, including those attempting to write an encyclopedia.

As a historical aside, Ward Cunningham has also spoken about how useful index cards were to him, recalling their inspiring effect on Otlet and Wells. In his Wikimania 2005 keynote “Wikis Then and Now” Cunningham (2005) notes that a piece of software he used when first thinking about software patterns and human collaboration was HyperCard. This Apple application was a popular hypertext system before the Web and relied upon the metaphor of stacked index cards. However, Cunningham wanted a messier system in which one could talk about and refer to something which did not formally exist yet, hence the famous red wiki link that points to a page not yet filled with content (Wikipedia, 2007bm). Furthermore, he began to use real index cards when meeting with collaborators. Index cards proved a useful way for people to talk about their processes and requirements: one could spread cards on the table, write on them, and pass them around with others—serving as what the knowledge management literature refers to as boundary (spanning) objects (Levina and Vaast, 2003). People would ask him: “help us find our objects” (minute 23) and handling the cards prompted information sharing between participants regardless of their status within the organization. Furthermore, like a red wiki link, people would often point to a blank area on the table where the nonexistent (not yet defined) card would eventually go: “They had need for a name for something they didn’t know how to say” (minute 21). I find it remarkable that the index card, a source of inspiration from the beginning of the twentieth century, would also support and inspire collaboration today.

While it is increasingly difficult to find on Wikipedia today, the red link does still exist: inviting others to fill in a bald spot of encyclopedic coverage. Author and commentator Nicholson Baker (2008) considers the “stub” (one step up from the red link, an article with little more than a few sentences or paragraphs) to be one of the most charming features Wikipedia collaboration, likening it to an “unusually humble . . . ask for help.” And, not surprisingly, Wikipedia is suffused with wiki. That is, in addition to the encyclopedia articles, collaboratively edited using wiki; there are discussion pages about articles; pages in the Wikipedia namespace (Wikipedia, 2007bl) for Wikipedia policy and guidelines; pages in the “Meta” namespace (Wikipedia, 2007bh) for policy across all Wikimedia projects; pages for discussing changes to the underlying wiki software; each of these are wiki too. There are even third-party wikis, such as Meatball (2006b), where different communities can discuss collaborative techniques and wiki culture. The wiki fulfills Engelbart’s prediction of regenerative feedback, tightens the recursive turn of Kelty’s public, and converges Wenger’s duality of meaning. And, fortunately for me, wikis are wonderful repositories of a community’s practice and discourse.

Wikipedia Policy, Guidelines, and the Five Pillars

In principle, there are three levels of force associated with Wikipedia norms: *essays*, non-authoritative articles that may contain useful insights; *guidelines*, actionable norms approved by general consensus; and *policy*, much the same but “more official and less likely to have exceptions” (Wikipedia, 2007bk). These norms are used in various “power plays” (Kriplean et al., 2007) in mediating “consensus, coercion, [and] control” within the Wikipedia community. The line of distinction between guidelines and policy is rarely bright, as evidenced in discussions about the deprecation of “Assume Good Faith” from a policy to

a guideline (Wikipedia, 2007at). (A simple summary of this discussion is that “Assume Good Faith” (Wikipedia, 2006m) was rarely actionable since it involved assumptions about others’ motives, while “Civility” (Wikipedia, 2006q) and other corollaries remain “policy” because they can be tested and enforced against more objective features of behavior.)

Wikipedia’s many norms are also commonly grouped under a particular moniker. For example, the “Policies and Guidelines” page (Wikipedia, 2007bk) stresses: Wikipedia works by building consensus; Wikipedia is an encyclopedia; respect other contributors; don’t infringe copyrights; avoid bias; and add only information based on reliable sources. The “policy trifecta” (Wikipedia, 2006ac) states the three central principles of Wikipedia collaboration are: as a collaborator on an encyclopedia, use a neutral point of view; as a member of a community, “don’t be a dick”; and as a user of a fast and flexible wiki, “ignore all rules.” I find the “five pillars” to be the most complete and sensitive summary of Wikipedia collaboration:

Wikipedia is an encyclopedia written for the benefit of its readers. It incorporates elements of general encyclopedias, specialized encyclopedias, and almanacs. All articles must follow our no original research policy and strive for accuracy (unreferenced material is subject to being removed, so please provide references); Wikipedia is not the place to insert personal opinions, experiences, or arguments. . . .

Wikipedia has a neutral point of view, which means we strive for articles that advocate no single point of view. Sometimes this requires representing multiple points of view; presenting each point of view accurately; providing context for any given point of view, so that readers understand whose view the point represents; and presenting no one point of view as “the truth” or “the best view”. It means citing verifiable, authoritative sources whenever possible, especially on controversial topics. When a conflict arises as to which version is the most neutral, declare a cool-down period and tag the article as disputed; hammer out details on the talk page and follow dispute resolution.

Wikipedia is free content that anyone may edit. . . .

Wikipedia has a code of conduct: Respect your fellow Wikipedians even when you may not agree with them. Be civil. Avoid making personal attacks or sweeping generalizations. Find consensus; avoid edit wars; follow the three-revert rule; and remember that there are 2,036,624 articles on the English Wikipedia to work on and discuss. Act in good faith, never disrupt Wikipedia to illustrate a point, and assume good faith on the part of others. Be open and welcoming.

Wikipedia does not have firm rules besides the five general principles elucidated here. Be bold in editing, moving, and modifying articles, because the joy of editing is that, although it should be aimed for, perfection is not required. And do not worry about messing up. All prior versions of articles are kept, so there is no way that you can accidentally damage Wikipedia or irretrievably destroy content. But remember—whatever you write here will be preserved for posterity. (Wikipedia, 2007be)

The first and third pillars of Wikipedia as an encyclopedia and as something “anyone can edit” have been explored in earlier chapters. Throughout the rest of this chapter I explore the second and fourth pillars: the norms of neutrality and Wikipedia’s good faith “code of conduct.”

“Neutral Point Of View” and Good Faith: an Example

One of the many contentious articles I follow on Wikipedia is that on evolution: I am interested in the topic, and it continues to be an illustrative example of conflict on Wikipedia. Frequently those with criticisms of evolution, predominately religious literalists, attempt to include these criticisms in the “Evolution” article. Yet, Wikipedia articles are not fora for debates, nor are their talk/discussion pages: “Please remember that this page is only for discussing Wikipedia’s encyclopedia article about evolution. If you are interested in discussing or debating evolution itself, you may want to visit talk.origins or Wikireason” (Wikipedia, 2007am).

The stance of neutrality implies that contributors should abandon efforts to

convince others of what is right or true, and instead focus on a neutral presentation of what is commonly understood about that topic. Consequently, much like a creationist might view the “Evolution” article, I appreciate the “Creationism” article’s thorough and dispassionate treatment of the relevant history and arguments, even though I might disagree with them. Once understood and practiced, the neutrality stance permits collaboration between those who might otherwise fall into rancorous discord.

Even so, there is still a margin for disagreement about the proportionality of even “neutrally” presented views. How much of the “Evolution” article should be dedicated to creationist objections? Here, the technical feature of hypertext links can provide a calming effect. A complete of treatment of evolutionary mechanisms and its history as a concept need only mention there are related “social and related controversies,” which may merit their own articles. However, one should be careful in articles about controversy to avoid “content” or “POV” forking in which two articles with opposing points of view arise in place of a single NPOV article (Wikipedia, 2007bd). Again, in taking a neutral stance one’s task is to describe the controversy rather than to partake in it.⁴

Just as I follow contentious articles, I also make note of apologies. If the stance of neutrality implies a willingness to put aside one’s own “point of view,” an apology is a potentially rich example of good faith. Consider the following exchange from the “Evolution” talk page. Salva31, an admirer of the conservative American columnist Patrick Buchanan (Wikipedia, 2007aq), became increasingly frustrated with the “Evolution” article. After Salva31’s efforts to change the article were rejected, he tried to remind the scientifically minded contributors opposing him that “Wikipedia is not a battleground” and the removal of his text “is not a

⁴This strategy of indirection and encapsulation is reminiscent of Diderot’s approach to using cross-references in the *Encyclopédie*, the technique of “renvois”, so as to confuse and elude censors (Stockwell, 2001, p. 91).

spirit of cooperation.” In the conversation that followed (Wikipedia, 2007an), fellow Wikipedian Barnaby dawson replied:

I’m sorry Salva but I do not think that your comments to this talk page really qualify either as in “a spirit of cooperation”. I think that you have been guilty of many of those things you are accusing others of.

You have broken the above rules in several ways: You’ve insulted people by the tone you’ve used in discussion. You’ve tried to intimidate those who don’t agree with you by the sheer volume of your text (on the talk page). You’ve not been civil or calm with your edits.

As such although I have criticised others for deleting much of your text in which you do these things I would support them in moving all such material to a subpage in future. Barnaby dawson 09:00, 13 Apr 2005 (UTC)

While dawson’s “I’m sorry Salva but I do not think. . .” is in fact not really an apology, but the infamous “sorry. . . but,” it is nonetheless indicative of a type of discursive openness: “sorry” softens the statement, using a name promotes a sense of connection, and “I do not think” connotes a sense of fallibility. This was followed by an attempted de-escalation:

Let’s not do that. As long as Salva 31 keeps it short and simple and on topic, there shouldn’t be a problem in future, right? Kim Bruning 10:30, 13 Apr 2005 (UTC)

A graduate in biology (Wikipedia, 2007ao) soon conceded to some incivility:

Also, to be fair to Salva, I was pretty uncivil to him, I think. Graft 12:02, 13 Apr 2005 (UTC)

And within this conversation a genuine apology did manifest:

Thank you, Graft. This is obviously a debate that is sensitive on both sides. Likewise, I owe you an apology for the contributions I made in escalating the argument. Salva31 09:37, 13 Apr 2005 (UTC)

Like many articles and discussion pages on Wikipedia, the “Evolution” article has plenty of disagreements, arguments, and even downright hostile behavior. However, NPOV policy asks editors to change their epistemic perspective with respect to the claims they make about the world. Similarly, the broad notion of good faith, including civility and a willingness to apologize, asks editors to extend their (intersubjective) perspective towards other contributors as well-meaning but possibly mistaken human beings.

The Epistemic Stance of “Neutral Point Of View”

Both in the first and present chapter I introduce the “Neutral Point of View” (NPOV) policy by way of example because it can be a confusing term. Misunderstandings about this notion arise in part because, as the Wikipedia article itself admits, “the terms ‘unbiased’ and ‘neutral point of view’ are used in a precise way that is different from the common understanding” (Wikipedia, 2004c). People are acknowledged to be subjective beings (i.e., “inherently biased”), but when used in the Wikipedia context articles are considered to be without bias when they “describe the debate fairly rather than advocating any side of the debate” (2004npv). This notion of neutrality is also difficult because it seems impossible to explain without recourse to an equally problematic constellation of concepts. If neutral means unbiased, and unbiased means fair, might fair mean impartial, or something else? Another source of confusion is the subject of the alleged neutrality: the platform, processes and policies, people, practices, or the resulting articles? Can bias in one contaminate the neutrality of another? Additionally, the use of the prefixes “un” and “non-” with words such as “bias”, “fair”, and “neutral” is indicative of one more problem. Although we might find a clear definition of what *bias* is, for example, that definition might not be as

equally useful when we wish to understand what it means to be *unbiased*. Take, for example, the acronym “POV” which has acquired a derogatory connotation as the seeming opposite of “NPOV.” Yet, when the acronym is expanded, to accuse someone of having a point of view seems rather ridiculous, even to those who advocate the NPOV policy.⁵

In order to bring some clarity to this, in other work (Reagle, 2006a) I consider cases where the notion of neutrality is central to the playing of games, technical systems and standards, content regulation and international conflict. From this, in addition to distinguishing the term “neutral” from “objective” and “transparent” in the wiki/blog context, I offer an understanding of neutrality as a *sensitivity* to the ways in which technical and social systems might be unfairly discriminatory; an *impartiality* and *plurality* between possible participants or positions; an ethos of *sportsmanship* and an *adherence* to known rules; and a submission to some *authority for arbitration*, as well as an expectation of *accountability*. I conclude “neutral” is the right word for discussing the personal intentions and larger aspiration of Wikipedia contribution. In the Wikipedia context the notion of neutrality is not understood so much as an end result, but as a stance of dispassionate open-mindedness about knowledge claims, and as a “means of dealing with conflicting views” (Wikipedia, 2006x).

Yet, one might ask shouldn’t such a stance be the case for contributors to any encyclopedia, or any wiki even? Historically, reference works have made few claims about neutrality as a stance of collaboration, or as an end result. While stigmergic and corporate production was in some sense social, they were still controlled by no more than a few persons of a relatively homogeneous worldview. Indeed, a preoccupation of traditional references is their authoritativeness,

⁵Much like my earlier comments on the ambiguity—and richness—of the concepts of culture and collaboration, “neutral” is also a provocative notion: Roland Barthes (2005) identifies 23 different senses of the word’s usage.

obviating any concern with neutrality, unlike Wikipedia's abandonment of the right and true. As Nupedia's early editorial guidelines noted, "There are many respectable reference works that permit authors to take recognizable stands on controversial issues, but this is not one of them" (Nupedia, 2000) . This is not to say that reference works are always received as being without bias. As I will describe in chapter 7, reference works have been central to many ideological battles. And pointing out the quaintly biased perspectives of reference works is an amusing hobby of bibliophiles. For example, A. J. Jacobs' (2004) lighthearted diary of reading the whole of the Britannica is a compendium of remnants of Victorian cultural bias (e.g., a preoccupation with explorers, botanists, and the victims and mistresses of monarchs). Or, consider a Wikipedians' description of his 1898 copy of Pear's *Cyclopedia* enthusiasm for Russia:

It had a general encyclopedic section. I think the most wonderfully opinionated article I found in this was on Russia, which after a few breathless passages on how wonderful and civilised the place was ended with "... which is why Russia simply must get a port on the Mediterranean!" Extreme case, but not rare. . . (Gray, 2005)

The concept of neutrality was also absent at the birth of the wiki, which, as described, was a platform for advocating a particular type of software development. Instead, neutrality arose in the context of Wikipedia's predecessor, Nupedia, and the philosophical interests of its cofounders. The first major public news story about Nupedia gives a hint of one source:

Sanger, who expects to receive his Ph.D. in philosophy this spring, focused his studies in the theory of knowledge. He brings to Nupedia an understanding of how to organize knowledge and how to detect bias. Nupedia will enforce standards for impartial and thorough information, Sanger says.

Sanger's (2000b) dissertation was opaquely entitled, as they are apt to be, *Epistemic Circularity: an Essay on the Justification of Standards of Justification*.

Wales, for his part, was not a professional philosopher, but as was common among early amateur Net philosophers, he was an Objectivist, in the Ayn Rand tradition, and moderated a couple of e-mail lists dedicated to the topic (Service, 1995).

Sanger recounts both he and Wales were in agreement on the importance of the principle of neutrality, which was called “unbiased” at the time:

Also, I am fairly sure that one of the first policies that Jimmy and I agreed upon was a “nonbias” or neutrality policy. I know I was extremely insistent upon it from the beginning, because neutrality has been a hobby-horse of mine for a very long time, and one of my guiding principles in writing “Sanger’s Review.” Neutrality, we agreed, required that articles should not represent any one point of view on controversial subjects, but instead fairly represent all sides. (Sanger, 2005a)

While Sanger and Wales agreed in principle at the outset, they have since expressed differences about the shift from the term “unbiased” to “neutral point of view.” At the start of Wikipedia, Sanger had ported Nupedia’s “Avoid Bias” under Wikipedia’s “Policies to Consider”, but this policy was soon preempted/subsumed by Wales’ “Neutral Point of View” article (Wikipedia, 2006x). Sanger has since noted that he didn’t approve:

I confess I don’t much like this name [neutral] as a name for the policy, because it implies that to write neutrally, or without bias, is actually to express a point of view, and, as the definite article is used, a single point of view at that. “Neutrality”, “neutral”, and “neutrally” are better to use for the noun, adjective, and adverb. But the acronym “NPOV” came to be used for all three, by Wikipedians wanting to seem hip, and then the unfortunate “POV” came to be used when the perfectly good English word “biased” would do. (Sanger, 2005a)

Not surprisingly, in his current encyclopedic project Citizendium, Sanger has moved back to his preferred term of “unbiased.” Yet, before this recent spat about naming, at the outset of the Nupedia project Sanger and Wales were in agreement when challenged on the naïveté and/or impossibility of the policy.

Sanger responded to the question of bias by invoking a principal that neutral contributions should lack ideological flavor:

Nupedia aims to be as unbiased as possible; of course, some people will regard *this* as a political statement. We can't make everyone happy in this regard. In any event, we intend to represent all points of view, including those held by any significant minority of experts in a field, as fairly as possible. This would include creationists, Marxists, capitalists, and all manner of incendiary points of view. This should make for interesting reading at the very least. It should be added that Nupedia's contributors are expected to keep their own views in the background as much as possible. In other words, the point isn't merely to mention other views not favored by an article's author; it is to write in such a way that one cannot tell what view is favored by the article's author. (Sanger, 2000e)

The notion of not being able to tell the predilection of a contributor, a sort of ideological anonymity, is more fully developed in a corollary of NPOV, "Writing for the Enemy":

Writing for the enemy is the process of explaining another person's point of view as clearly and fairly as you can. The intent is to satisfy the adherents and advocates of that POV that you understand their claims and arguments. . . . Writing for the enemy contributes to the NPOV of Wikipedia. Wikipedians often must learn to sacrifice their own viewpoints to the greater good. (Wikipedia, 2006ak)

For his part, Wales responded to someone troubled with the notion of "unbiased" by acknowledging the challenges and the importance of avoiding bias:

Surely you will agree that there are *more* or *less* accurate, objective, fair, biased ways of putting things. We should simply strive to eliminate all the problems that we can, and remain constantly open to sensible revisions. Will this be perfect? Of course not. But it is all we can do *and* it is the least we can do. . . . if you are trying to say that someone, somewhere will always accuse us of bias, I'm sure you're right. But we should nonetheless try our best to be objective. It doesn't strike me as particularly difficult. We will want to present a broad consensus of mainstream thought. . . . This does mean that sometimes we

will be wrong! All the top scholars in some field will say X, but 50 years from now, we will know more, and X will seem a quaint and old-fashioned opinion. O.k., fine. But still, X is a respectable and valid opinion today, as it is formed in careful consideration of all the available evidence with the greatest care possible. That's the best we can do. And, as I say, that's also the least we can do. (Wales, 2000b)

Consequently, this interest in unbiased, or at least less biased, claims about an understandable, or at least partially so, objective universe is central to Wikipedia collaborative culture. The notion of NPOV not only provides the epistemic foundation for the project, but also the intentional stance contributors should take while interacting. It makes it possible to “solve the problem of that jig-saw puzzle” which H. G. Wells (1936, p. 920) had hoped for because, from this perspective, differing claims about the world can be fit together.

A surprising implication of the NPOV policy is reminiscent of the realization that partially contributed to the fork of “Open Source” from “Free Software.” As discussed in earlier chapters, a consequence of the principled position on the freedom to share software was a pragmatic consequence of better code. “Open Source” was coined so as to capture the interest of companies who were not interested in the principle and rhetoric of Free Software, only the benefits of its developmental model. Similarly, the principle of neutrality is also spoken of as yielding quality:

... there are also those of us who believe that in the long run reaching consensus is the way to achieve quality. In fact, reaching consensus and reaching an NPOV in many ways go hand in hand, and NPOV is a “non-negotiable” qualitative measure. (DiPierro, 2005b)

In the case of Wikipedia, advocates of neutrality have not split from advocates of quality, though people sometimes do suggest that Wikipedia's openness and NPOV policy create muddled content that could be improved by

singular expert contributors, as discussed in chapter 7. Regardless, Wikipedia's culture of collaboration is not limited to the rarefied realms of epistemology nor the utility of quality: good will, good faith, and even "love" is often invoked as well.

The Intersubjective Stance of Good Faith

In Wikipedia's collaborative culture, the scope of an open perspective includes not only the subject of collaboration, claims about the world, but one's collaborators as well. In Wikipedia's "Writing for the Enemy" essay, one is encouraged to see things as other might:

Note that writing for the enemy does not necessarily mean one believes the opposite of the "enemy" POV. The writer may be unsure what position he wants to take, or simply have no opinion on the matter. What matters is that you try to "walk a mile in their" shoes instead of judging them. (Wikipedia, 2006ak)

The "Assume Good Faith" article on Meatball, "a common space for wiki developers and proprietors from all over the Internet to collaborate" (Meatball, 2006b), characterizes this as "seeing others' humanity" (Meatball, 2006a). Indeed, one of the reasons Wikipedia's culture and practice are compelling to me is that it has influenced the way I approach controversy and conflict beyond Wikipedia; I have found these norms to be "a great way to end an argument in real life" (Wikipedia, 2006ak), which corresponds with Yochai Benkler's and Helen Nissenbaum's (2006) argument that while virtue may lead people to participate in such projects "participation may [also] give rise to virtue" (p. 13).

Unlike the relatively novel effect of NPOV on collaboration, Wikipedia is not the first online community to recognize the importance and difficulties of, broadly speaking, good faith. In the Debian GNU/Linux community, Gabriella

Coleman (2005, p. 26) identifies a seeming paradox between liberal individualism and meritocracy and the community values of humility, detachment, generosity, and civility. Similarly, Larry Wall, creator of the Perl programming language, playfully argues the success of his project is actually dependent on the coexistence of the seemingly contrary virtues of the individual programmer and the larger collaborative community. That is, programmers who exhibit the individual virtues of “laziness, impatience, and hubris” which often yield efficiency and quality, must also exhibit virtues of diligence, patience, and humility at the community level (Wall, 1999). George Von Krogh, in his article on “Care in Knowledge Creation,” identifies five dimensions relevant the successful creation of knowledge within a community: mutual trust, active empathy, access to help, lenience in judgment, and courage (von Krogh, 1998, p. 137). Yochai Benkler and Helen Nissenbaum (2006) argue that “commons-based peer-production” entails virtues that are both “self-regarding” (e.g., autonomy, independence, creativity, etc.) and “other-regarding” (e.g., generosity, altruism, camaraderie, cooperation, civic virtue.)

In the next chapter I too speak of seeming contradictions (i.e., leadership in egalitarian communities) but in the following sections I divide the features of Wikipedia’s stance of good faith into four behaviors: assume the best, act with patience, act with civility, and try to maintain a sense of humor.

Assuming the Best of Others

As I note in the introduction, online communities often suffer the effects of Godwin’s Law: as a discussion continues, someone is bound to make an unfavorable comparison to Hitler or Nazis. (This is but one of many effects of computer mediated communications (Walther 1996; Briggs et al. 1997; Walther

et al. 2005).) A possible counteracting norm of this tendency is the guideline “Assume Good Faith.” But before describing this dynamic it is worthwhile to first note that “good faith” is associated with at least three collaborative wiki norms: good faith, “Assume Good Faith,” and “Assume the Assumption of Good Faith.”

Although present on Meatball, the wiki about wiki collaboration, the broad notion of good faith is not addressed by Wikipedia’s guidelines; there is only a rather obtuse article adapted from the *Catholic Encyclopedia*’s legalistic treatment of error and guilt (Wikipedia, 2007af). But the notion does have colloquial usage, implicitly referring to a handful of concepts—much as I use it to signify the concepts of this section. This informal sense is captured in Meatball’s description of good faith as a lack of intentional malice, an assumption that people are trying to do their best “for the greater good of the community,” and friendliness, honesty, and caring (Meatball, 2006a, p. 2). The first two elements of this description are much the same, differing only in their subject: one’s own positive intention and an assumption about the positive intention of others. It is on the assumption of others’ intentions which Wikipedia focuses. The guideline of “Assume Good Faith” is intended to counteract a common reflex to assume the worst of others, reminding us:

Well-meaning people make mistakes, and you should correct them when they do. You should not act like their mistake was deliberate. Correct, but don’t scold. There will be people on Wikipedia with whom you disagree. Even if they’re wrong, that doesn’t mean they’re trying to wreck the project. There will be some people with whom you find it hard to work. That doesn’t mean they’re trying to wreck the project either; it means they annoy you. (Wikipedia, 2006m)

Unlike NPOV, which was present at the start of Wikipedia and even Nupedia as “unbiased,” “Assume Good Faith”, in name, is a relatively new norm. The page was first created in March of 2004 (Wikipedia, 2004a) and received its

first comment on it's discussion page on February 2005 (Wikipedia, 2005a). (The first comment proposed "Assume Good Faith" become policy, though, as noted, it was deprecated back to a guideline in 2006.) Its origins are most likely rooted in the "Staying Cool When the Editing Gets Hot" article, which in October 2002 recommended five "tips to consider when editing gets emotional," including avoid name-calling and characterizing others' actions, take a breather if angry, ignore insults, and "assume the best about people" (Wikipedia, 2002). "Assume the best" eventually found its way onto the "Etiquette" article in January 2004 (Wikipedia, 2004b), but this was replaced with a link to March's "Assume Good Faith" in August.

While these norms of resisting name-calling and assuming the best seemingly arose in the context of everyday practice, and playground manners even, they are also the subject of socio-psychological study. Under the fundamental attribution error, we often attribute the failures of others as a character flaw—but our own failings are construed as a circumstance of the environment (Nisbett and Ross 1980, p. 247; Kahneman and Tversky 1995, p. 47). That is, I succeed because of my genius and fail because of bad luck, whereas you succeed by chance and fail by your own faulty character. Not surprisingly, in a study of e-mail collaboration Catherine Cramton (2001, p. 361) found that in successful groups people typically give others the benefit of the doubt and make situational rather than categorical attributions about their behavior. Less successful groups included those that escalated hostility and a group which was overly diplomatic—indicating the danger of both rancorous discord and facile consensus. From a psychological perspective, then, a cultural norm of assuming good faith can mitigate negative attributions.

"Assume Good Faith" can also help set social expectations. This assumption is much like the popular aphorism "never attribute to malice what can be

explained by stupidity.” The humorous Wikipedia essay “Assume Stupidity” notes that, “While assuming good faith is a fundamental principle on Wikipedia, it does generally not help you get over your anger at someone’s, in your opinion, disturbing edits. Therefore, it is much more satisfying to also assume stupidity” (Wikipedia, 2007ay). Fortunately, the official Wikipedia policy is more politic, as an assertion of stupidity might not be any more welcome than that of malice! Also, as the Meatball wiki cautions, low expectations can sometimes be damning: “Be warned that whatever we assume may become a self-fulfilling prophecy. We AssumeGoodFaith as a way of creating good faith, but assuming indifference or stupidity will encourage those modes as well” (Meatball, 2006a, p. 2).

Yet, at what point is the assumption of good faith exhausted? Meatball (2006a) identifies a number of causes: some people might simply be trolling (disruptive for their own fun), an “angry [storm] cloud” (e.g., predisposed to conflict or having a bad day), or perhaps there is a lack of transparency between participants, or people are working at cross purposes (Meatball, 2006a). In fact, Wikipedia warns against ever attributing an editor’s actions to bad faith, “even if bad faith seems obvious,” because one can always judge on the basis of behavior, rather than assumed intentions (Wikipedia, 2006m). For example, the invocation of “Assume Good Faith”, because it is about intentions, can become an act of bad faith itself, leading to the awkwardly named exhortation to “Assume the Assumption of Good Faith”:

In heated debates, users often cite AGF. However, the very act of citing AGF assumes that the opponent is assuming bad faith. Carbonite’s law tells us, “the more a given user invokes ‘Assume Good Faith’ as a defense, the lower the probability that said user was acting in good faith.” (Wikipedia, 2006n)

To this end, the “Assume Good Faith” guideline wisely recommends that, “If you expect people to ‘Assume Good Faith’ from you, make sure you

demonstrate it. Don't put the burden on others. Yelling 'Assume Good Faith' at people does not excuse you from explaining your actions, and making a habit of it will convince people that you're acting in bad faith" (Wikipedia, 2006m).

However, an assumption that counters cognitive bias and sets social expectations still stops short of coming to know and understand others. Here the norm of Wikilove, "a general spirit of collegiality and mutual understanding" (Wikipedia, 2006ah), makes the same sort of connection that I am attempting to make in this chapter: an open perspective (or love) of knowledge melded with caring attitude (or love) towards others. This is reflected in a prominent Wikipedian's declaration that Wikilove is the most important principle of all:

I believe that we need to highlight the mission of providing a great, free encyclopedia, along with the core principle *how* we want to accomplish it. And the single most important principle I can think of here is not "anyone can edit". It's not even NPOV or any other policy. It's "WikiLove"—of which our commitment to openness is only an expression. We share a love of knowledge, and we treat everyone who shares the same love with respect and goodwill. (That's the idea, at least.) (Moeller, 2006b)

At this point I want to point out a possible transition between "Assume Good Faith" and "Wikilove." In the wide range of literature on interacting with others one might discern three, not necessarily exclusive and often overlapping, ways of thinking about "perspective taking" (Boland and Tenkasi 1995): self, selfless, and group. (Camille Roth (2007) makes a similar distinction between "selfish," "altruistic," and "socially concerned" classes of incentives in wiki contributions.) The first might be characterized as the strategic choice of an "egoistic" actor. Whereas perspective taking often yields "joint gains" this does not preclude it from being a self-interested behavior that mitigates the erroneous attributions and impasses (Galinsky and Mussweiler, 2001, p. 659) that impairs one's own interests. For example, it is in the self interest of a negotiator to

“understand” the perspective (e.g., the reservation price or best alternative to negotiated agreement) of his opponent. Another approach is at the other extreme. Here, some actions are construed as being selflessly “other” orientated, even when counter to self or group interests. This may be present in particular types of dialogue (Bohm 1996; Yankelovich 2001), empathy (Preece and Ghazati, 2001, p. 233), and caring (von Krogh, 1998, p. 137).

Another common approach shifts the focus of action from the self interest of the individual actor towards the group’s interest, to which the individual belongs. Here one sees the importance of trust, empathy, and reciprocity on building community relationships (Preece, 2004, p. 2) and facilitating the exchange of ideas (von Krogh, 1998, p. 136). Trust is characterized by a group that “makes a good-faith effort to behave in accordance with any commitments both explicit or implicit, (b) is honest in whatever negotiations preceded such commitments, and (c) does not take excessive advantage of another even when the opportunity is available” (Cummings and Bromiley as cited in Jarvenpaa and Leidner, 1999, p. 792). Furthermore, trust not only affects the expectations of an interaction, but the construal of it afterwards (Kramer and Carnevale, 2001, p. 8). Indeed, in “good faith” interactions, trust is the supposition that even though one disagrees and hasn’t been able to see and understand from the other’s perspective, one might be missing something. For example, in his study of consensus-based decision-making within The Society of Friends, Michael Sheeran notes that a dissenting Quaker might respond “I disagree but do not wish to stand in the way” because: “For religious reasons, a person may prefer the judgment of the group as ‘sincere seekers after the divine leading’ to that person’s individual judgment. In more secular terms, an individual may recognize the possibility that everyone else is right, or that an important principle is or is not involved” (Sheeran, 1996, p. 66).

All that said, I don’t want to digress further into the problem of whether

all altruism is necessarily “egoistic” (see Tivers, 1971; Batson, 1991; Barasch, 2005), but Wikipedia might serve as a relevant case for those interested in the debate. (Obviously, anonymous contribution is a provocative topic for those concerned with the motives of seemingly altruistic contributors.) More importantly, this problem of self versus other seems to belong to an interesting class of relationships between principle and pragmatics that I have already alluded to. Earlier I noted the principle of freedom in software development seems to beget the pragmatic utility of robust (open source) software. But is this relationship a necessary one? Could some of one thing be exchanged for more of the other? And so, one might also ask to what extent is good faith simply a matter of being a more effective and respected Wikipedian, a matter of group altruism, or something more?

In light of my study of Wikipedia, including the textual fragments provided above, I characterize the text on and discussion related to good faith as predominately oriented towards the group. This does not preclude egoistic self-satisfaction, nor a transcendent intention, but Wikipedia discourse is rooted in extending good faith and Wikilove in service of a mutual love of knowledge: “we are all here for one reason: we love accumulating, ordering, structuring, and making freely available what knowledge we have in the form of an encyclopedia of unprecedented size” (Wikipedia, 2006ah).

Patience

A deficient collaborative culture might be characterized as temperamental and brittle: participants are uneasy and defensive; existing structures and agreements easily fracture, providing little common ground and means for facilitating agreement. Its opposite, a well working collaborative culture, might be

characterized by patience: participants do not easily panic nor escalate conflict.

In response to some of the concerns and conflict generated in response to Wikipedia office actions, a contentious issue introduced in chapter 4 where the Wikipedia office acts unilaterally and in private, Jimmy Wales responded that when confronted with a office action the community should: “Assume Good Faith. It could be a mistake, it could be a poor decision, it could be a very strange emergency having to do with a suicide attempt (this case wasn’t but my point is, we do sometimes get those on the wiki and have to do our best to try to be helpful), it could be [other things]. . . . In general, there is plenty of time to stop and ask questions” (Wales, 2006f).

Another source of contention is the many differing positions about what kind of encyclopedia Wikipedia should be. Should it address topics like those of any other encyclopedia, or is there also room for encyclopedic articles about every episode of *Buffy the Vampire Slayer*? On this question of scope, there is a range of views documented as a set of philosophical “isms” (Wikimedia, 2007a). For example, there are the philosophies of deletionism (rigorous criteria for a uniformly worthwhile article must be met, otherwise delete), mergism (merge challenged information into an existing article rather stand alone), essentialism (include traditionally non-encyclopedic information but only if it is notable and verifiable), and inclusionism (keep as long as article has some merit). And yes, presently, every one of the 144 episodes of *Buffy* do have their own article (Wikipedia, 2007aj).

Perhaps an explanation of Godwin’s Law is that, as discussed, participants come to believe that the issue at hand is eclipsed by larger matters, a conflict of principles, a battle between good and evil. The recourse of patience can mitigate such escalation. Consider a discussion as to whether the contentious “Articles for Deletion” (Wikipedia, 2007aw) process could be suspended for a month, a

Wikipedian recommended that instead of panicking:

... both camps could Assume Good Faith and relax a bit, each not thinking that the “other guys” are a bunch of deranged encyclopedia-haters who want to destroy everything in an orgy of deletion and/or garage band stubs [incomplete vanity articles]. :) A lot of people are currently disagreeing over what sorts of articles merit inclusion in Wikipedia, but it’s not like most of those people think Wikipedia’s going to go down in flames if the “wrong” standards are picked. At least, they shouldn’t. Wikipedia is more resistant than that. (Derksen, 2005)

Patience is further implicated by “Assume Good Faith” since frustrating behavior resulting from ignorance, rather than malice, is remedied in time, as the “Please Don’t Bite the Newcomers” guideline demonstrates:

New contributors are prospective “members” and are therefore our most valuable resource. We must treat newcomers with kindness and patience—nothing scares potentially valuable contributors away faster than hostility or elitism. While many newcomers hit the ground running, some lack knowledge about the way we do things. (Wikipedia, 2006ab)

And, as already noted, the guideline of “Do Not Disrupt Wikipedia to Make a Point” (Wikipedia, 2006t) has a similar concern with dampening an escalation towards principle and returning to the immediate concern at hand:

Wikipedia is not therapy. If a user has behavior problems which result in disruption of the collective work of creating a useful reference, then their participation in Wikipedia may be restricted or banned entirely. This should not be done without patiently discussing any problems with the user, but if the behavior is not controlled, ultimately the project will be protected by restricting the user’s participation in the project. (Wikipedia, 2006ai)

Finally, the technology of wiki itself furthers patience as a change can always be reversed without fear of permanent damage; as Karl Fogel (2005, p. 49) notes with respect to producing open source software: “version control means you can relax.”

The extent to which patience is extended to problematic participants has been a source of (pleasant?) surprise for Wikipedia cofounder Jimmy Wales, who once noted “when I am asked to look into cases of ‘admin abuse’ and I choose to do so, I generally find myself astounded at how nice we are to complete maniacs, and for how long” (Wales, 2006e). Yet, such patience can be exhausted as noted by Larry Sanger, the other Wikipedia cofounder and present apostate:

A second school of thought held that all Wikipedia contributors, even the most difficult, should be treated respectfully and with so-called WikiLove. Hence trolls were not to be identified as such (since “troll” is a term of abuse), and were to be removed from the project only after a long (and painful) public discussion. (Sanger, 2005b)

Not surprisingly, the balance of patience to be extended continues to be a topic of discussion. Yet, there are cases in which participants disappoint all good assumptions, wear patience thin, and remain lovable only to their mothers; up to, and even after, this point participants are still expected to remain civil.

Civility

A subtle, but important, incoherence is found within the Wikipedia “Policies and Guidelines” page: “Respect other contributors. Wikipedia contributors come from many different countries and cultures, and have widely different views. Treating others with respect is key to collaborating effectively in building an encyclopedia” (Wikipedia, 2007bk). Yet, are Wikipedians to genuinely respect all others, or (merely) treat them with respect? A comment in the “Civility” policy points to the second interpretation: “We cannot always expect people to love, honor, obey, or even respect another. But we have every right to demand civility” (Wikipedia, 2006q). I make this distinction between genuine respect and acting with respect based on Mark Kingwell’s useful definition of civility in public

discourse:

It is true that civility as I characterize it is related to mutual respect, but there is a crucial difference: genuine respect is too strong a value to demand . . . in a deeply pluralistic society. The relative advantage of civility is that it does not ask participants to do anything more than treat political interlocutors as if they were worthy of respect and understanding, keeping their private thoughts to themselves. (Kingwell, 1995, p. 247)

Consequently, civility acts as a last line of defense. Despite expectations to act in good faith, “Assume Good Faith,” to walk in another’s shoes, see another’s humanity, to love, and to respect one another, failing all of this, Wikipedians should still treat each other with civility. Otherwise, as Kingwell and Wikipedia both note, “The only meaningful threat of punishment here is the general one: when civility fails, we all lose, because as citizens we lose the possibility of justice, and of a genuinely shared political community” (Kingwell, 1995, p. 249); or, “Being rude, insensitive or petty makes people upset and prevents Wikipedia from working properly” (Wikipedia, 2006q).

Aside from the communicative aspect of dampening counterproductive hostility, historically, civility has also played a role in the production, or at the least legitimation, of knowledge. In *A Social History of Truth*, Steven Shapin (1994) notes that “gentlemen,” as signified in part by their civility, were thought of as arbiters of truth because their privileged status allegedly rendered them immune from external pressure: the man who did not have to labor for his bread was least likely to “shift” his views. (Though one might argue that the gentleman’s privileged status certainly biased his perspective.) Although civility is still important within Wikipedia, it is not relied upon as a pre-modern performance to represent social standing and consequently the ability to legitimate knowledge. Rather, encyclopedic knowledge emerges from civil discourse between people who may be strangers; civility facilitates the generation of knowledge rather than

being a proxy for social standing or institutional affiliation. This shift in a source of legitimacy in knowledge is part of the controversy about Wikipedia, as I discuss in a later chapter.

Humor

Humor is not a policy or guideline of Wikipedia, but it suffuses the culture and is the true last resort when faced with maddening circumstances.

Certainly, Wikipedia is the butt of many jokes. The satirical newspaper *The Onion* has made fun of the often contentious character of Wikipedia with an article about the U.S. Congress abandoning an attempt at a wiki version of the Constitution (Onion, 2005), and questioned Wikipedia's reliability with the article "Wikipedia Celebrates 750 Years of American Independence" (Onion, 2006). Wikipedia has also been the source of fun for many Web comics, such as a *Penny Arcade* strip entitled "I Have The Power," showing the evil cartoon character Skeletor changing He-man's description from "the most powerful man on earth" to "actually a tremendous jackass and not really that powerful" (Wikipedia, 2007ai). Wikipedians are also capable of laughing at themselves. There are 193 articles listed in Wikipedia's humor category, and among the dozen or so limericks out there, including "Hotel Wikipedia" and "If I Were an Admin" (Wikimedia, 2006a), I think my favorite best captures the character of Wikipedians:

I am the very model of a modern Wikipedian, / My knowledge
of things trivial is way above the median, / I know, and care,
what Kelly Clarkson's next CD might just be called, / And all
the insults Hilary and Lindsay to each other bawled. / I'm very
well acquainted, too, with memes upon the Internet, / I think the
dancing hamster would be excellent as a pet. / About the crackpots'
physics I am teeming with a lot o' news, / The Time Cube has but
four sides and it's not got a hypotenuse. . . . (Tobias, 2006)

Nor is humor relegated only to the funny category. It is present in many

of the norms discussed so far, capturing the difficult character of these principles and their practice. For example, the “In Bad Faith” essay collects examples of bad faith, such as “If I compromise, they’ll know it’s a sign of weakness,” and “That policy page is wrong, because it doesn’t describe what I do. I’ll fix it” (Wikipedia, 2007ax). The “Neutral Point of View” policy notes that when you are writing for the enemy “the other side might very well find your attempts to characterize their views substandard, but it’s the thought that counts” (Wikipedia, 2004c). The “Don’t Be Dense” essay asks the reader to remember that “‘Assume Good Faith’ is a nicer restatement of ‘Never assume malice when stupidity will suffice.’ Try not to be stupid either” (Wikimedia, 2006b). In recognition of the unavoidable absurdity of “isms” there is the most absurd, though quite reasonable, philosophy of all, the AWWDMBJAWGCAWAIFDSPBATDMTD faction: “The Association of Wikipedians Who Dislike Making Broad Judgements About the Worthiness of a General Category of Article, and Who Are In Favor of the Deletion of Some Particularly Bad Articles, but That Doesn’t Mean They are Deletionist” (Wikipedia, 2006a).

Humor serves as an instrument of anxiety-releasing self-reflection. As the saying goes, if you can’t laugh at yourself, who can you laugh at? It is also an instance of intellectual joy, like the many jokes and puns common to geek culture. Ultimately, Wikipedia is supposed to be enjoyable. When circumstances like battling spammers, trying to discern the well-meaning newbie from a troll, politicking over the deletion of an article, and other inherently contentious and non-fun activities, humor serves as a way to restore balance. At times, it may also disrupt balance. Many Wikipedians dread April 1 because this tomfoolery isn’t present and understood in all cultures, some use it as an excuse for outright vandalism, and many object to any change of encyclopedic articles for humorous purposes. Also, sometimes the values of civility and humor are posed as

opposites:

P.S. I know I'm not alone in saying that I have considered leaving Wikipedia on several occasions not because of incivility or personal attacks, but because there are people who can't and refuse to take an obvious joke. The humorless people will ruin Wikipedia before those who aren't prim, proper and civil. (Thieme, 2007)

However, I find that gentle humor and civility are more often than not complementary. When they are not, the question often comes down to, just as it may in the schoolyard, who is the butt of the joke.

Conclusion

Wikis are relatively novel way of working together: online, asynchronous, possibly anonymous, incremental, and cumulative. Do these features alone explain the success of Wikipedia? Not quite. Each of these attributes also has possible demerits. Flame ridden, scattered, unaccountable, half-baked piles of bunk is a possible future for any wiki. As Wikipedia itself notes, "Because people coming from radically different perspectives work on Wikipedia together—religious fundamentalists and secular humanists, conservatives and socialists, etc.—it is easy for discussions to degenerate into flamewars" (Wikipedia, 2006ah). In this chapter I argue that a community's collaborative culture is an important factor in determining what its future holds.

Wiki communities are also a fascinating subject of study because one can closely follow the emergence of and discourse around their culture: what is important, what is acceptable, and what does it all mean? On a wiki the regenerative, recursive, or dual nature of community policy and practice renders discussions about these questions intensely transparent—not that this makes it necessarily easy to filter and understand.

In the case of Wikipedia I discern a collaborative culture which asks its participants to assume two postures: a stance of a “Neutral Point of View” on matters of knowledge, and a stance of good faith towards one’s fellow contributors. Whereas NPOV renders the subject matter of a collaborative encyclopedia compatible, good faith makes it possible to work together. It is as if the NPOV permits collaborators to join the seemingly incompatible pieces of H.G. Wells’ jigsaw puzzle. But, just because the puzzle can be fit together, that doesn’t mean the process of working together on it will be effective or enjoyable. The stance of good faith furthers a productive and fun way of working together on that jigsaw puzzle. It is at least a part of an answer as to how the vision of a universal encyclopedia can be realized.

CHAPTER VI

LEADERSHIP: THE BENEVOLENT DICTATOR

“Do as I say, not as I do.” Most of us have heard this expression, perhaps as children being protected from the bad habits of our elders. Of course, as adults, this saying is often used as a comment on someone else’s hypocritical leadership. We often prefer to see leadership “by example.” When it comes to open content community like Wikipedia, this aphorism seems particularly apt. As most contributors are volunteers, there’s little room for coercion or utilitarian rewards (Etzioni, 1975). In fact, given the open, egalitarian, and voluntary character of the community, what does leadership even mean?

In this chapter I consider how leadership, and metaphors for discussing it, operate in collaborative online cultures. In particular, I consider the seemingly paradoxical, or perhaps merely playful, juxtaposition of informal tyrant-like titles (i.e., “Benevolent Dictator”) in otherwise seemingly egalitarian voluntary content production communities such as Wikipedia. To accomplish this, I first review existing literature on the role of leadership in such communities. I then relate excerpts from community discourse (i.e., email and wiki) on how leadership is understood, performed, and discussed in the Wikipedia community. I conclude by integrating concepts from existing literature and my own findings into a theory I call “authorial” leadership. This model of leadership, predicated on the formative authoring of content and community, identifies features related to the environment from which leaders emerge, their practices and the odd status they are accorded. In short, authorial leaders must parlay merit resulting from “doing good” into a form of authority that can also be used in an autocratic fashion, to arbitrate

between those of good faith or defend against those of bad faith, with a soft touch and humor when—and only when—necessary.

Leadership in Open Content Communities

For open content communities, the notion of merit is key to understanding leadership. Eric Raymond (1998) was one of the first to point this out with his observation that open source leaders (e.g., Linus Torvalds of Linux) were often the founders of projects who then attracted other contributors, becoming a community. Additionally, they often had to “speak softly,” consult with peers, and “not lightly interfere with or reverse decisions” made by other prominent members of the community (p. 15). (Those developers to whom a leader delegates responsibility are sometimes referred to as “lieutenants.”) This is confirmed by Gianluca Bosco (2004), who discerns from survey results of open source developers that a good leader was perceived as having a friendly and considerate (person) orientation, a goal (task) orientation, and competence and significant level of activity.

Furthermore, Raymond’s concern with “speaking softly” is commensurate with earlier work on emergent (initially leaderless) contexts in which authoritarian leaders (more likely to use punitive punishment and negative sanctions) are “least likely to attempt or exhibit successful leadership in initially leaderless discussion” (Bass, 1990, 126-127). Instead, in emergent contexts, successful leaders are more likely to demonstrate flexibility and to rate as egalitarian. Bosco’s finding on task orientation is also present in a study of virtual teams, in which Youngjin Yoo and Maryam Alavi (2004) find that emergent leaders send more and larger e-mail messages, with a higher degree of task orientation, than other team members. In the Debian community, Siobhan O’Mahony and Fabrizio Ferraro (2003; 2004)

confirmed David Waguespack's and Lee Fleming's (2004; 2005) finding in the IETF open standards community that technical contributions, among other factors, are predictive of leadership. However, in a more recent study of the Debian community, O'Mahony and Ferraro (2007) find that as the focus of a community changes so does its notion of merit in leadership: as their community matured leadership shifted away from technical contributions towards organizational building. Finally, in virtual contexts leaders provide frequent and predictable communication (the "heartbeat") as the basis for effective coordination (Yoo and Alavi, 2004).

Consequently, in these cases leadership can be understood as the performance of consistent and substantive contribution within the community that affects its movement. Whereas much of the noted literature, and the very notion of "emergent," focuses on communities from which a leader emerged, it is important to stress that in open content communities leaders often start a project, around which a community forms. In this way, we might think of the leader as emerging at the same time as the community and its culture. Not surprisingly, leadership tends to be entangled in discussions about power (the extent of one's influence) and authority (the legitimacy of one's influence) (Yukl, 1981, p. 18), and governance (how to make group decisions). Gabriella Coleman (2005), in her study of the Debian software community, found that: "Power, in other words, is said to closely follow the heels of personal initiative and its close cousins, quality technical production and personal dedication to the project" (p. 22). Also, in keeping with the character of voluntary community, Coleman notes the power gained because of merit is a guiding force rather than coercive. Furthermore, the merit of exemplary behavior, particularly that of founding a community, might have a charismatic character.¹ An earlier study of the Debian community found

¹My use of "charisma" doesn't mean that the leader is necessarily charming; I use it in the traditional sociological sense which originates with Max Weber who,

that:

... leadership (which translates directly into formal and informal hierarchy and authority) is not just established in bureaucratic or rational fashion, but in charismatic fashion as well (Weber 1964 [1947], pp. 358ff.); here, charismatic authority mostly derives from earned respect often proven by leading a big, successful project. As a matter of fact, charismatic authority may be, in some circumstances, more “efficient” than authority deriving its legitimacy from well-established rules (Coleman 1990; Langlois 1998). (Garzarelli and Galoppini, 2003, p. 18)

Perhaps one reason for this efficiency is that the reputation of such leaders has an additional benefit of being useful in circumstances where a community is otherwise deadlocked; charismatic authority can intervene in circumstances in which there are multiple simultaneous coordination costs that are too expensive to be addressed by “a complex system of rules such as a constitution” (Garzarelli and Galoppini, 2003, p. 36). Of course, since such interventions may disappoint some, a leader may be sacrificing “shares” of his reputation garnered through meritocratic contributions by such actions (Raymond, 1998, p. 15). The notion of leadership “credits” was first posed by Edwin Hollander (1960) when he confirmed an “idiosyncrasy credit” model of leadership in which previous conformity to group rules and competence in a group task would permit a leader greater “idiosyncrasy” in not conforming to those rules later on. Gary Yukl (1981) summarizes this exchange as follows:

Thus, in addition to gaining a higher position of status and influence, a member who is emerging as a leader is allowed some latitude for innovation. Since the person has demonstrated good judgment in the past, the group is willing to allow him considerable influence over task decisions. Group members are usually willing to suspend immediate judgment and go along with the emergent

as indicative of his interest in religion, defined charismatic authority as “resting on devotion to the exceptional sanctity, heroism or exemplary character of an individual person, and of the normative patterns or order revealed” (Weber, 1978, p. 215).

leader when he proposes innovative approaches for attaining group goals. In return for his higher status, increasing influence, and freedom to deviate from nonessential norms and traditions, the emergent leader is expected to contribute his unique expertise and assume the responsibilities of the leadership role. . . . When an emergent leader makes an innovative proposal that proves to be successful, the group's trust in his expertise is confirmed, and he may be accorded even greater status and influence. (Yukl, 1981, 29)

Yet, if an innovative proposal is not successful because of circumstances beyond the leader's control, he might not be blamed—unless the group needs a scapegoat. However, if he exercises poor judgment, or acts incompetently, the terms of the relationship are reassessed, particularly if the leader is seen as acting selfish relative to the group (Yukl, 1981, p. 29).

Although meritocratic leaders are granted much authority, this exists within—or besides, or in conflict with—other modes of governance. In the Debian project, Coleman (2005) found governance to be a blend of “democratic majoritarian rule, a guild-like meritocracy, and an ad-hoc process of rough consensus” (p. 7). Wales himself has noted that:

Wikipedia is not an anarchy, though it has anarchistic features.
Wikipedia is not a democracy, though it has democratic features.
Wikipedia is not an aristocracy, though it has aristocratic features.
Wikipedia is not a monarchy, though it has monarchical features.
(Wales as cited in Wikipedia, 2006g)

Conflict between these models is central to crises within these communities—certainly Wikipedia, as discussed later. Furthermore, there is the common, and seemingly paradoxical, juxtaposition of the autocratic status accorded to leaders and the larger egalitarian ethos of the community. One interesting way in which this tension is exhibited is by references to “TINC” (There Is No Cabal) as a source of anxiety and joking about leadership. Because of the informal character of many virtual communities the notion of a cabal is recurrent after its emergence

on USENET, one of the earliest Internet discussion forums. Bryan Pfaffenberger (1996) details the historical and cultural development of governance in USENET including similar anxiety and joking; Dave Mack's 1991 tongue-in-cheek notice about a trial "in absentia" by a mythical Usenet High Council is an exemplary parody of tyrannical authority (p. 379). Even today, a benevolent dictator and his or her lieutenants will sometimes be critically referred to as a cabal.

Consequently, one might think of founding leaders as the initial emergent leaders who fashioned a space in which the community comes to inhabit, and because of this are likely to garner merit and charismatic authority, which influences the community's culture. In this regard, Edgar Schein's model of organizational culture is compelling because of the salience of two factors: the seminal actions of community founders and the community's response to important incidents, including crises. Schein (1992) proposes leaders embed and transmit culture via numerous mechanisms, the primary of which being:

- what the leaders pay attention to, measure, and control on a regular basis
- how leaders react to critical incidents and organizational crises
- observed criteria by which leaders allocate scarce resources
- deliberate role modeling, teaching, and coaching
- observed criteria by which leaders allocate rewards and status
- observed criteria by which leaders recruit, select, promote, retire, and excommunicate organizational members

It is worthwhile to note that while relevant, Schein's analysis, like most organizational research, is focused on traditional organizations, corporations even, rather than voluntary organizations or communities. Yet, leaders are still present

in such settings. Although the mechanisms might operate differently in voluntary contexts—e.g. symbolic rather than financial rewards—the mechanisms are present. (Indeed, as discussed below, a possible source of leadership/governance problems on Wikipedia was that its founders did not appreciate that they were creating a community and culture at the outset.) And, there are different types of communities that serve different interests. For example, in Jennifer Lois’ (1999) study of a volunteer mountain rescue group, socialization, and therefore access to the symbolic reward of a leadership role, is dependent on the volunteer first “downplaying arrogance and egoism by displaying humility and respect” (p. 21). Only then will action of merit (paradoxically) be granted “heroic” status by established community members and leaders. Similarly, Raymond notices a similar feature of leadership in technical (“hacker”) communities, whereby any verbal bragging is discouraged because it would interfere with judging work solely on its merits: “There’s a very strict meritocracy (the best craftsmanship wins) and there’s a strong ethos that quality should (indeed must) be left to speak for itself. The best brag is code that ‘just works’, and that any competent programmer can see is good stuff” (Raymond, 1998, p. 12).

Finally, as already noted in chapter 4, an important attribute of open content communities is the possibility of a fork:

Fundamentally, the ability to create a fork forces project leaders to pay attention to their constituencies. Even if an OSS/FS project completely dominates its market niche, there is always a potential competitor to that project: a fork of the project. Often, the threat of a fork is enough to cause project leaders to pay attention to some issues they had ignored before, should those issues actually be important. In the end, forking is an escape valve that allows those who are dissatisfied with the project’s current leadership to show whether or not their alternative is better. (Wheeler, 2005)

Because of the voluntary and meritocratic character of open content communities it is not surprising that not only are leaders expected to lead by

example, their very leadership is founded upon exemplary behavior—leadership emerges through action rather than appointment. And while a founding leadership role has some semblance of authoritarianism to it, at least in title as we shall see, it is eternally contingent: a dissatisfied community, or some constituency thereof, can always leave and start again under new leadership. Yet, regardless of whether a community does fork, discussion about such a possibility, the actions of leaders, and metaphors of governance are common topics of conversation.

Leadership and Wikipedia

The conception of leadership does not play a prominent formal role within the Wikipedia community. In a place as reflective as Wikipedia, in which there are dozens of documented norms—such as be polite, be prepared to apologize, forgive and forget, etc. (Wikipedia, 2006w)—it is surprising to find no such page on the topic. Much as there is no Wikipedia page for the norm of good faith itself, there are no recommendations on how to be a good leader or leadership mentoring. In fact, the only page on leadership I found was the actual, extensive, encyclopedic article on the topic.

This may be, in part, due to the egalitarian character of the community. There are no designated leadership roles for editing encyclopedic articles. Whereas co-founder Larry Sanger was “editor in chief” of Nupedia and he was informally known as the “chief organizer” of Wikipedia, neither role was ever claimed again after he resigned from the project. Instead, the “Administrators” page (Wikipedia, 2006l), discussed more fully below, stresses that everyone is an equal editor. Those that demonstrate themselves to be good editors may request extra responsibilities but “are not imbued with special authority.” Yet, while the culture stresses editorial egalitarianism over administrative responsibilities,

this does not mean there are no leaders. Consequently, before turning to how the community speaks about leadership, I first present a brief description of the leadership and governance structure of Wikipedia itself.

Founders

Two of the most influential people in the history Wikipedia are its co-founders: Larry Sanger and Jimmy Wales. In keeping with Schein's analysis of leadership and culture the actions of these two, particularly "how leaders react to critical incidents and organizational crises," very much affected Wikipedia culture. The following brief account of the crisis of Nupedia's demise, Wikipedia's rise, and Sanger's departure provides a revealing introduction to leadership in the Wikipedia context.

Wales, a co-owner of the Internet content and search company Bomis, hired Sanger in February 2004 to launch and act as the editor in chief of the Nupedia project. Until he resigned, Sanger was the most prominent leader of Nupedia (the original peer review project) and Wikipedia (its wiki complement and eventual successor). As Sanger writes in his April 2005 memoir:

The idea of adapting wiki technology to the task of building an encyclopedia was mine, and my main job in 2001 was managing and developing the community and the rules according to which Wikipedia was run. Jimmy's role, at first, was one of broad vision and oversight; this was the management style he preferred, at least as long as I was involved. But, again, credit goes to Jimmy alone for getting Bomis to invest in the project, and for providing broad oversight of the fantastic and world-changing project of an open content, collaboratively-built encyclopedia. Credit also of course goes to him for overseeing its development after I left, and guiding it to the success that it is today. (Sanger, 2005b)

What precipitated Sanger's resignation? As discussed in chapter 2 Sanger was caught between continuing frustration with Nupedia's progress on one

hand and problems with unruly Wikipedians on the other. Furthermore, Sanger alienated some Wikipedians who saw his actions as unjustifiably autocratic and he eventually broke with the project altogether. (I use the term *autocratic* to describe, undisparagingly, leadership actions which do not derive their authority solely from legitimate group decision making processes like unanimity, supermajority, majority, etc.) In any case, Sanger's account recognizes the uneasy tension between title, authority, and cultural momentum at the founding of this community:

My early rejection of any enforcement authority, my attempt to portray myself and behave as just another user who happened to have some special moral authority in the project, and my rejection of rules—these were all clearly mistakes on my part. They did, I think, help the project get off the ground; but I really needed a more subtle and forward-looking understanding of how an extremely open, decentralized project might work. (Sanger, 2005b)

Such an understanding might have been like that of Theodore Roosevelt's recommended leadership style: speaking softly and carrying a big stick. Whereas Sanger did have special authority in Nupedia, such was not the case in Wikipedia and Sanger's corresponding "loudness" was a later cause of regret:

As it turns out, it was Jimmy who spoke softly and carried the big stick; he first exercised "enforcement authority." Since he was relatively silent throughout these controversies, he was the "good cop," and I was the "bad cop": that, in fact, is precisely how he (privately) described our relationship. Eventually, I became sick of this arrangement. Because Jimmy had remained relatively toward the background in the early days of the project, and showed that he *was* willing to exercise enforcement authority upon occasion, he was never so ripe for attack as I was. (Sanger, 2005b)

Perhaps unrealized by Sanger, Wales exhibited this pattern even in the moderation of his earlier philosophical e-mail lists for which he described his approach as follows:

First, I will frown *very much* on any flaming of any kind whatsoever. Second, I impose no restrictions on membership based on my own idea of what objectivism really is. Third, I hope that the list will be more “academic” than some of the others, and tend toward discussions of technical details of epistemology. Fourth, I have chosen a “middle-ground” method of moderation, a sort of behind-the-scenes prodding. (Wales as quoted in Poe, 2006, 2)

And most interestingly, Sanger attributes a root of the problem in a way that Schein might appreciate: failing to recognize the importance of community and culture:

For months I denied that Wikipedia was a community, claiming that it was, instead, only an encyclopedia project, and that there should not be any serious governance problems if people would simply stick to the task of making an encyclopedia. This was strictly wishful thinking. In fact, Wikipedia was from the beginning and is both a community and an encyclopedia project. (Sanger, 2005b)

Upon publication of Sanger’s memoirs a controversy arose over whether Sanger even deserved credit as a cofounder of Wikipedia. However, other responses engaged more directly on the importance of leadership authority:

Now, I must say... I think a project of such a type can only work *without* a strong authority. It is important to let people build their own organisation. Jimbo has this very powerful strength, in this that he lets most of the organisation be a self-organisation. For those who know a bit about leadership, it is a rather rare occurrence. For the sake of wikipedia, and to let all the international projects grow up (without a strong hand to lead them), it was important that the role of the editor in chief disappear. (Anthere, 2005b)

Sanger actually concedes as much in the development of editorial policies but is still concerned about controlling abusive editors and attacks, particularly when they alienate high quality expert contributors. These questions of authority and leadership are common, as will be seen in the discussion of dictatorship.

Administrators and the Board

It can be difficult to speak of leadership without a basic understanding of a community's structure. Yet, a novel characteristic of Wikipedia is that most anyone who browses Wikipedia may edit it—though pages are *locked* if they do not need to be updated often, do not benefit from popular edits, and otherwise would be constantly experimented upon or vandalized. Contributors who signed up for an account and log in—no longer “anonymous”—receive no additional power (extent of influence) or authority (legitimacy of influence) in editing a page, instead they have access to useful features such as a user page and the ability to track the pages one cares about. Additional features are made accessible to experienced users in the role of an *administrator*, or sysop. These features permit an administrator to enact Wikipedia policy and group consensus, particularly with respect to the management of protected pages, the deletion of pages, or temporarily blocking computers that are a source of vandalism. Yet, the Wikipedia's “Administrators” page quotes Jimmy Wales as saying, “This should not be a big deal.” Indeed, an association with editorial authority is purposely disavowed:

Administrators are not imbued with any special authority, and are equal to everybody else in terms of editorial responsibility. Some Wikipedians consider the terms “Sysop” and “Administrator” to be misnomers, as they just indicate Wikipedia users who have had performance- and security-based restrictions on several features lifted because they seemed like trustworthy folks and asked nicely. However, administrators do not have any special power over other users other than applying decisions made by all users.

In the early days of Wikipedia all users acted as administrators and in principle they still should. Any user can behave as if they are an administrator, provided that they do not falsely claim to be one, even if they have not been given the extra administrative functions. Users doing so are more likely to be nominated as full administrators by members of the community and more likely to be chosen when they are finally nominated. (Wikipedia, 2005b)

Essentially, administrators are able to quickly prevent and intervene in destructive edits. (However, textual vandalism isn't truly destructive as the previous versions are available; one administrative feature is the *rollback* which permits the quick reversion of such edits.)

In the time since its founding, additional levels of authority have appeared as Wikipedia evolved from a small community to a massive project that is now formally constituted as a nonprofit foundation. In addition to the 800+ active administrators (Wikipedia, 2007bf), *bureaucrats* appoint those administrators and other bureaucrats within their respective projects, and *stewards* can, respectively, change any such role. Orthogonal to administrative and governance roles there are also *developers*, those who actually write the software and administer the servers. Volunteers continue to act in all of these capacities: the Wikimedia Foundation has only a handful of employees who administer the foundation or focus on essential hardware/software maintenance and development (Wikipedia2007wf).

In Wikipedia culture, and in keeping with the larger wiki culture, delineations of authority are suspect, as is seen in the excerpt above regarding the role of administrators. Yet, even if these other levels of authority entail only responsibilities rather than rights—which is the orthodox line though some might disagree—the status could nonetheless be seen as something to achieve or envy if only for symbolic status. This leads to the occasional call for the label associated with this role to be deprecated, as discussed in the thread “Rename Admins to Janitors”:

I'm sick and tired of people misunderstanding what an “administrator” of Wikipedia is. It was a misnomer to begin with, and we've had nothing but trouble with this name ever since. Users misunderstand it (and ask admins to make editorial decisions). Media misunderstand it (and either do not explain it, or connect it to power and influence). And it's no wonder. “Administrator” could refer to a manager, or someone appointed by a court; it typically describes someone in an important official position.

When the role of “bureaucrat” was created, the name was chosen specifically so that people would not treat it as a status symbol. It should be something nobody really _wants_—something people do because it needs doing, not because it gains them credibility and influence. This seems to have worked reasonably well for the most part. (Moeller, 2007b)

Also, it is worthwhile to note that as one ascends the hierarchy of roles, and the power of implementation increases, policy discretion decreases. Just as administrators should not be making editorial decisions, many of the other roles should not be making policy decisions. For example, stewards, who can “remove arbitrary user access levels, including sysop, bureaucrat, steward, oversight, checkuser, and bot, on any Wikimedia wiki,” (Wikimedia, 2007c) are governed by their own policies of: don’t decide, don’t promote users on projects with existing bureaucrats, don’t change rights on your own project, act with transparency, and check local policies (Wikimedia, 2007b). The “don’t decide” policy further states:

Stewards are not allowed to make decisions, such as ‘this user should (or should not) be promoted’. Their task is to implement valid community decisions. . . . Stewards should always be neutral. They can vote in elections, but when executing the result of the election the steward has to act according to the result, even if they disagree. (Wikimedia, 2007b)

At the time of incorporation, Wales delegated some of his authority to an initial five, now seven, directors of the Board of Trustees, in which he serves as Chairman Emeritus. The Board “has the power to direct the activities of the foundation. It also has the authority to set membership dues, discipline and suspend members (article III), and to amend the corporate bylaws (article VI)” (Foundation, 2005). In the realm of editorial disputes between users (including administrators) dispute resolution can be facilitated by mediation or arbitration, the latter can issue a binding decision. However, it is recommended that disputes be worked out civilly between the participants as the mediation and arbitration can

be slow and tedious. The Arbitration Committee, the Board, and Jimmy Wales himself, ultimately, have the authority to penalize or remove abusive users.

Finally, while consensus is preferred for most decisions, voting does occur in some elections (e.g., Stewards, board members, etc.) and on pages like “VfD” (Votes for Deletion) where allegedly unworthy articles are nominated for removal. While voting does happen in these cases, it is widely recognized as difficult and often contentious as it is counter to consensus practice and easily gamed; so much so that the refrain “voting is evil” is frequently invoked: “Don’t vote on everything, and if you can help it, don’t vote on anything” (Wikimedia, 2006d). Consistent with earlier research, multiple models of leadership and governance coexist within Wikipedia.

Discussing Leadership

In the previous sections I introduced the notion of leadership in open content communities by way of existing literature, particularly that focussed on the Debian FOSS community, and, more specifically, the structure, operation, and culture of leadership in Wikipedia. In this section, I focus on how the concept of leadership is understood and discussed in the community. Some important themes in these conversations are the frustrations resulting from the voluntary and consensus character of the community, the use of metaphors (e.g., dictator or constitutional monarch), and the relationship between good faith culture and Wikipedia leadership.

Dictatorships and Jimbo's Role

Open content communities with a single prominent leader sometimes characterize that leader as a type of benevolent dictator (Raymond, 1998; Wikipedia, 2006b)—like the cabal oligarchy of USENET (Pfaffenberger, 1996) or Debian (Coleman, 2005). Linus Torvalds, the original author of Linux, is known as a benevolent dictator. Guido von Rossum, author of the Python programming language has the additional honorific of being benevolent dictator “for life,” or BDFL. Jimmy Wales is also often characterized as a benevolent dictator though it is not a designation he accepts, as we will see. This is often a source of anxiety for a community because, as Raymond notes, hacker culture “consciously distrusts and despises egotism and ego-based motivations; self-promotion tends to be mercilessly criticized, even when the community might appear to have something to gain from it. So much so, in fact, that the culture’s ‘big men’ and tribal elders are required to talk softly and humorously deprecate themselves at every turn in order to maintain their status” (Raymond, 1998, p. 11). (Although Raymond is seminal for theorizing aspects of open source leadership, and popularizing the term “benevolent dictator,” its usage appears to precede Raymond’s use in computer communities (Dyer, 1984) and even its application to Linus Torvalds (Nelson, 1992; Hedrick, 1992).)

The need for “dictatorship” arises from the difficulty inherent to decision making in large, voluntary, and consensus oriented communities. While a cabal or dictator might be complained about, so might their absence. Clay Shirky makes this point in his essay “A Group Is Its Own Worst Enemy” by way of Geoff Cohen’s observation that “the likelihood that any unmoderated group will eventually get into a flame-war about whether or not to have a moderator approaches one as time increases” (as cited in Shirky, 2003a, p. 5). (Again,

Cohen's observation takes the form of the ever popular Godwin's Law.) NSK (2005) writes, "Wikipedia suffers from many voices, often contradictory. I think you need an influential leader to take final decisions (after community input of course)." As Karl Fogel writes with respect to producing open source software: "Only when it is clear that no consensus can be reached, and that most of the group wants someone to guide the decision so that development can move on, do they put their foot down and say 'This is the way it's going to be'" (Fogel, 2005, p. 48).

In addition to differing opinions among those of good faith, an informal and consensus based approach does not seemingly deal well with those who act in bad faith:

What is needed in obvious cases like this is a "benevolent dictator", whether it's Jimbo Wales or the arbcom [Arbitration Committee], to examine the editors' contributions then ban them, because these are not bona fide Wikipedians who happen to have a strong POV [point of view]. They are fanatics acting to promote the views of a political cult, and they're here for no other reason. Yet here they remain, making a mockery of everything Wikipedia stands for. (SlimVirgin, 2005)

Where possible, Wales has delegated authority, particularly to the Board of Trustees and Arbitration Committee, but much authority remains with Wales:

Wikipedia is "at the mercy of" Jimbo. Jimbo has delegated his "mercy", to use your term, to the Arbitration Committee that he convened over 15 months ago, and which he periodically refreshes the membership thereof as guided by the wishes of the community. Significant disciplinary matters in Wikipedia are thus guided by a number of editors who are held in high esteem by the community at large (or, at least, so one hopes). (Forrester, 2005)

Anthere, a member of the Board of Trustees, described this balance of reserved authority and delegation as one of facilitating or hindering a direction, reminiscent of the goal-theory of leadership whereby a leader makes the subor-

dinate's path more satisfying and easier to travel by clarifying it and reducing obstructions (Yukl, 1981, 144):

I think that what is especially empowering is the leadership type of Jimbo. Jimbo is not coaching at all, and rather little directing (though hints are sometimes quite clear), as well as rather little delegating (I think the foundation would sometimes benefit from more delegation from Jimbo). His type is essentially supportive. Very low direction but very high support. This leaves basically as much opportunity to work in certain directions as one would dream of. However, one moves in a direction supported by Jimbo much more quickly than in a direction not supported by Jimbo. I[t] can take a long time to find a satisfactory decision, but prevents from travelling in an unsafe direction. (Anthere, 2005a)

However, this balance can lead to ambiguities that prompt discussion, such as that about editorial authority. In February of 2005 an enormous debate erupted over the illustration included in the encyclopedic article on autofellatio. (Images tend to prompt many debates and raise questions of censorship, free speech, cultural differences, and on the age appropriateness and quality of Wikipedia. A similar debate arose for the image in the clitoris article, as well as a cinematic still of Kate Winslet, in the "Titanic" article, wearing nothing but a diamond necklace.) When Wales deleted the photographic image of autofaellatio, which had replaced the less contentious illustration, Eric Moeller challenged this action as it raised the old issue of to what extent Wikipedia has an "editor-in-chief":

Perhaps you could clarify that this was not done in your role as trustee. I don't believe it was, as you did not consult with Angela and Anthere, so I consider it just like an edit by any other Wikipedia editor, only that, of course, you hope that people will take it more seriously because of the reputation that comes with your role in the project, past and present. That's completely reasonable, if done rarely and in cases you consider important.

The page is currently being edit warred over, and one editor uses the comment "rv [revert] to Jimbo's approved version". It would be helpful if you could state here that you are not in the business of approving articles. I believe your edit summary "This image is completely unacceptable for Wikipedia" could be

misconstrued to be an official statement, when it is your personal opinion. Some people still see Wikimedia as being governed by a benevolent dictator, and any explanation would help to eliminate that misconception.

I still remember how the Spanish Wikipedia forked over some discussion on advertising. I'm somewhat worried that people might misunderstand your comments, and assume that you are acting as "Chief Editor". On the other side, those who do support the removal of the image might deliberately seek to create that impression in order to further their agenda. (Moeller, 2005)

Wales did not respond to this particular e-mail message, but continued discussion with respect to the role such an image would serve for educational purposes. However, Wales' role was further discussed when it was feared that Wikipedia would be the target of a concerted neo-Nazi "attack." This led Wales to clarify that he would prevent such an attack though he also recognizes the dangers inherent to such action:

The danger of course is that the benign dictator may turn out to be biased or wrong himself. So I hesitate to do this except in cases where speed is of essence, or where it's just very clearcut and easy. What I prefer is that I can act as a temporary bridge and "person to blame" while we work on community solutions.

If 300 NeoNazis show up and start doing serious damage to a bunch of articles, we don't need to have 300 separate ArbCom cases and a nightmare that drags on for weeks. I'll just do something to lock those articles down somehow, ban a bunch of people, and protect our reputation and integrity. And then we can also work in parallel to think about the best way to really take care of such problems in the long run.

But if a handful of LaRouche fans want to come in and do pseudo-NPOV on a handful of relatively obscure articles, I'm not in favor of me just cracking heads over it. We can't just ignore it and hope it goes away, either, of course. We just start thinking about it and working on it until we come up with something useful. (Wales, 2005b)

Seven months later, on the same thread, Wales further defined his role as a "constitutional monarch":

I do not believe in the “benevolent dictator” model for Wikipedia. Our project is of major historical significance, and it is not appropriate for any one person to be the benevolent dictator of all human knowledge. Obviously.

But we have retained a “constitutional monarchy” in our system and the main reason for it is too *_support_* and *_make possible_* a very open system in which policy is set organically by the community and democratic processes and institutions emerge over a long period of experimentation and consensus-building. . . .

It is not possible for 10,000 NeoNazis (if such numbers exist) to storm into Wikipedia and take it over by subverting our organic democratic processes because I will not allow it. Period. So we don’t have to overdesign those processes out of a paranoia of a hostile takeover.

But this also means that we don’t need to over-react right now. We can wait and see. They’ll talk a big game but just review those message boards and then look around here. A battle of wits between Wikipedians and Nazis? I know who I’m betting on. (Wales, 2005c)

Wales’ conception of his role was further developed and articulated on the “Talk” page of the Meta’s “Benevolent Dictator” article:

I am more comfortable with the analogy to the British monarch, i.e. my power should be (and is) limited, and should fade over time. . . .

The situation in nl.wikipedia.org is probably a good example of how I can play a productive role through the judicious exercise of power. My role there is mostly just as advisor to people in terms of just trying to help people think about the bigger picture and how we can find the best ways to interact and get along to get our incredibly important work done.

But it is also a role of “constitutional” importance, in the sense that everyone who is party to the discussion can feel comfortable that whatever agreements are reached will be **binding**, that there is a higher enforcement mechanism. It’s not up to me to **impose** a solution, nor is it up to me directly to **enforce** a solution chosen by the community, but I do play a role in guaranteeing with my personal promise that valid solutions decided by the community in a reasonable fashion will be enforced by someone. . . .

And notice, too, that I believe such authority should be replaced as time goes along by institutions within the community, such as for example the ArbCom in en.wikipedia.org, or by community votes in de.wikipedia.org, etc.

We have very few problems, other than isolated things, with sysop abuse or cabals, even in smaller languages, and in part because everyone is quite aware that I would take whatever actions necessary to ensure due process in all parts of wikipedia, to the best of my ability. (Wales as cited in Wikipedia, 2006g)

It is worthwhile noting, that the literature offers many models of leadership, and each one may specify different leadership types. For example, in the above excerpt Wales is articulating different aspects of Victor Vroom's and Philip Yetton's (1973) autocratic (decision made by leader alone), consultative (the problem is shared with and information collected from the group, before the leader decides alone), and delegated leadership (the problem is shared, ideas are accepted, and the leader accepts the solution supported by the group) —as is appropriate, since Vroom and Yetton are of the situational school which advocates different leadership performances as merited by the particular context.

Also, Wales' concern with not over designing the “organic democratic processes” echoes Garzarelli's and Galoppini's (2003) notion that the judicious use of charismatic authority can be preferable to a “complex system of rules” (p. 36). And even though Wales is seemingly conscientious about the use of his authority, others note that the “charismatic” character of his leadership can become unsavory. If others appropriate what Wales has said or done as the justification for their own position, some will object:

This kind of hero-worship begins with Christians who find it more chic to parrot Christ's words than to live them. In our context this translates into using “Jimbo said . . .” as an argument that would stop all debate. (Saintonge, 2005)

Wales himself is now sensitive to this concern as seen in his qualification of an e-mail about how to distinguish between sites that criticize Wikipedia and those that harass Wikipedians:

I have this funny feeling, after writing this email, that it is

the sort of email likely to be misused in some fashion as a WP:JIMBOSAYS fallacy. This note at the top serves as notice that anyone citing this email as setting down policy on Wikipedia is being a goof. I am just discussing and thinking here and trying to be helpful. (Wales, 2007b)

Concern about this role and title led to a consideration of alternatives for “benevolent dictator” including constitutional monarch, the most trusted party (TMTP, Linus Torvalds’ preferred moniker), eminence grise, and Deus ex Machina (Wikipedia, 2006f). And while the notion of constitutional monarch has achieved some stabilization and acceptance within the community, “dictator” will never disappear from the conversation given its long history within online communities. Indeed, the notion not only serves as a measure of the leader’s actions, but that of other participants. In one of the many threads about sexual content on Wikipedia a participant wrote to another: “So your opinion is now law? Wonderful. We don’t need all of those nasty little polls or votes. . . . All we have to do is have you make the decision for us. I thought Jimbo was the benevolent dictator. You seem just to want to be dictator, period” (Rick, 2005). Another moniker, in keeping with the sentiment of a flat-out dictator is that of “God King.” One might think of this as a Benevolent Dictator that has crossed the line. Meatball describes God Kings as:

Kings that are so arrogant that they suppose they are “god”. A GodKing is a site owner or administrator who uses their special authority more than absolutely necessary. Wikis (especially MeatBall) generally frown on this sort of thing, so any such use may be considered an abuse. A GodKing is a bad thing (an AntiPattern; see CategoryRole). (Meatball, 2007b)

Here we see recognition that community leaders are accorded significant authority, but that this authority needs to be employed no more “than absolutely necessary.”

Leadership and Good Faith Culture

In addition, or in response, to the failsafe solution of a leader acting as a tie-breaker and defender of last resort, a good faith collaborative culture, as discussed in the previous chapter, can lessen the frustration and conflicts common to Wikipedia interaction. After immersing oneself in Wikipedia practice for a time, it is not difficult to see that many of these norms are strongly exercised by Wales himself. Wales (2007c) once described his approach to me as “I like to think I’m not stupid, but I’m not in my present position because I’m smart but because I’m friendly”; this is seen in the following interactions in which he frequently writes with:

- patience: on a thread regarding Serbo-Croatian dialects: “For those who find Mark irritating, and who may not tend to listen to him on those grounds, I would like to say, listen to him on this point” (Wales, 2005a).
- politeness: in response to someone who spoke of a threatened fork over a Frulian dialect and challenged “ARE YOU CRAZY!?!?!?!?!?” Wales responded, “Good luck with that. ‘Not yelling at people’ is a critical trait of leadership in an all volunteer project” (Wales, 2004).
- humility: in response to someone concerned about perennial problems, including language policies, Wales wrote, “I’m very sympathetic to all these points. I don’t have an easy answer what to do” (Wales, 2005f).
- a willingness to apologize: when Wales recommended some text be added to a page when it was already present he wrote, “Ok, my mistake, I’m very very sorry. I didn’t see that. I apologize for any confusion” (Wales, 2005d).

Additionally, joking serves to create general camaraderie, as well as address anxiety about leadership. In response to a message about an April fool’s

joke about Wales as dictator someone responded:

These jokes don't have a "point". If you scour the list for all messages, you will find that I am not the only one who has a sense of humour and knows how to make jokes. In fact, this extends to Ant, Mav, Jimbo, etc. who can occasionally be found to be making a joke on this list.

I don't know how it is with you, but as far as I know the point of humour is to lighten up a situation, and only occasionally to make a point. (Williamson, 2005)

Much like the ancient USENET parody of a cabal (Pfaffenberger, 1996) , Shannon wrote a (tongue in cheek) message entitled "How to Join a Cabal" to the list:

I have reliable information that an over-zealous Australian is about to launch a coup to gain control of the wikimedia cabal (and hence all international commerce, and politics). I am told that he goes by the code name of Ta bu shi da yu (which may well contain demonic anagrams, several super-computers from wikimedia's secret service are currently working on the problem). I attach a letter i recently intercepted where he goes so far as to claim that control is all ready his; this suggests that he believes a sizable number of editors will join him in his rebellion. (Shannon, 2005)

It seems that good faith culture permits the community to discuss a source of anxiety (i.e., leadership) without actually accusing or attacking one another.

Authorial Leadership, a Theory

My approach in this chapter has not been to contest, or even reconstitute (Burawoy, 1991), a single existing theory. Instead, I've identified features of leadership in related communities (e.g. emergent leaders, discussion of cabals and benevolent dictators, humor, etc.), confirmed their existence in the Wikipedia community, and subsequently subsume, extend, and marshal them under the theoretical notion of an open content community. To summarize the finding

present in this chapter I posit six features of authorial leadership: two of which speak to be the structure or environment in which it developed, two capture how leadership is enacted, and the final two features are how leadership status is accorded by the community.

- Leaders often found a project around which a community develops, or emerge from an initially leaderless context by way of merit; subsequently they lend direction and momentum to the development of a community's culture.
- Leaders operate within a mix of governance models: meritocratic (setting the direction by leading the way), autocratic (acting as an arbiter or defender of last resort), anarchic (consensus) and occasionally democratic (voting).
- Leaders often convince by persuasion and example though they also retain charismatic authority accumulated from their merit in order to act, as a last resort, as an (autocratic) arbiter between those of good faith or as a defender against those of bad faith.
- Leaders operate with a "soft touch"; humor and politeness facilitate camaraderie between all participants and ease the exercise of authority and the related anxiety about it.
- Leadership is rarely granted formal status, (meritocratic action and egalitarian discourse reign), though prominent leaders, such as a founder, might be endowed with the informal status of "benevolent dictator."
- Leaders whose autocratic actions exceed their accumulated merit/charisma risk their status, or even the forking of the community.

In short, only those leaders that tread carefully and continue to make important contributions (including, now, the judicious exercise of autocratic

authority) are granted the “dictator” title. Whereas this term might not be the most appropriate in capturing the genuine character of this role, it serves as a warning: a good-natured joke balanced on the edge of becoming a feared reality. It serves as a caution to such leaders, as well as a metaphoric yardstick for discussing any participant’s action.

So as to provide an identifier for further discussion, and to distinguish it from the popularly discussed notion of “benevolent dictator,” upon which it builds, I call such leadership “authorial.” I choose this term after recalling an expression from Christian history: *primus inter pares*. This notion was used by early church leaders (e.g., the Bishop of Rome, now the Pope) and present day patriarchs to indicate a status of “first among equals.” This then led me to the terms “patriarch,” “ethnarch,” “archons” and finally “auctoritas.” The *Oxford Classical Dictionary* defines “patrum auctoritas” as: “the assent given by the ‘fathers’ (patres) to decisions of the Roman popular assemblies. The nature of this assent is unclear, but it may have been a matter of confirming that the people’s decision contained no technical or religious flaws. The ‘fathers’ in question were probably only the patrician senators, not the whole senate. . .” (Momigliano and Cornell, 2003). Auctoritas is the Latin root of English words authority and author. Given that a “benevolent dictator” is often the founding author of an open content project, it seems appropriate. Additionally, the form of power inherent in auctoritas fits the notion of leadership presented here. It is not a coercive order but a recommendation with a normative force based on the prestige and charisma of a leader. Theodore Mommsen wrote of it as a force that is “more than an advice and less than an order: it is an advice whose compliance it is not easy to evade. . .” (as cited in Lottieri, 2005, p. 25). Lottieri’s concludes his discussion of the notion by writing:

For all these reasons we can say that auctoritas was on the edge

between the legal world and the social life, the beliefs, the customs. It is in condition to influence the decisions by its prestige. Therefore, people refusing the auctoritas can ignore it, but they know that by the decision they are out of the community. (Lottieri, 2005, p. 25).

And this dovetails into the possibility of forking!

This theory could be tested explicitly against other authorial leaders of open content communities; for example, those who are known to usually be of a good humor and referred to as “dictators,” such as Linus Torvalds and Guido von Rossum, and those who are not (Weber, 2004, p. 90). Furthermore, as Evan Prodromou (2007) points out, other wiki communities and leaders are worth consideration. On that point, Prodromou argues Wikipedia and Wales may even be unusual. Unlike FOSS communities, Wikipedia has many more contributors, many of whom, even at the Administrator level, contribute at a low skill and intensity level compared to FOSS contributions. Furthermore, unlike other wiki communities or even other leaders within Wikipedia, Wales has never been a significant “author” by way of creating content. Indeed, because of Wikipedia’s history an editor-in-chief is undesirable to the community and even Wales’ relatively modest editorial contributions are apt to cause concern. Yet, given his founding vision as well as establishing a particular type of collaborative culture, I consider him to be an author in this leadership sense nonetheless.

Conclusion

If one were to draw lessons from the case of Wikipedia for aspiring leaders in similar communities, the first truth to be recognized is that it takes a lot of work. In fact, the passion needed to dedicate oneself to the often voluminous, mostly voluntary, and possibly thankless work undercuts my supposition; people don’t set out to be leaders, they end up as such. They were dedicated to some

small project (e.g., software or an encyclopedia) around which a community developed and must then be guided and protected. At this point, they may achieve a significant amount of symbolic status within the community or even outside attention. However, when a person comes to be responsible for more than he or she can do by dint of will alone, new responsibilities and authority pull taut a tightrope that must be carefully walked before the eyes of one's peers. Sanger's reflections about his exit from the community and Wales' moniker of benevolent dictator are testaments to how delicately the tin crown of such leadership must be balanced.

TODAY AND THE FUTURE

In part 1 I place Wikipedia in a historical frame in order to better understand the long-held vision of a universal reference work, for which Wikipedia may be a fulfillment, and the production of reference works, in which Wikipedia is both similar and different. In part 2 I consider Wikipedia collaboration with respect to community, culture, and leadership and find that openness, “Neutral Point of View,” good faith, and “authorial” leadership are all features of Wikipedia collaboration. Yet, to conclude on this note might be considered remiss. Wikipedia, and particularly the collaborative way in which it is produced, is at the center of an extraordinary conversation. Who would think a thing as innocuous as an encyclopedia could cause such a stir?

In chapter 7 I reengage a historical perspective to show that while there’s never been an encyclopedia like Wikipedia, reference works have often been at the center of social debate. I then characterize the criticism of Wikipedia by way of four themes present throughout this work: collaborative practice, universal vision, encyclopedic impulse, and technological inspiration. In chapter 8 I conclude.

CHAPTER VII

ENCYCLOPEDIC ANXIETY

Much as reference works might inspire passionate dedication in its contributors, they also, seemingly, can inspire passionate disparagement. Michael Gorman, former president of the American Library Association, in one of his many blog essays decrying the effects of the “digital tsunami” on learning, names Wikipedia as one of the accused. In a two-part essay entitled “Jabberwiki” Gorman lauds Sanger’s abandonment of Wikipedia for his new expert-focused experiment, Citizendium, and criticizes those who continue to contribute, or even use, Wikipedia:

Despite Sanger’s apostasy from the central tenet of the Wikipedia faith and his establishment of a resource based on expertise, the remaining faithful continue to add to, and the intellectually lazy to use, the fundamentally flawed resource, much to the chagrin of many professors and schoolteachers. Many professors have forbidden its use in papers. Even most of the terminally trendy plead with their students to use other resources. . . . A few endorse Wikipedia heartily. This mystifies me. Education is not a matter of popularity or of convenience—it is a matter of learning, of knowledge gained the hard way, and of respect for the human record. A professor who encourages the use of Wikipedia is the intellectual equivalent of a dietician who recommends a steady diet of Big Macs with everything. (Gorman, 2007b, p. 5)

Gorman is not alone. While he may be more strident than others, Wikipedia certainly has touched a nerve. Yet, before I proceed with my argument that reference works often serve as a flashpoint for larger social anxieties, it is worthwhile to first qualify a common assumption that reference works are necessarily progressive, an assumption I held myself until I began my study of

their history. I then turn to the example of how other works such as the *Encyclopédie* or *Merriam-Webster's Third* found themselves at the center of larger controversies (e.g., the value of artisanal knowledge or the permissiveness of the 1960s, respectively), and how Wikipedia finds itself in similar circumstances today. I believe understanding the discourse around Wikipedia reveals a number of concerns captured in the following statement: Prompted by technological change, new forms of content production are changing the role of the individual, institutions of authority, and the character (or quality) of cultural products. As we will see, each element of this statement also prompts arguments about whether such changes are genuine or hype and, if genuine, positive or negative.

Progressive and Conservative

Because of visionaries like Diderot, d'Alembert, Otlet, and Wells one might mistakenly infer that reference works are necessarily progressive. While this has often been the case, particularly since the Enlightenment, it need not be so. In the history of reference works one is more likely to find opposing forces, cycles of predominance, and surprises. As an example of the diversity of purpose for reference works, Tom McArthur (1986, p. 67) claims the Greeks wanted to know everything so as to think better, the Romans to act better, and the Christians so as to glorify God and redeem their sins. As evidence of the latter Johann Zedler wrote in his eighteenth century encyclopedia, the *Universal-Lexicon*: "the purpose of the study of science... is nothing more nor less than to combat atheism, and to prove the divine nature of things" (as cited in Headrick, 2000, p. 155).

In the pre-modern period natural philosophers presumed their task was to confirm the knowledge of God's two great works: the Bible, and the "book of nature." Hence, the knowledge lost by Adam in the fall could be recovered

through the study of the natural world (Yeo, 2001, p. 2). Therefore, it is not surprising to find a view such as Zedler's or to anticipate that as our understanding of the natural world increased so would discrepancies between the Bible and the natural world. (This story of conflict is well known because it makes for good drama: Tom McArthur (1986) entitles one of his chapters "Faith Versus Reason" and Foster Stockwell (2001) in *A History of Information Storage and Retrieval* devotes an interesting though seemingly off-topic chapter on "The Uses and Abuses of the Bible". Yet, the conflict is not always as black and white as we commonly think, as I discuss below with respect to the suppression of the *Encyclopédie*.) An example of the growing discrepancy between the "two books" is that while Webster, the American author and Bible translator, is widely respected for his definitions, his etymologies were a failure because of their dependence on literal interpretations of the Bible (Morton, 1994, p. 42). Webster's, not uncommon, belief at the time was that all language descended from the Hebrew of Adam and Eve; this was corrected, in part, by Britain's exposure to the languages of India: Sanskrit was not like Hebrew and Arabic, as the theory implied, but a cousin of Greek, Latin, German and English (McArthur, 1986, p. 124).

Conservatism was also present in the intended purpose of some dictionaries. When the French Academy commenced compiling a national dictionary, it was with the sense that their language had reached its perfection and should therefore be authoritatively "fixed." However, the utilitarian value of a dictionary could not be denied: Furetière's competing dictionary contained words not approved of by the scholars of the academy and sold well in the black market (Headrick, 2000, p. 145). English speakers, such as Jonathan Swift, perhaps envious of their continental cousins, argued their language was no less deserving of standardization. However, Britain never marshaled a national effort and the task of compiling

English dictionaries instead fell to commercial lexicographers such as Samuel Johnson (Winchester, 1998, p. 91). Although Johnson was warned that it took the French Academy 40 years (Hitchens, 2005, p. 73), he originally “flattered himself” with “the prospect of fixing our language” (as cited in McArthur, 1986, p. 97). However, he soon realized that this task was an “expectation which neither reason nor experience could justify” since language was “the work of man, a being from whom permanence and stability cannot be derived” (as cited in Post, 2001, p. 24). The question here, and the question still present with us in the wiki age, is the extent to which reference works are “normative”: implying approval upon their subjects and sources.

One understanding of reference works is to see them simply as products of their time, perhaps this is no more apparent than in their treatment of women. For example, Robert Cawdrey wrote that his 1604 dictionary was “for the benefit & help of Ladies, gentlewomen or any other unskilful persons, Whereby they may work easilie and better vnderstand many hard English wordes, which they shall heare or read in the Scriptures, Sermons or elsewhere, and also be made able to use the same aptly themselves” (as cited in Winchester, 1998, p. 84). In early encyclopedias, the treatment of women was not much different, meriting only a short mention as the lesser half of man. However, with the publication of the first edition of *Britannica* one encounters the possibility of change as well as a conservative reaction: the article on midwifery was so direct, particularly the illustrations of the female pelvis and fetus, that many saw it as a public scandal (McArthur, 1986, p. 107).¹ Stockwell (2001, p. 111) comments that there was actually little else of note in the first *Britannica* of 1768 except for this 40 page article, which King George III ordered destroyed, pages and plates.

Whereas this *Britannica* example shows how efforts at usefulness may

¹Henry Kogan’s (1958) history of *The Great EB* contains replications of these plates.

conflict with the dominant norms and authorities—at least with respect to freezing a language and childbirth—it is the French *Encyclopédie* with which progressivism is famously associated. Diderot believed a good encyclopedia ought to have “the character of changing the general way of thinking” (as cited in Stockwell, 2001, p. 90). In fact, along with the French nobility and Pope Clement XIII, the editor of *Britannica*’s 1800 two-volume supplement, a clergyman by the name of George Gleig, considered the *Encyclopédie* to be dangerous; in his dedication of the work to his monarch he wrote: “The French *Encyclopédie* has been accused, and justly accused, of having disseminated far and wide the seeds of anarchy and atheism. If the *Encyclopædia Britannica* shall in any degree counteract the tendency of that pestiferous work, even these two volumes will not be wholly unworthy of Your Majesty’s attention” (as cited in Kogan, 1958, p. 26). (At this time Gleig was well situated in the English conservative reaction to the excesses of the French Revolution.) As we shall see, Wikipedia is often thought to be anarchic as well, or at least to be an experiment in it. And, ironically, *Britannica*’s image as a conservative stalwart is contradicted by one of its more recent editors Charles Van Doren; Jimmy Wales is fond of citing the former editor at *Britannica* as saying that “because the world is radically new, the ideal encyclopedia should be radical, too. It should stop being safe—in politics, and philosophy, and science.” (as cited in Schiff, 2006, p. 3) The fact that Van Doren worked at *Britannica* after being caught up in the television quiz show scandals of the 1950s (Wikipedia, 2007ab) is a further irony given the present arguments about new media and the authority of knowledge production!

Unfortunately, the battle between progressives and conservatives over the pages of a book has not always been limited to the exchange of sharp words. The *Encyclopédie* was implicated in a drama that cost a man his life. Voltaire wrote of the torture and execution of a young French nobleman Jean-Francois de La Barre

in 1766. When the vandalism of a crucifix at Pont-Neuf (Dickens, 2004) was noticed religious and secular authorities demanded the public reveal any and all information on possible suspects. An enemy of Jean-Francois, a rejected suitor of his aunt, gave evidence of his alleged irreverence including scoffing at the doctrine of the virgin birth and failing to remove his hat before a procession of Catholic dignitaries. Unfortunately, “It was the unanimous opinion of the judges that he committed the dastardly crime because he was seduced by the influence of those involved with the publication of Diderot’s encyclopedia” (as cited in Stockwell, 2001, p. 84). The small mercy granted to him, after losing his tongue and right hand, was that he was not burned alive, but beheaded first, and then burned, along with his copy of Voltaire’s *Philosophical Dictionary*, another damning piece of evidence. The editors and publishers of *Encyclopédie* themselves also felt the hand of royal—and papal—censure. Even before the first volume was printed Diderot was imprisoned at Vincennes for over three months. D’Alembert, his coeditor, disassociated himself from the project altogether. Le Breton, the printer, had many restrictions placed upon his efforts: 6,000 of his volumes of a reprint were seized and taken to the Bastille, and he was briefly jailed as well. In 1866, subscribers were ordered to turn in their copy so they might be destroyed (Stockwell, 2001, p. 90).

Although confiscation, imprisonment, and even execution over reference works has seemingly been left to the nineteenth century—though Wikipedia has been blocked by China (Wikipedia, 2007)—they continue to be a subject for debate and criticism. Recent print reference works rarely intend, or at least announce, a conservative or progressive mission. Instead, they strive for a seeming objective authority—moving with the currents of social science and history (Smith, 1994; Novick, 1988)—and the debate centers around hidden biases. (The Conservapedia (2007), intending to counter the alleged liberal and materialistic

bias of Wikipedia, might be one of the first of many explicit “POV” Wikipedia forks to come.)

Accusations of bias are remarkable for their specificity and passion, and prior to Wikipedia *Britannica* received the brunt of attention. Herman Kogan’s (1958) *The Great EB: the Story of the Encyclopædia Britannica* addresses many accusations of bias, particularly by and between Protestants, Catholics, Britons, Americans, and Soviets. Harvey Einbinder’s (1964) *The Myth of the Britannica* is actually an extensive criticism itself though he also describes Christian Scientist and Jehovah’s Witness concerns in addition to Catholic controversies. Over a century ago Thaddeus Oglesby (1903) collected criticisms he had raised against *Britannica* in a book entitled: *Some Truths of History: A Vindication of the South Against the Encyclopædia Britannica and Other Maligners*. (However, contrary to Oglesby’s opinion, Gillian Thomas (1992, p. 5) notes that the *Britannica* (1911a; 1911b) “Klu Klux Klan” and “Lynch Law” articles’ portrayal of lynching as a form of controlling “disorderly Negro politicians” by “protective societies of whites” seems overly favorable to the South.) More recently, Michel McCarthy (1999) wrote of *Britannica*’s complaint department including an obscenity filled letter from a Texas man accusing *Britannica* of bias against the Ostrogoths. But perhaps the best-known *Britannica* critic is Joseph McCabe; around 1950 he began documenting a perceived Catholic bias in many popular encyclopedias. McCabe’s dedication and focus has the same obsessive character of earlier reference work compilers, present-day Wikipedians, and even some of its critics. He wrote this new preoccupation resulted from an overseas argument about the Pope’s employment of castrati:

An American reader wrote me that a Catholic friend, who had doubtless, as is usual, consulted his pastor, indignantly denied the statement. It was one of the usual “lies of Freethinkers.” For an easily accessible authority, reliable on such a point, I referred him

to the *Encyclopædia Britannica* [article on “Eunuchs”]. . . . My correspondent replied, to my astonishment, that there was no such passage in the Britannica, and I began the investigation of which I give the results in the present little book. I found at once that in the 14th edition, which was published in 1929, the passage had been scandalously mutilated, the facts about church choirs suppressed, and the reader given an entirely false impression. . . .” (McCabe, 1947)

Upon learning that the Westminster Catholic Federation boasted of their efforts to “eliminate matter which was objectionable from a Catholic point of view and to insert what was accurate and unbiased” McCabe set out to identify what had been altered in *The Lies and Fallacies of the Encyclopædia Britannica: How Powerful and Shameless Clerical Forces Castrated a Famous Work of Reference* (McCabe, 1947). He followed this work a few years later with *The Columbia Encyclopedia’s Crimes against the Truth: Another Analysis of Potential Catholic Bias in Encyclopedia* (McCabe, 1951). Here he tracked changes in various editions over the topics of sexuality, atheists, the forgery of the *Donation of Constantine*, and *Columbia’s* silence on “Catholic persecution, death sentence for heresy, mental reservation, apostates, vilification marriages, torture, Feast of Fools, the Syllabus, etc.” (McCabe, 1951). No doubt, he would have loved to have a tool like WikiScanner (Wikipedia, 2007br). This tool, which can help identify the origins of some “anonymous” edits, was widely covered in the press in August 2007 when it was revealed that computers associated with the Diebold electronic voting machine company, the Democratic Congressional Campaign Committee, the Vatican, Scientology, and others had removed embarrassing information from their respective articles.

Yet, as in any history, we must be careful not to divide the field into extremes, in this case between conservative and progressive poles. For example, while an association with the *Encyclopédie* was certainly dangerous, Robert Darnton (1979, pp. 9-13) notes that it was France’s sympathetic director of the

library, and chief censor, who saved the *Encyclopédie* several times. Indeed, Malesherbes warned Diderot that his papers were about to be seized by the police but that they could be deposited and saved with him—after issuing the very order for the confiscation (p. 13). Or, in another anecdote, one can see that even the Royals had a complicated relationship with the censored item. During a dinner party of King Louis XV the guests fell into disagreement about the composition of gunpowder. The King's mistress pointed out that she knew nothing of how her silk stockings were made:

The duc de la Vallie're then said that he regretted the order by the king banning the *Encyclopédie*, which would undoubtedly contain all this information. The King replied that, although he had not actually seen the *Encyclopédie*, he had been assured it was most dangerous. He agreed, however, to examine it and see for himself. (Stockwell, 2001, p. 90)

After some difficulty, servants found a copy which contained descriptions for gunpowder, rouge, and silk stockings. Even though its usefulness was proven, the King maintained his ban.

And as a final methodological note, the interpretation of past events is often colored by our own present. Consider the question of what did those in power fear from the *Encyclopédie*? Stockwell (2001) clearly labels the focus on craftsmanship as a progressive force:

By taking craftsmanship seriously for the first time, Diderot helped set in motion the downfall of the royal family and the rigid class system. Suddenly, in the pages of the *Encyclopédie*, every person became the equal of every other, because they had access to the technical and social know-how of the technicians as well as the scholars of the educated classes. No longer could the few claim the sole right of ruling the nation when Diderot had given a clear picture of how power was maintained and had exploded the religious and social myths that kept people in a condition of servitude. (p. 89)

Yet Cynthia Koepp (2002) renders the import quite differently:

At the same time there's a specific desire on the part of the dominant, elite culture to control language and discourse: in our case, the editors of the *Encyclopédie* expropriating and transforming work techniques. By exposing and altering the secrets of the crafts, the editor sought to undermine the authority of specialized artisans. Their formally unique talents, knowledge, and abilities became dispensable once the techniques were available in print to "all", that is, to anyone who could understand the discursive order of the *Encyclopédie*. (p. 138)

The difference between these two authors shows that the degree to which reference works are viewed as conservative or progressive are not only dependent on their historical context, but in the readings of that history in the present: Stockwell sees the *Encyclopédie* as a democratizing force whereas Koepp sees it as a form of expropriation. (It could very well have been both.) Consequently, the task is not so much to determine whether a particular reference work was objectively and definitively conservative or progressive, but rather whether it was received as such and what that tells us of the larger social context. As Einbinder (1964, p. 3) writes in the introduction to his critique: "since an encyclopedia is a mirror of contemporary learning, it offers a valuable opportunity to examine prevailing attitudes and beliefs in a variety of fields."

Webster's Third at the Center of a Storm

Lest we think that the conservative/progressive tension is a matter reserved for the past, Herbert Morton (1994) tells a fascinating tale of the publication of a 1961 dictionary in *The Story of Webster's Third: Philip Gove's Controversial Dictionary and Its Critics*. Perhaps the primary reason for the controversy associated with this dictionary was that it appeared at a time of social tumult. A simplistic rendering of the 1960s was that progressives were seeking to shake up that which conservatives held dear. Yet, those working on the *Third* were not a

band of revolutionaries. If one were to compare its publication to the publication of the *Britannica* and *Encyclopédie* during the Enlightenment, the *Third* would be closer to that of the *Britannica*, a straightforward effort to improve human knowledge, without intentionally challenging social norms and authorities—even if *Britannica*’s article on midwifery offended them nonetheless.

For example, Gove made a number of editorial decisions so as to improve the dictionary. And while lexicographers might professionally differ with some of his choices, such as the difficult pronunciation guide or the sometimes awkward technique of writing the definition as a single sentence, it was the social context which largely defined the tenor of the controversy.

Gove followed in the belief of nearly every successful lexicographer before him—including Trench (Morton, 1994, p. 7) and Chambers (Hitchens, 2005, p. 151)—that a lexicographer is not a critic, but a historian. On this note even Webster thought that the lexicographer had no concern “with the use of words in writing” (as cited in Morton, 1994, p. 205). So, in order to make room for the vastly improved definitions and etymologies (benefiting from 6 million citation files, four times that of the 1934 edition) Gove economized on space. Therefore, he eliminated biographical, geographical, and other encyclopedic material. He reduced usage labels (e.g. “slang”) in favor of illustrative examples from which the readers could perceive the appropriate word sense for themselves (p. 136). Furthermore, he included more contemporary citation sources and in an effort to eliminate “editorial lauds and sneers” he pushed his editors to be less subjective: the “wood duck” would no longer be considered handsome. (The editor in charge of wines strenuously objected to this policy.)

My reading of Morton, and one I think is relevant to Wikipedia as well, is that critics were alarmed at the social change occurring around them and attacked *Webster’s Third* as an exemplar and proxy. Wilson Follet, an authority on word

usage, published an article in *Atlantic* entitled “Sabotage in Springfield” wherein he described the *Third* as “a scandal and disaster” (as cited in Morton, 1994, p. 187). Other critics warned their readers away from the *Third*, or at least to keep the previous *Second* edition close at hand. In fact, an exhortation I encountered as a schoolboy of “ain’t ain’t a word” was a prominent topic of national debate after the *Third*’s publication.

Yet, as Morton details, while some of these criticisms resulted from Merriam’s ill-considered press materials proclaiming it to be “truth,” “unquestionable fact,” (p. 116) and the “supreme authority” (p. 168), much of the reaction was also predicated on ignorance and a reaction against “the so-called permissiveness of American culture in the 1960s” (p. 162). Consider that the word “ain’t” appeared in the hollowed *Second* edition, and had, in fact, appeared in Webster dictionaries since 1890. Furthermore, “ain’t” as a contraction of “have not” was labeled by the *Third* as substandard. “Ain’t” as a contraction of “are not”, “is not”, and “am not” was qualified as being “disapproved by many and more common in less educated speech, used orally in most parts of the US by many cultivated speakers esp. in the phrase ain’t I” (Gove, 1961, p. 45). This caveat reflects why the editors, on the basis of their extensive citation files, considered the dictionary to be a descriptive authority of contemporary usage.

Furthermore, despite objections about the abandonment of cherished authors in favor of contemporary literature, the Bible and Shakespeare continued to be dominant sources. (As evidence that cultural tastes change, and that lexicographers have long criticized the morality of each others’ sources, the American Noah Webster loathed Samuel Johnson’s dictionary for its “injudicious” reliance on Shakespeare with his “low scenes and vulgar characters” (as cited in Hitchens, 2005, p. 245), though this did not stop Webster from plagiarizing many of Johnson’s definitions (Reed Jr., 1962, p. 96).)

One of the most august and harshest critics of the *Third*, Jacques Barzun, thought it extraordinary, and worth bragging about, that for the first time in his experience the editorial board of the distinguished *American Scholar* was able to unanimously condemn a work and know where each board member “stood on the issue that the work presented to the public,” even though “none of those present had given the new dictionary more than a casual glance” (as cited in Morton, 1994, p. 241). Morton aptly captures the irony:

It is perplexing that Barzun did not see that his statement invited an entirely contrary interpretation—that it is equally “remarkable” for a board of scholars to decide on an unprecedented declaration of principle without examining the contents of the work they decried and without debating contrary views. They acted solely on the basis of what the dictionary’s critics had written, much of which had been attacked as demonstrably wrong in its facts (p. 241).

As further evidence that a reference work’s social polarity is as much a matter of interpretation as its compilers’ intentions, critics mistook the *Second* as naturally conservative, but only because they were looking back themselves. Just like the *Third*, when the *Second* was published its editors thought it to be current with contemporary usage and employing recent advances in etymology and lexicography.

The effect of the larger cultural context on the *Third*’s reception is further indicated by the British reviews which were respectful and generally positive with differences of judgment, such as the definition style, simply noted. Indeed, aside from such differences, the only cultural criticism that still seems sound was the concern over the usage label “usually taken to be offensive” since it places the responsibility for offense on the victim of the statement, rather than its issuer. Consequently, one might have thought that this was all no more than a tempest in a teapot, except if one considers that the teapot was afloat in a much larger and stormy sea of social unease.

Wikipedia Criticism

Before returning to the main argument of this chapter—that reference works can embody and provoke larger social anxieties—it is worthwhile to delve a bit further into the types of criticisms Wikipedia faces. Not surprising, though worth a chuckle nonetheless, one of the most informative resources on the question is the Wikipedia article “Criticism of Wikipedia” (Wikipedia, 2007ad). It contains the following dozen or so subheadings:

Criticism of the concept: the wiki model, usefulness as a reference, . . . , suitability as an encyclopedia, anti-elitism as a weakness, systemic bias in coverage, systemic bias in perspective, difficulty of fact-checking, use of dubious sources, exposure to vandals, exposure to political operatives and advocates, prediction of failure, privacy concerns, quality concerns, threat to traditional publishers, “waffling” prose and “antiquarianism,” anonymous editing, copyright issues, the “hive mind”

Criticism of the contributors: flame wars, fanatics and special interests, censorship, abuse of power, level of debate, male domination, community, EssJay and the lack of credential verification, humorous criticism (Wikipedia, 2007ad).

Those are substantive concerns raised about Wikipedia, and each interesting in their own way, many of which are responded to elsewhere (Wikipedia, 2007bn), but for the purposes of delimiting the scope of this chapter I want to characterize Wikipedia criticisms by way of their sources. Granted, this is my own analytical categorization to which some might object, but I still believe it is a useful and necessary distinction, as I explain shortly.

The first class of criticism I label “Wikipedia as proxy.” In this case, Wikipedia is a substitute, or representative, of an alleged “2.0” shift towards hive-like “Maoist” collective intelligence. This type of criticism is the focus of this chapter. A second class of the criticism I label “internal” for lack of a better term, and it is focused squarely upon Wikipedia itself; it often arises from actual

engagement with and frustration from Wikipedia practice. A good example of this is Larry Sanger—Wikipedia cofounder, apostate, and present day competitor. He is largely committed to the same vision and shares the same impulse and inspiration as Wikipedians, but due to historical contingency (e.g., being laid off from Bomis) and his own background he now pursues a different path. The third class of criticism I label simply as “mean-spirited.” Whereas the first two classes may contain insults and barbs, the third class of criticism includes trolls, those who enjoy the aggression and drama so easily incited in online communities, and the bitter, for whatever reason. In this case an insult is not a heated outburst or a means of sharpening one’s point, but an end in and of itself.

Again, these are my own categories and they are not necessarily exclusive. And they often share a set of events, such as prominent Wikipedia failings (e.g., the Seigenthaler article containing libelous information (Wikipedia, 2007a)) as grist for their mills. Also, despite the connotations I am not attempting to pejoratively label people, only distinguish actions. Some criticisms are warranted, and some people have been wronged by other Wikipedians or process. Yet, I find it necessary to distinguish between a broad argument about a collaborative encyclopedia (e.g., free content is killing high quality content), a specific concern (e.g., the need for a “stable” release of high quality Wikipedia articles), and harassment. Furthermore, in light of the previous historical examples, I find the distinction important because although Wikipedia behaves like some of its predecessors as a proxy for larger social issues, the field of criticism, like everything Wikipedia, is much larger. Aside from the footnote about the wine editor’s resistance to Gove’s new “objective” editorial policy, the internal culture of a reference work has never been so exposed for the world to see. And aside from the marketing of competitors and the lone campaigns of those like Joseph McCabe, few reference works and their producers have faced such fervent

scrutiny.

The Normativeness of the Reference Work

Many of the earlier reference controversies revolved around the extent to which reference works are seen as “normative,” that is in some way condoning its subject and sources.

With respect to the subjects, most lexicographers have repeatedly argued their role is that of a descriptive historian. Few, beside the French Academy, would purposely exclude commonly used words out of a desire to withhold implicit approbation. (Though some still do advocate for a strong “prescriptivist” stance in dictionaries, as David Foster Wallace (2001) does in his article “Tense Present: Democracy, English, and the Wars Over Usage.”) Encyclopedists have been more willing to associate the scope of their subject, and its treatment, with a larger social program. One reason for this difference between dictionaries and encyclopedias might simply be space. It is within the realm of a lexicographer to include every word of interest, even if it requires twenty volumes, in the case of the OED, or a magnifying lens, in the case of its compact edition. Encyclopedias, if they are to fit on one or two shelves of a library stack, must limit their scope. This then requires judgment about what should be included: what is worthwhile and appropriate to know. On the axis of material constraints then, Wikipedia is much more like paper dictionaries than encyclopedias given the near infinite number of virtual wiki pages. (Granted, Wikipedians still argue about inclusionism versus deletionism (Wikimedia, 2007a), but even a deletionist’s scope is far more permissive than even the largest print encyclopedia.)

However, traditional lexicographers and encyclopedists have been equally concerned with their sources. Claims of shoddy scholarship, accusations of

plagiarism, Shakespeare's relative standing, and lists of prominent contributors or subscribers are evidence of this. Surprisingly, in lexicographic parlance a citation demonstrating a word's etymology or sense has been referred to as an "authority" (see Reed Jr., 1962). In this concern about sources, Wikipedia is like its predecessors in that a key source of whatever authority it may have is dependent upon its "Verifiability" policy (Wikipedia, 2006af) which requires reputable sources.

Finally, another probable reason reference works are thought to be in some way normative is because they came to be marketed as resources for children:

The common sales appeal the encyclopedia market was to the parents' aspirations for their children. Parents were warned they would need a set of Britannica, Americana, Collier's, or World Book in this highly competitive world if they were to hope to have their child get high enough grades to become eligible for college or career. The implication was that any parent who failed to buy an encyclopedia when a youngster was depriving a child of the opportunity of doing well in school, and, ultimately, in life. (Stockwell, 2001, p. 133)

Between 1940 and 1970 some sales techniques were so aggressive as to be outlawed and various encyclopedias were fined for violating FTC orders (Einbinder 1964, pp. 323-325; Stockwell 2001, pp. 133-134). Yet, despite the scholarly intentions of their compilers, the marketing departments of reference work publishers convincingly made their pitch and the public came to see encyclopedias as an authoritative source for instruction so that, "when children go to their parents for help they will, as often as not, be directed to the encyclopedia shelf" (Stockwell, 2001, p. 134). This issue is reflected today in common arguments about to what extent is Wikipedia age appropriate or "child safe." The English Wikipedia has generally resisted content discrimination on the basis of anything other than informative content, though how to deal with potentially offensive subjects are discussed (e.g., pedophilia and hate speech).

The community addresses concerns about age appropriateness partly through the provision of a Simple English Wikipedia for use in schools (Wikipedia, 2006ae).

Other wiki-based projects face a similar issue. The very handy WikiHow provides accessible information on how to do various tasks yourself; yet, just because a page describes how to do something, does that mean one should do it? (An article about how to do something, on WikiHow, rather than about something, on Wikipedia, seems to have even a greater normative implication.) WikiHow makes no claim that every article is an endorsement, but it also avoids content that would be considered “inappropriate for our family audience” (Anonymous et al., 2007), a threshold the larger Wikipedia does not accommodate.

Web 2.0

Though I am hesitant to use the term, “Web 2.0” is unavoidable in a discussion about Wikipedia criticism. Its coinage is attributed to a conversation about the naming of a conference to discuss the reemergence of online commerce after the collapse of the ’90s “Internet bubble.” Tim O’Reilly, technology publisher and “2.0” proponent, writes:

Web 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them. (This is what I’ve elsewhere called “harnessing collective intelligence.”) (O’Reilly, 2006)

One difficulty of this term is that many of the intentions, if not technologies, claimed by Web 2.0 were present before the “2.0” shift, often dated as beginning with the 2004 O’Reilly Media Web 2.0 Conference. As noted in chapter 2, the Web was originally “user editable” though this was largely forgotten once

“browsers” became predominant. Furthermore, as described in the “Web 2.0” Wikipedia (2007as) article many of the sites associated with “2.0” like Google and Amazon, preceded the term by years. Ward Cunningham launched his wiki in 1995! O’Reilly admits this when he writes, “Ironically, Tim Berners-Lee’s original Web 1.0 is one of the most ‘Web 2.0’ systems out there—it completely harnesses the power of user contribution, collective intelligence, and network effects. It was Web 1.5, the dotcom bubble, in which people tried to make the web into something else, that fought the internet, and lost” (O’Reilly, 2006).

Yet, honestly, O’Reilly’s confession confuses me as much as elucidates and so I’m forced to agree with Robert McHenry, former editor-in-chief of *Encyclopædia Britannica*, when he argues Web 2.0 is a marketing term and a shorthand “for complexes of ideas, feelings, events, and memories” that can mislead us, much like the term “the 60s” (McHenry, 2007). To be fair, and following McHenry, any periodization and label is problematic. (The label of “modern” can be equally frustrating, as we shall see.) Ironically, the criticism of the term and its exemplars, prompting the many attempts to define it (Graham, 2005; O’Reilly, 2005; Krupp, 2006), has given more substance to the notion of Web 2.0 than it might have enjoyed otherwise. Or perhaps rather than being ironic, this is an appropriate affirmation of the satirist Stephen Colbert’s “Wikiality” (Wikiality, 2006) in which the “truthiness” of a statement is determined by mass opinion. (Colbert is not the first journalist to brag of his influence on a reference work, Herb Caen of the San Francisco Chronicle took credit for the appearance of “beatnik” in the *Third* (Morton, 1994, p. 156).)

Fortunately, while unavoidable, for my purposes I can substantiate the notion of “Web 2.0” by focusing on user generated content. This seems to be the most important feature of “2.0,” one represented by Craigslist postings, Amazon book reviews, blog entries, and Wikipedia articles. This aspect is what

Wikipedia's collaborative culture facilitates, what the critics lament, and is the continuation of the long-lasting debate over reference works.

Wikipedia's Critics

In this chapter, so far, I've reviewed the role of reference works in larger social debates: sometimes purposely conservative or progressive and sometimes accidentally triggering a larger social anxiety. I've also introduced "Web 2.0," an often confusing and contentious term, and highlighted the more comprehensible notion of user generated content. What objections could anyone raise over such a thing? Quite a lot actually. In the following sections I engage criticism of Wikipedia, and Web 2.0 more generally, via four themes present throughout this work: collaborative practice, universal vision, encyclopedic impulse, and technological inspiration. In short, a caricature of the criticism that I will be addressing is that the fanatical mob producing Wikipedia exhibits little wisdom and is more like Maoist army of monkeys banging away on the keyboards and thumb pads of their gadgets, disturbing the noble repose of scholars and displacing high-quality content from the marketplace. Though I am personally sympathetic towards Wikipedia, my intention is not to argue for or against Wikipedia supporters or critics but to identify the larger social issues associated with the Wikipedia debate.

Collaborative Practice

I find that in many conflicts misunderstandings are as common, if not more so, than genuine differences. There are elements to this in the arguments about Wikipedia, particularly over the way it is produced. As seen in chapter 3

even describing how knowledge is constituted can be difficult, but I identified three ways for how we might think of knowledge production throughout history. First, we must admit that the hermit's encyclopedia, devoid of all contact with the words of others, would be of little use. Even the monastic scribe copying the parchment, and introducing some changes no doubt, is engaged in some degree of sociality. I describe this interaction at a distance, in time or geography, as a type of stigmergy, like a wasp building upon existing honeycomb structure, or a person standing on the shoulders of predecessors. Second, the production of a reference work eventually exceeded the capability of any one person. What I call corporate production includes the interaction of financiers and subscribers, and of contributors and editors working within some, even if loose, form of social organization. Finally, there is Wikipedia and other open content. In earlier chapters I explore how these communities, supported by collaborative culture, produce content. It is on this point that there is much argument, and, I think, some misunderstanding. The central concern seems to be how we can conceive of our humanity in working together, and its implications. (If this sounds confusing or overly grand, bear with me!) I'll begin with two related buzzwords: the hive-mind and collective intelligence.

A hot topic of the 1990s was chaos and complexity theory; Kevin Kelly (1995), former editor-in-chief of *Wired*, published a popular book on the topic entitled *Out of Control: The New Biology of Machines, Social Systems, and the Economic World*. Kelly popularized a burgeoning understanding of how order can emerge from seeming chaos: how the beautiful midair choreography of a flock of birds arises when many individuals follow very simple rules of interaction. This "new biology" was mostly gleaned from and applied to the natural world, but Kelly also posited it as a theory in understanding social organization and intelligence via the notion of the "hive mind." This notion would persist even

into the new millennium when a number of new media related phenomenon arose demanding explanation. In 2002 Howard Rheingold, who had previously authored a seminal and popular treatment of virtual communities, published *Smart Mobs: The Next Social Revolution*. In the latter book Rheingold (2002) argues for new forms of emergent social interaction resulting from mobile telephones, pervasive computing, location based services, and wearable computers. Two years later, James Surowiecki (2004) made a similar argument, but instead of focusing on the particular novelty of technological trends, he engaged more directly the social science of group behavior and decision-making. In *The Wisdom of Crowds* Surowiecki argued that groups of people can make very good decisions when there is diversity, independence, decentralization and appropriate aggregation within the group. This works well for problems of cognition (where there is a single answer) and coordination (where an optimal group solution arises from individual self-interest, but requires feedback), but less so for cooperation (where an optimal group solution requires trust and group orientation, i.e., social structure/culture). Surowiecki supported his argument with case studies in traffic, science, committees, companies, markets and democracy.

None of these authors engage the case of Wikipedia, which was just beginning to receive significant press coverage at the time. But since then, plenty of people have asked two questions: are these theories on group dynamics applicable to understanding Wikipedia's apparent success, and if so, was it a good thing?

But let's begin with the latter question first: many Wikipedia critics think the collective intelligence model might be applicable, and are repulsed by the process and the result. Michael Gorman, the acerbic librarian encountered at the beginning of this chapter, wrote that "This 'wisdom of the crowds' and 'hive mind' mentality is a direct assault on the tradition of individualism in scholarship

that has been paramount in Western societies. . . .” (Gorman, 2007e). Furthermore, whereas this enthusiasm may be nothing more than easily dismissible “technophilic rambling,” “there is something very troubling about the bleak, dehumanizing vision it embodies ‘this monster brought forth by the sleep of reason’” (Gorman, 2007e). In a widely read and discussed essay entitled “Digital Maoism: The Hazards of the New Online Collectivism”, Jaron Lanier, computer scientist and author, conceded that decentralized production can be effective at a few limited tasks, but that we must also police mediocre and malicious contributions. Furthermore, the greatest problem was that the “hive mind” leads to a loss of individuality and uniqueness:

The beauty of the Internet is that it connects people. The value is in the other people. If we start to believe the Internet itself is an entity that has something to say, we’re devaluing those people and making ourselves into idiots. (Lanier, 2006)

Andrew Keen, ’90s Internet entrepreneur turned Web 2.0 contrarian, likened the process to “the blind leading the blind—infinite monkeys providing infinite information for its readers, perpetuating the cycle of misinformation and ignorance” (Keen, 2007, p. 4).

Yet, the former question of whether this model is actually relevant to Wikipedia is disputed by many, including prominent Wikipedians. In May of 2005 Wikipedian Alex Krupp introduced Surowiecki to the wikipedia-l list via a message entitled “Wikipedia, Emergence, and The Wisdom of Crowds”:

I think all Wikipedians would enjoy the book The basic premise is that crowds of relatively ignorant individuals make better decisions than small groups of experts. I’m sure everyone here agrees with this as Wikipedia is run this way. (Krupp, 2005)

Jimmy Wales was quick to respond that he did not agree:

It’s probably interesting to note that a central theme when I give public talks is precisely that Wikipedia is not run this way, and

that wikipedia is not an instance of “The Wisdom of Crowds”. That’s not to say that there isn’t a lot to the notions of how a group collaboration can improve on what an individual can do. My point is just that Wikipedia functions a lot more like a traditional organization than most people realize—it’s a community of thoughtful people who know each other, not a colony of ants. (Wales, 2005i)

Another Wikipedian expressed a similar sentiment based on his interactions:

The idea that Wikipedia is basically a core group of dedicated editors collaborating and reasoning together to build an encyclopedia, is very appealing to me. I used to think it was exactly right. And since most feedback I get or give on-wiki (including the bulk of policy and meta-discussions) involve dedicated editors, it is hard to recognize the effect, if any, of “swarm intelligence” on the project’s development. (Sj, 2005)

I participated in the thread myself, hoping to move beyond the label of “swarm” towards why the theory might be relevant to Wikipedia: “it requires three specific conditions: diversity, independence, and decentralization within the group. This seems very appropriate to WP” (Reagle, 2005c). In particular, these conditions might augment other theorists’ explanations of “commons based peer production”:

If the asynchronous and bite-sized character of Open contributions contribute to their success (Benkler “fine-grained”, Sproull “micro-contributions”), is that all? What **kind** of micro-contributions are necessary? **If** the contributions are crap, if they aren’t coming from diverse participants (e.g., not “group think”), independent (e.g., not “herding”), and decentralized and filtered/aggregated well (e.g., not “US intelligence” ;)) then they might be useful. (Reagle, 2005d)

However, even the premise of my point was disputed: what role did diverse, sometimes anonymous, fine-grained micro-contributions play in Wikipedia production? Yochai Benkler (2002) and Lee Sproull (2003) were among the first

to argue that such contributions were possible and common in online communities, but, while present, how important was this for Wikipedia production? Ward Cunningham (2005) had identified openness and incrementalism as key design principles of the wiki, but others focused on the fact that a relatively tight-knit minority did the majority of the work, often explained by way of theories of the long tail, Pareto's Distribution, Zipf's Law or the 80/20 Rule (Anderson, 2006). Yet others focused on the power of "mass collaboration" (Tapscott and Williams, 2006). Oddly, two seemingly contrary popular theories were being used to explain Wikipedia at the same time: is the crowd or the elite doing a majority of the work? Wales preferred the latter argument, concluding from his admittedly quick and "amateurish" research in December of 2005 that "half the edits by logged in users belong to just 2.5% of logged in users" (Wales, 2005h). Yet this has been challenged and the question of contributors, the types of contribution, and even whether these have changed over stages of Wikipedia's development continues to be an active area of research and discussion. (I briefly review some of the research on this not yet settled question at the end of chapter 3.) In any case, the important point was that Wikipedians typically rejected any characterization of Wikipedia as some sort of smart mob:

I should point out that I like Surweicki's thesis just fine, it's just that I'm not convinced that "swarm intelligence" is very helpful in understanding how Wikipedia works—in fact, it might be an impediment, because it leads us away from thinking about how the community interacts in a process of reasoned discourse. (Wales, 2005j)

Of course, as is evident with my concern with Wikipedia community and culture in earlier chapters, "I whole heartedly agree with Jimbo that any posited explanation that fails to account for the dynamics and culture of good-willed interaction has got it wrong. So in that sense, Surowieki is (perhaps) necessary but (certainly) not sufficient" (Reagle, 2005e). Yet, despite an admittedly incomplete

understanding and Wales' public attempts to disclaim Wikipedia as a "hive-mind" the accusation continues to be raised. In September 2006 an otherwise informative article entitled "The Hive: Can Thousands of Wikipedians Be Wrong?" (Poe, 2006) appeared in *The Atlantic Monthly*. In his 2006 "Digital Maoism" essay, Lanier (2006) recast the claim of the hive as implying inevitable incremental improvement: "A core belief of the wiki world is that whatever problems exist in the wiki will be incrementally corrected as the process unfolds." Wales responded that this was unfounded:

... this alleged 'core belief' is not one which is held by me, nor as far as I know, by any important or prominent Wikipedians. Nor do we have any particular faith in collectives or collectivism as a mode of writing. Authoring at Wikipedia, as everywhere, is done by individuals exercising the judgment of their own minds. (Wales, 2006a)

Yochai Benkler, law professor and seminal theorist of "commons-based peer production" also responded: "Wikipedia is not faceless, by and large. Its participants develop, mostly, persistent identities (even if not by real name) and communities around the definitions" (Benkler, 2006a). Addressing the question of collectivism and the implication of rosy utopianism, Clay Shirky, a theorist of social software, noted "Wikipedia is the product not of collectivism but of unending argumentation; the corpus grows not from harmonious thought but from constant scrutiny and emendation" (Shirky, 2007b, p. 3).

Contrary to the allegations of critics, Wikipedia supporters were arguing that wikis were both a powerful tool "that fosters and empowers responsible individual expression" (Battles, 2007), and a community of peers working within a collaborative culture. Neither of which was best described by the notion of a swarm, hive, or collective intelligence. Indeed, it seems that the actual understanding of Wikipedia supporters is not that different from Gorman's conception of an encyclopedia, Gorman claims that whereas a traditional encyclopedia is

“the product of many minds,” it is not “the product of a collective mind.” Instead, “It is an assemblage of texts that have been written by people with credentials and expertise and that have been edited, verified, and supplied with a scholarly apparatus enabling the user to locate desired knowledge” (Gorman, 2007e, p. 2).

The real question then is the extent to which access to encyclopedic production is provided to those without “credentials and expertise.”

Universal Vision

A simple summary of the universal encyclopedic vision found in chapter 2 is an aspiration of expansiveness. Otlet’s Universal Repertory and Wells’ World Brain were conceived of as furthering an increased scope in production and access. Reference work compilers would be joined by world scholars and international technocrats. Furthermore, every student might have these extensive resources at hand, in a personal, inexpensive, and portable format. This collection of intellect was hoped to yield a greater sense of mutual accord throughout the world. Nor did the repertory limit itself to text; new media and tools were accommodated and envisioned by Otlet and Bush. The universal vision persisted into the networked age becoming more modest in its hope of prompting world peace, but pushing accessibility even further. Once Project Gutenberg launched, content could be had for the cost of network access, then as access became pervasive information became free “as in beer,” and then in Stallman’s (1999) proposal for a “Universal Encyclopedia” content would be free “as in freedom:” free to be distributed and modified without restriction, other than reciprocity. In the Interpedia days it was thought that most reasonable and well educated people might contribute—how most Internet users could conceive of themselves at the time. Nupedia, too, had the potential to open up contribution, even if it was still

limited to the formally educated. And, of course, with Wikipedia most “anyone” can edit, something not even conceived of—or perhaps even approved of—by the earliest visionaries.

Wikipedia critics find this to be a cockeyed dream quickly becoming an all-too-real nightmare, likening the universal vision to failed utopias and feared dystopias. Nick Carr (2005), a journalist covering information technology, points out another’s claim that Web 2.0 could be “the successor to the human potential movement” as evidence of unhinged rapturous “revelation.” Michael Gorman (2007d) equates it with the siren song that lures sailors to shipwreck. Thomas Mann (2007), another librarian, invokes Aldous Huxley in an essay entitled “Brave New (Digital) World”—subtitled “Foolishness 2.0”—and compares the vision of user generated content to naïve French and Marxist revolutionaries. He argues we would be better served emulating the pragmatic authors of the *Federalist Papers*, cognizant of the pathologies that infect social organisms, rather than celebrating the unproven presumption that technology can cure all.

In this case, the larger anxiety that Wikipedia has triggered is clear and like that of its predecessors: authority. Much as the *Encyclopédie* challenged the authority of church and state and recognized the merit of the ordinary artisan, or that the *Third* reflected larger social changes manifested in every day speech, Wikipedia is said to favor mediocrity over expertise. Or from Andrew Keen’s (2007) perspective, Wikipedia elevates the “cult of the amateur” at the expense of the professional.

The implication of this shift towards user generated content and niche markets is contested. Or, it is not so much that different authors envision different futures, but viscerally react to that same future differently. (However, we should remember that all those characteristics now associated with print—its “fixity,” authority, and credibility—cannot be taken for granted and their establishment

took some time to develop as a “matter of convention and trust, of culture and practice” (Johns, 2001, p. 633).) The popular *InstaPundit* blogger Glenn Reynolds’ (2006) argument is captured within the title of his book: *An Army of Davids: How Markets and Technology Empower Ordinary People to Beat Big Media, Big Government, and Other Goliaths*. And Chris Anderson (2006), the current editor-in-chief of *Wired*, continuing the tradition of cheerleading technological change, finds “selling less for more” in *The Long Tail* to be the exciting future of business because retailers can now offer easy access to niche markets. However, on the flip side, Keen argues that “today’s Internet is killing our culture.” Keen begins his book by mourning the closure of Tower Records, a favorite of his in which he could peruse, in the flesh, a deep and diverse catalog of music. Independent bookstores and small record labels have also disappeared, and should rampant piracy and the flood of mediocre user generated content continue, other creative industries face the same fate. Yet, what Keen laments, Anderson happily lauds: celebrating the easy access and massive selection of Amazon (for books), Rhapsody (for music), and Netflix (for movies).

However, besides implications for the marketplace, the question of authority also invokes concerns about autonomy and liberty. Matthew Battles, a journalist and librarian, responds to critics who prefer the professional to the amateur by asking who is going to force the cat back in the bag:

Does Gorman really believe, along with Andrew Keen, that “the most poorly educated and inarticulate among us” should not use the media to “express and realize themselves”? That they should keep quiet, learn their place, and bow to such bewigged and alienating confections as “authority” and “authenticity”? Authority, after all, flows ultimately from results, not from such hierophantic trappings as degrees, editorial mastheads, and neoclassical columns. And if the underprivileged (or under-titled) among us are supposed to keep quiet, who will enforce their silence—the government? Universities and foundations? Internet service providers and media conglomerates? Are these the authorities—or

their avatars in the form of vetted, credentialed content—to whom it should be our privilege to defer? (Battles, 2007)

Shirky similarly notes the “scholars-eye view is the key to Gorman’s lament: so long as scholars are content with their culture, the inability of most people to enjoy similar access is not even a consideration” (Shirky, 2007b).

The concern about access and authority is further manifested by way of argument about two labels: modernism and Maoism. Matthew Battles, continuing his response on authority, argues that genuine “digital Maoism” emerges when users are bullied to be kept silent:

Experience, expertise, and authority do retain their power on the web. What’s evolving now are tools to discover and amplify individual expertise wherever it may emerge. Maoist collectivism is bad—but remember that Maoism is a thing enabled and enforced by authority. Similarly, digital Maoism rears its head whenever we talk about limiting the right to individual expression that, with the power of the web behind it, is creating a culture of capricious beauty and quirky, surprising utility. Digital Maoism will emerge when users are cowed by authority, when they revert to the status of mere consumer, when the ISPs and the media conglomerates reduce the web to a giant cable TV box. (Battles, 2007, p. 2)

Interestingly, critics and supporter alike recognize threads of Enlightenment/modern values inherent to contemporary knowledge work. In their own way, supporters and critics each lay claim. In June 2007 *Encyclopædia Britannica* hosted an extensive “Web 2.0 Forum” on its blog, upon which Danah Boyd, a Ph.D. student and prominent commentator on online communities, declared:

I entered the academy because I believe in knowledge production and dissemination. I am a hopeless Marxist. I want to equal the playing field; I want to help people gain access to information in the hopes that they can create knowledge that is valuable for everyone. I have lost faith in traditional organizations leading the way to mass access and am thus always on the lookout for innovative models to produce and distribute knowledge. (Boyd, 2007)

Two points are worthwhile noting about this comment. First, Boyd is comparing new knowledge production models with that of the traditional academy, something she implies some dissatisfaction with here and more pointedly elsewhere (Boyd, 2005b). Recalling Peter Burke's (2000) argument that the institutions of the university, academy, and scholarly society arose when the previous ones failed to accommodate new approaches to knowledge production and dissemination, perhaps Wikipedia stands astride another such fault. Second, Boyd self-identifies—I assume sincerely—as a Marxist, and this merits some framing. A common insult levied against those in the free culture movement is the aspersion of communism (Keen, 2006)—or socialism (Stallman, 2005a,c) and now Maoism even (Lanier, 2006). Such statements are usually received as an insult, as intended, and denied. Indeed, given the strong libertarian roots of Internet culture it is a grave mistake to accept such a generalization—Boyd is the exception to the rule. Jimmy Wales, a former futures and options trader, credits Friedrich Hayek, a famous free market thinker, with informing his understanding of collective behavior. Hayek is also the central theorist in Cass Sunstein's (2006) *Infotopia: How Many Minds Produce Knowledge*. In any case, despite red-baiting or parading, one should remember that Karl Marx was as “modern” as Adam Smith; by this I mean though their mechanisms of social action were different, each was relatively optimistic about the power of human beings to positively shape their own destiny.

The critics too, will admit to a modern streak: Mann (2007, p. 4) writes that modernism was a good thing, but presently “people’s faith in the transformative effects of gadgets” is utopian, and as Gorman points out, a siren song. Gorman himself responds:

How could I possibly be against access to the world’s knowledge?
Of course, like most sane people, I am not against it and, after more
than 40 years of working in libraries, am rather for it. I have spent

a lot of my long professional life working on aspects of the noble aim of Universal Bibliographic Control—a mechanism by which all the world’s recorded knowledge would be known, and available, to the people of the world. My sin against bloggery is that I do not believe this particular project [Google’s book scanning] will give us anything that comes anywhere near access to the world’s knowledge. (Gorman, 2005, p. 1)

Keen too, while critical of Wikipedia, refuses to cede the label of modern. In response to Wales describing himself as “very much an Enlightenment kind of guy” in a widely read article (Schiff, 2006, p. 3), Keen argues that Wales “is a counter-enlightenment guy, a wide-eyed-dramatic, seducing us with the ideal of the noble amateur” (Keen, 2007, p. 41). At this point, as is the case with “Web 2.0,” I balk. I don’t question that it is convenient to use a label commonly associated with a historical period so as to evoke a common understanding of the prominent events and related social themes. However, should we want to argue about whether something is, or is not, modern it is best if we ground that discussion with theoretical clarity and historical specificity. Otherwise, we may be speaking past each other—this is why I speak of a twentieth century universal aspiration, encyclopedic impulse, technological inspiration, and collaborative practice.

In any case, in this argument about how Wikipedia is collaboratively produced we see a larger argument about authority, its institutions, individual autonomy, as well as possible consequences for content production.

Encyclopedic Impulse

In chapter 3 I identify an encyclopedic impulse: an attraction to the tasks of perusing, summarizing, compiling, and indexing. This often accompanies the universal vision, becoming a strong motivation towards the sharing of information.

But, the impulse also has a longer history and can become a compulsion resulting in theft, hoarding, and even murder as documented in Nicholas Basbanes' (1999) history of the "gentle madness" of book collectors. From Pliny's annoyance at interruption, Thomas Cooper's resumption of his work after his wife put it to the fire, or the present day WikiAddict, some personalities are consumed by the task. Critics have taken note of this personality trait too. But whereas I am more likely to view it with amusement, critics tend to be derisive, particularly when the excessive character of the individual joins with the like-minded to become a "MeetUp" or movement. Andrew Orlowski, a journalist at *The Register*, is one of the earliest critics of Wikipedia, publishing articles documenting Wikipedia faults and otherwise deriding the project. Presumably referring to the response to his own work, Orlowski notes "criticism from outside the Wikipedia camp has been rebuffed with a ferocious blend of irrationality and vigor that's almost unprecedented in our experience: if you thought Apple, Amiga, Mozilla or OS/2 fans were er, . . . passionate, you haven't met a wiki-fiddler. For them, it's a religious crusade" (Orlowski, 2005b). Charles Arthur goes so far to argue "that Wikipedia, and so many other online activities, show all the outward characteristics of a cult" (Arthur, 2005) whose members might be labeled as, what Gorman calls, "the faithful" (Gorman2007jer1). And as already encountered, Lanier (2006) refers to Wikipedians as a Maoist collective and Wikipedia as an "online fetish site for foolish collectivism."

Here, the passions and eccentricities common to compilers throughout the centuries become a feature of the debate between supporters and critics themselves.

Technological Inspiration

Index cards, microfilm, and looseleaf binders inspired early documentalists to envision greater information access. Furthermore, these technologies had the potential to change how information was thought of and handled. Otlet's Monographic Principle, discussed in chapter 2, declared that through these new technologies one would be able to "detach what the book amalgamates, to reduce all that is complex to its elements and to devote a page [or index card] to each" (Otlet, 1990c, p. 149). (It strikes me that the incrementalism I've frequently alluded to in Wikipedia production is an instance of this principle in operation.) Similarly, his Universal Decimal Classification system would allow one to find these fragments of information easily. These notions of decomposing and rearranging information are again found in current Web 2.0 buzzword such as "tagging", "feeds" and "mash-ups," or the popular Apple slogan "rip, mix, and burn" (Bowrey and Matthew, 2005). And critics object.

Michael Gorman did not begin his career as Web 2.0 curmudgeon with a blog entry about Wikipedia, but with an opinion piece in the *Los Angeles Times*. In his first attack, prompted by the "boogie-woogie Google boys" claim that the perfect search would be like "the mind of God," Gorman lashed out at Google and its book scanning project. His concern was not so much about the possible copyright infringement of scanning and indexing books, which was the dominant focus of discussion at the time, but the type of access it provided: full text search results that allowed one to peruse a few pages on the screen.

The books in great libraries are much more than the sum of their parts. They are designed to be read sequentially and cumulatively, so that the reader gains knowledge in the reading. . . . The nub of the matter lies in the distinction between information (data, facts, images, quotes and brief texts that can be used out of context) and recorded knowledge (the cumulative exposition found in scholarly and literary texts and in popular nonfiction). When it comes to

information, a snippet from Page 142 might be useful. When it comes to recorded knowledge, a snippet from Page 142 must be understood in the light of pages 1 through 141 or the text was not worth writing and publishing in the first place. (Gorman, 2004)

Gorman's course of finding fault with anything that smelled of digital populism was set, and would eventually bring him to Wikipedia. (Ironically, I find he's now an exemplar of the successful opinion blogger: from the hip, irreverent, and controversial.)

Yet, others match Gorman's disdain for the digital with enthusiasm. Kevin Kelly, previously encountered in the hive-mind debate, resurrected the spirit of the Monographic Principle in a May 2006 *New York Times Magazine* essay entitled "The Liquid Library." Instead of index cards and microfilm, the Liquid Library is enabled by the link and the tag, maybe "two of the most important inventions of the last 50 years" (Kelly, 2006b, p. 2). Kelly noted that the ancient Library of Alexandria was evidence that the dream of having "all books, all documents, all conceptual works, in all languages" available in one place is an old one, but that "the real magic comes in the second act" (p. 1). Despite being apparently unaware the curtain was raised almost a century ago, his reprise is true to Otlet's vision:

The real magic will come in the second act, as each word in each book is cross-linked, clustered, cited, extracted, indexed, analyzed, annotated, remixed, reassembled and woven deeper into the culture than ever before. In the new world of books, every bit informs another; every page reads all the other pages. . . . At the same time, once digitized, books can be unraveled into single pages or be reduced further, into snippets of a page. These snippets will be remixed into reordered books and virtual bookshelves. (Kelly, 2006b, p. 2-3)

Gorman, probably familiar with some of the antecedents of the Liquid Library given his reference to "Universal Bibliographic Control" above and skepticism of microfilm below, considers such enthusiasm to be ill-founded: "This latest version of Google hype will no doubt join taking personal commuter

helicopters to work and carrying the Library of Congress in a briefcase on microfilm as ‘back to the future’ failures, for the simple reason that they were solutions in search of a problem” (Gorman, 2004, p. 2). Conversely, Andrew Keen fears it is a problem in the guise of a solution, *The Liquid Library*:

... is the digital equivalent of tearing out the pages of all the books in the world, shredding them line by line, and pasting them back together in infinite combinations. In his [Kelly’s] view, this results in “a web of names and a community of ideas.” In mine, it foretells the death of culture. (Keen, 2007, p. 57)

Yet, Kevin Drum, a blogger and columnist, notes that this dictum of sequentially reading the inviolate continuity of pages isn’t even the case in the “brick-and-mortar library” today: “I browse. I peek into books. I take notes from chapters here and there. A digitized library allows me to do the same thing, but with vastly greater scope and vastly greater focus” (Drum, 2004). Even in 1903 Paul Otlet felt the slavish dictates of a book’s structure were a thing of the past: “Once one read; today one refers to, checks through, skims. *Vita brevis, ars longa!* There is too much to read; the times are wrong; the trend is no longer slavishly to follow the author through the maze of a personal plan which he has outlined for himself and which in vain he attempts to impose on those who read him” (Otlet, 1990a, p. 79).

And as (un)usual as it may be for anyone to always read a book from start to finish, Gorman’s skepticism also includes an accusation inevitable to discussions about contemporary technology: hype, or “a wonderfully modern manifestation of the triumph of hope and boosterism over reality” (Gorman, 2005, p. 1). (Much as Godwin’s Law predicts an unfavorable Nazi analogy in a long discussion, arguments about technology inevitably prompt a comparison with the Luddites (Drum, 2004; Gorman, 2007c; Shirky, 2007a).) Wikipedia critics claim that technology has inspired hyperbole. In response to the Seigenthaler incident

Orlowski (2005a) wrote the resulting outrage over the libel “would have been far more muted if the Wikipedia project didn’t make such grand claims for itself.”

Nick Carr (2007) notes that what “gets my goat about Sanger, Wales, and all the other pixel-eyed apologists for the collective mediocritization of culture . . . [is that they’re] all in the business of proclaiming the dawn of a new, more perfect age of human cognition and understanding, made possible by the pulsing optical fibers of the internet.” Jaron Lanier (2006), coiner of the term “Digital Maoism” concurs: “the problem is in the way the Wikipedia has come to be regarded and used; how it’s been elevated to such importance so quickly.” Building on Lanier, Gorman speaks to the hype, and many of his other criticisms:

Digital Maoism is an unholy brew made up of the digital utopianism that hailed the Internet as the second coming of Haight-Ashbury-everyone’s tripping and it’s all free; pop sociology derived from misreading books such as James Surowiecki’s 2004 *The Wisdom of Crowds: Why the Many are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies, and Nations*; a desire to avoid individual responsibility; anti-intellectualism-the common disdain for pointy headed professors; and the corporatist “team” mentality that infests much modern management theory. (Gorman, 2007e, p. 1)

Carr (2007) continues his criticism by noting: “Whatever happens between Wikipedia and Citizendium, here’s what Wales and Sanger cannot be forgiven for: They have taken the encyclopedia out of the high school library, where it belongs, and turned it into some kind of totem of ‘human knowledge.’ Who the hell goes to an encyclopedia looking for ‘truth,’ anyway?”

Of course, one must ask to what extent has Wikipedia made “such grand claims for itself”? As I have belabored in my discussions about Neutral Point of View, Wikipedia has few, if any, pretensions to “truth.” Unlike the launching of the *Third*, there was no ill-conceived press release claiming Wikipedia to be truth incarnate. Furthermore, the encyclopedia gained its present shine of truth when

it was first sold to schools in the middle of the twentieth century. Also, we must remember Wikipedia was not started with the intention of creating a Maoistic hive intelligence. Rather, Nupedia's goal was to produce an encyclopedia that could be available to—not produced by—anyone. When the experiment of allowing anyone to edit on a complementary wiki succeeded beyond its founders' expectations, and Wikipedia was born, two things happened. First, journalists, and, later, popular press authors, seized upon its success as part of a larger theory about technological related change. For example, Don Tapscott and Anthony Williams (2006) used the wiki phenomenon to coin the title of their book *Wikinomics*; they use a brief account of Wikipedia to launch a much larger project of how businesses should learn from and adapt their strategies to new media and peer collaboration. In *Infotopia* Cass Sunstein (2006) engages the Wikipedia phenomenon more directly, and identifies some strengths of this type of group decision-making and knowledge production, but also clearly illuminates possible faults that he previously identified (Sunstein, 2003) and continue to be relevant. Wikipedia's popularity as a larger metaphor has become so popular that Jeremy Wagstaff (2005) notes that comparing something to Wikipedia is "The New Cliche": "You know something has arrived when it's used to describe a phenomenon. Or what people hope will be a phenomenon." Second, Wikipedians themselves sought to understand how the experiment turned out so well and engaged in discussions about whether those larger theories applied.

However, at the launch of Wikipedia Ward Cunningham, Larry Sanger, and Jimmy Wales all expressed some skepticism of its success as an encyclopedia (Sanger, 2005a; PeopleProjectsAndPatterns, 2007), a conversation that continued among Wikipedia supporters until at least 2005 (Boyd, 2005a; Shirky, 2005). And as evidence of early modesty, consider the following message from Sanger at the start of Wikipedia:

Suppose that, as is perfectly possible, Wikipedia continues producing articles at a rate of 1,000 per month. In seven years, it would have 84,000 articles. This is entirely possible; Everything2, which uses wiki-like software, reached 1,000,000 “nodes” recently. (Sanger, 2001a)

In September 2007, shy of its seven year anniversary, the English Wikipedia had 2 million articles (Foundation, 2007b), proving that making predictions about Wikipedia is definitely a hazard—prompting April fool’s spoofs (Wikipedia, 2007ap) and betting pools on when various million article landmarks will be reached (Wikipedia, 2007bi).

Granting that technology pundits make exaggerated claims, but not always to the extent to which the critics allege, prominent Wikipedians tend to be more moderate in their claims: in response to the Seigenthaler incident Wales cautioned that while they wanted to rival *Britannica* in quantity and quality, that goal had not yet been achieved and that it was “a work in progress” (Helm, 2005). The Wikipedia article “What It Is Not” disclaims many of the labels commonly attributed to it, including that it is not an “experiment in anarchy” (Wikipedia, 2006ag). Of the ten things you might “not know about Wikipedia”:

We do not expect you to trust us. It is in the nature of an ever-changing work like Wikipedia that, while some articles are of the highest quality of scholarship, others are admittedly complete rubbish. We are fully aware of this. We work hard to keep the ratio of the greatest to the worst as high as possible, of course, and to find helpful ways to tell you in what state an article currently is. Even at its best, Wikipedia is an encyclopedia, with all the limitations that entails. It is not a primary source. We ask you not to criticize Wikipedia indiscriminately for its content model but to use it with an informed understanding of what it is and what it isn’t. Also, as some articles may contain errors, please do not use Wikipedia to make critical decisions. (Wikipedia, 2007au)

While pundits might seize upon Wikipedia as an example of their argument of dramatic change, most Wikipedia supporters tend to express more surprise

than hyped up assuredness. In response to the Seigenthaler incident in 2005, the British newspaper *The Guardian* characterizes Wikipedia as:

... one of the wonders of the internet. . . . In theory it was a recipe for disaster, but for most of the time it worked remarkably well, reflecting the essential goodness of human nature in a supposedly cynical world and fulfilling a latent desire for people all over the world to cooperate with each other without payment. The wikipedia is now a standard source of reference for millions of people including school children doing their homework and post-graduates doing research. Inevitably, in an experiment on this scale lots of entries have turned out to be wrong, mostly without mal-intent. . . . Those who think its entries should be taken with a pinch of salt should never forget that there is still plenty of gold dust there. (Guardian, 2005)

John Quiggin (2006) notes: “Still, as Bismarck is supposed to have said ‘If you like laws and sausages, you should never watch either one being made.’ The process by which Wikipedia entries are produced is, in many cases, far from edifying: the marvel, as with democracies and markets, is that the outcomes are as good as they are.” The same sentiment carried through in many of the responses to Jaron Lanier’s “Digital Maoism” article. Yochai Benkler (2006a) notes, “Wikipedia captures the imagination not because it is so perfect, but because it is reasonably good in many cases: a proposition that would have been thought preposterous a mere half-decade ago.” Science fiction author and prominent blogger Cory Doctorow (2006) writes: “Wikipedia isn’t great because it’s like the *Britannica*. The *Britannica* is great at being authoritative, edited, expensive, and monolithic. Wikipedia is great at being free, brawling, universal, and instantaneous.” Kevin Kelly (2006a), proponent of the “hive mind” and “liquid library,” replies that Wikipedia surprises us because it takes “us much further than seems possible because it is something that is impossible in theory, and only possible in practice.”

Yet the critics don’t accept even this more moderated appreciation of

Wikipedia as surprisingly good though not perfect. Orłowski (2005b) writes such sentiments are akin to saying: “Yes it’s garbage, but it’s delivered so much faster!” In a widely read article on Wikipedia for *The New Yorker*, Stacy Schiff reports Robert McHenry, former editor-in-chief of the *Encyclopædia Britannica*, as saying “We can get the wrong answer to a question quicker than our fathers and mothers could find a pencil” (as cited in Schiff, 2006, p. 7). Carr is willing to concede a little more, but on balance still finds Wikipedia lacking:

In theory, Wikipedia is a beautiful thing - it has to be a beautiful thing if the Web is leading us to a higher consciousness. In reality, though, Wikipedia isn’t very good at all. Certainly, it’s useful - I regularly consult it to get a quick gloss on a subject. But at a factual level it’s unreliable, and the writing is often appalling. I wouldn’t depend on it as a source, and I certainly wouldn’t recommend it to a student writing a research paper. (Carr, 2005)

Furthermore, whereas Wikipedia supporters see “imperfect” as an opportunity to continue moving forward, critics view user generated content as positively harmful: “Misinformation has a negative value” (Denning et al., 2005, p. 152), and “what is free is actually costing us a fortune” (Keen, 2007, p. 27). (Perhaps this is a classical case of the glass half empty and half full.) Or, much like the enormously popular parody of an inspirational poster that declared “Every time you masturbate, God kills a kitten” (Wikipedia, 2007ae), Keen (2007, p. 29) concludes: “Every visit to Wikipedia’s free information hive means one less customer for professionally researched and edited encyclopedia such as Britannica.”

Although technology can inspire, it can cause others to despair. For some, like Gorman’s dismissal of the Library of Congress in a briefcase, the technology may inspire nothing but a “back to the future” failure. For others, like Keen, the proclaimed implications of the technology are real. Yet, whereas Anderson loves Rhapsody, the online music service, Keen has lost Tower Records, the defunct

brick-and-mortar store. Here we can observe a generality of history: change serves some better than others. On this point these arguments seem like those of any generational gap, as Gorman points out:

Perceived generational differences are another obfuscating factor in this discussion. The argument is that scholarship based on individual expertise resulting in authoritative statements is somehow passé and that today's younger people think and act differently and prefer collective to individual sources because of their immersion in a digital culture. This is both a trivial argument (as if scholarship and truth were matters of preference akin to liking the Beatles better than Nelly) and one that is demeaning to younger people (as if their minds were hopelessly blurred by their interaction with digital resources and entertainments). (Gorman, 2007e)

None-the-less, Gorman (2007a) manages to sound like an old man shaking his fist when he complains that "The fact is that today's young, as do the young in every age, need to learn from those who are older and wiser..."; Clay Shirky (2007b) summarizes Gorman's position from the perspective of the new generation: "according to Gorman, the shift to digital and network reproduction of information will fail unless it recapitulates the institutions and habits that have grown up around print." Scott McLemee (2007, p. 4), a columnist at *Inside Higher Ed*, more amusingly notes that "The tone of Gorman's remedial lecture implies that educators now devote the better part of their day to teaching students to shove pencils up their nose while Googling for pornography. I do not believe this to be the case. (It would be bad, of course, if it were.)"

Finally, some of this conflict might be characterized as "much ado about nothing." Both *Webster's Third* and Wikipedia have attracted a fair amount of punditry: claimed as proxies and hostages in larger battles, and some of the combatants argue for little other than their own self-aggrandizement. Publishing polemics and punching down straw-men can be satisfying to some, but more often than not it impairs genuine understanding of the causes and implications of

technology change.

Conclusion

In this chapter I argue that reference works can prompt and embody currents of social unease. My argument is inspired by Morton's history of *Merriam-Webster's Third*; he aptly makes the case that much of the controversy was about something other than the merits of that particular dictionary. I generalize the argument by briefly looking to the past for how reference works have been involved in a larger conservative/progressive tension, and by asking how Wikipedia might be entangled in a similar debate today.

On this point, the conversation about Wikipedia can be understood with respect to four themes found throughout this work. Clearly, the way in which content is produced has changed. It is not surprising that people question whether this type of collaboration is good, bad, or could be improved upon in any case. Furthermore, earlier I argue that Wikipedia is a successor of a universal vision of a reference work providing greater access and accord. This vision is challenged by critics as an unlikely utopia, or a dangerous dystopia. Also, how to make sense of the sometimes rancorous character of the discussion? I argue that it is important to distinguish between those that criticize Wikipedia as part of a larger issue, those who have specific concerns, and those who are simply trying to stir up trouble. In all of these cases we might understand the doggedness of some of the supporters and critics in light of an encyclopedic impulse and the longer history of bibliophilic passion. Central to the discussion is also a long debated question about technology and change. Although technology may inspire some towards a particular end, it might also disgust others and effect changes that are not welcome.

CHAPTER VIII

CONCLUSION

At Wikimania 2007, a gathering of Wikimedia contributors in Taipei, one of the free gifts received during registration was a spherical puzzle. Like any other jigsaw the pieces must be fit together, but in this case they form a globe much like the one seen near the top of every Wikipedia article. The Wikipedia logo is that of an incomplete world of characters, each piece representing a different language. In my discussion of Wikipedia collaborative culture, I use the metaphor of a puzzle to explain the ways in which “Neutral Point of View” and good faith complement each other in the collaborative production of an encyclopedia. NPOV makes it possible for the jigsaw shapes to actually be fitted together, and good faith facilitates the process—sometimes frustrating, sometimes fun—of putting them together with one’s peers.

But this metaphor of a jigsaw puzzle is even more appropriate when I think back to H. G. Wells and his *World Brain*. (This occurred to me at 5 a.m. on the last day of Wikimania as I gazed unfocused at the puzzle box sitting on the nightstand next to the bed.) Wells and others pursuing the vision of a universal encyclopedia had hoped that new technologies, be they index cards and microfilm or computer networks, might somehow address the difficult puzzle of the world’s troubles. Even if more recent visionaries aren’t quite as utopian—or perhaps naïve—as Wells and Otlet, there is a hopeful and global aspiration nonetheless.¹

¹Conversely, information historian Dave Muddiman (1998, p. 98) thinks that although Wells would’ve been fascinated with the “technological paraphernalia of our networked age,” “he would equally have cared little for its individualism, cultural relativism and a lack of respect for professionals and experts.”

In fact, the motto of the Wikimania conference was “a Globe in Accord”—and I was struck that the multilingual wore “I speak” badges enumerating the languages in which they could converse and help.

However, much as I argue “neutral” should not be understood as a description of the encyclopedia but as an aspiration and intentional stance of its contributors, one should appreciate universalism, openness, and good faith in a similar light. For example, there are inherent tensions (such as “the tyranny of structurelessness”) and practical difficulties (e.g., Wikipedia office actions) within an open content community. Similarly, if one were to read my focus on good faith (assuming the best of others, patience, civility, and humor) as implying that Wikipedia is a harmonious community of benevolent saints, one would be wrong.

If I were forced to simplify the complex life of a community, particularly an online one, by way of a single theory I would actually resort to Godwin’s Law, first observed on Usenet. We often see the world in the parochial terms of “us versus them,” and we tend to be less favorable in judging others than ourselves—and then we are amazingly adept at justifying and rationalizing our own mistakes (Tavris and Aronson, 2007). Given the lack of social context in online interactions (distant, nearly anonymous, and transitory) it should not be surprising that people often end up seeing each other as little Hitlers. This is why when Wikipedia began to experience its first serious growing pains Wales’ (2001a) called for a “culture of co-operation” unlike the “culture of conflict embodied in Usenet.” And although Wikipedia might be “dedicated to a higher good,” I agree with journalist Stacy Schiff (2006) that “It is also no more immune to human nature than any other utopian project. Pettiness, idiocy, and vulgarity are regular features of the site. Nothing about high-minded collaboration guarantees accuracy, and open editing invites abuse” (p. 1). What Wikipedia’s collaborative culture does, what any culture with positive norms like “Don’t Bite the Newcomers” or “Assume Good

Faith” can do, is dampen Godwin’s Law and call upon “the better angels of our nature” (Lincoln, 1861). I believe those pursuing the universal vision believe that while our better nature is not always present, it is at least latent. For example, in response to social arguments about “survival of the fittest” arising from Darwin’s *The Origin of Species*, Peter Kropotkin (1902), anarchist and contributor to the 1911 *Encyclopædia Britannica*, wrote “Mutual aid is as much a law of animal life as mutual struggle.” There are even times when we can surprise ourselves, such as when thousands of (previous) strangers come together to build a world encyclopedia. The question then, is how is such a thing possible? Or as Peter Kollock wrote about cooperative online efforts before Wikipedia: “For a student of social order, what needs to be explained is not the amount of conflict but the great amount of sharing and cooperation that does occur in online communities” (Kollock, 1999, p. 220).

One’s first impulse in answering the question about Wikipedia’s success is to focus on technology. Clearly, as is apparent in my history, technology has played a significant role in inspiring the vision of a universal encyclopedia. And beyond inspiration, networking technology and its related collaborative techniques (e.g., discussion lists, distributed software development and wikis) can enable openness and accessibility, furthering accountability and the socialization of newcomers (Bryant et al., 2005). Also, people can communicate asynchronously and contribute incrementally (Benkler, 2002; Sproull et al., 2004). With wikis the timing and granularity of a contribution can be as marginal as fixing a typo on a page that hasn’t been touched in months! Furthermore, in this work we’ve encountered many features more specific to wikis that further collaboration. Most wikis permit changes to be reverted so contributors can be bold in action and need not be brittle in response to the actions of others (Wikipedia, 2007bc). “Collective creation” and coordination is facilitated by wiki templates (Viegas et al., 2007).

Even the ability to temporarily lock a page can be seen as a productive feature that permits the dampening of flame wars and the enforcement of cool down periods (Wales, 2007a). Difficult issues in articles can be broken down: contentious material can be isolated and addressed elsewhere without impeding the progress of everything else; indeed, modularization in general is a powerful aid in interaction and content development.

However, by this point it shouldn't be a surprise that I think technology, while necessary, is insufficient. Plenty of projects fail despite the wiki pixie dust. This is why the question of "How is something like Wikipedia possible?" leads me to the question of "How can we understand Wikipedia's collaborative culture?" I think I share this position with many, including Larry Sanger who writes:

It is not anything magic about wiki software in particular that makes Wikipedia work as well as it does. Wikipedia's success is more due to the fact that it is strongly collaborative than that it is a wiki. Wikis and the Wikipedia model are one way to enable strong collaboration, but they are not only one way. I think that the Wikipedia community made a mistake when it decided that it's the wiki part that explained Wikipedia's success. (Sanger, 2006a, p. 4)

Perhaps a lot of the criticism against "Web 2.0," discussed earlier, relates to this issue. People seize upon wiki as a buzzword, implying they can magically transform business, government, or anything really. Some critics see this hyped rendering of technology and respond: what of individual difference and social bonds? Wikipedia supporters argue these things have been there all along. This is why a focus on community and culture are necessary to understanding Wikipedia, as Sanger notes, "while collaborative systems should be designed with the needs and values of participants in mind, I think that a certain culture or set of values, is necessary in order to make collaboration work" (Sanger, 2006a, p. 6).

Yet, should one accept my argument about the importance of culture,

some might argue my portrayal is off the mark. I've already qualified my focus on good faith as an aspiration and cultural norm rather than a description of all Wikipedia practice. (But I do think the corpus of norms and their imperfect implementation is remarkable still.) Yet some readers might claim things have changed at Wikipedia: it may have once been an encyclopedia with potential, been produced by open content community, or had a culture of good faith, but not now.

Wikipedia's status as an encyclopedia was debated from the start, even by its founders, and continues to be thought suspect by critics, particularly when a new scandal erupts as they seem to do every so often. With respect to change in the community and culture, I agree, but change is inevitable and my efforts are necessarily fixed in a particular slice of time.² Furthermore, "golden years" tend to be subjective and relative. I began this work in 2004, the same year a self-described "old-timer" mentioned he began his wiki career and the same year in which another (older old-timer) told me the project began to go downhill. Perhaps the sky is falling, I have serious concerns myself about Wikipedia's quality, community, and culture as it evolves. And just like any community Wikipedia does change. It has been relatively successful and has faced extraordinary growing pains. Almost a century ago the seminal sociologist Max Weber (1978) noted that organizations often develop towards bureaucratic forms. We shouldn't be surprised the same has happened to Wikipedia; perhaps those who are disenchanted should think of themselves as "wiki entrepreneurs," preferring the fast, familiar, and flexible environment of a small community. And, as Weber notes, "When those subject to bureaucratic control seek to

²Coincidentally, Mike Godwin (1994a; 1994b), author of Godwin's Law and the seminal "Nine Principles for Making Virtual Communities Work," joined the Wikimedia Foundation as its General Counsel and Legal Coordinator in July 2007 (Devouard, 2007); Wikipedians have expressed hope that his insight and experience with online community will help Wikipedia address some of the challenges it faces.

escape the influence of the existing bureaucratic apparatus, this is normally possible only by creating an organization of their own which is equally subject to bureaucratization” (p. 244).

In fact, I considered those who have left Wikipedia to begin anew as one of its most significant legacies. In the most extreme and unlikely case, even if the community disappeared and all that was left was a snapshot of its content, I would still consider Wikipedia to have been an amazing phenomenon. Of those, throughout history, pursuing the vision of a universal encyclopedia, Wikipedians have come the closest to its realization. Even a frozen carcass of Wikipedia content would continue to be a useful resource. And there would be dozens of projects with former Wikipedians still pursuing the vision of accessible knowledge, the joy of collaboration, and a community of good faith.

CHAPTER IX

POSTSCRIPT: METHODOLOGY

This study is primarily that of an online community. In the course of this work I read thousands of emails and Web pages, but I also read from primary sources throughout the twentieth century, I read about organizational culture, the history of the reference work, the philosophy of technology, and how to collect, organize, and make sense of all this material. In the following sections I describe those works that inspired how I approached my study of Wikipedia, the methods that informed the work, and some of the particulars of my research practice.

Aspiration and Inspiration

The aspiration and method of this work was very much influenced by Michael Sheeran's portrait of Quaker decision making in *Beyond Majority Rule: Voteless Decisions in the Religious Society Of Friends*. In the preface Sheeran writes:

Social scientists and political philosophers are invited to discover in Quakers what may be the only modern Western community in which decision-making achieved the group-centered decisions of traditional societies. . . . Finally, the author hopes Quakers themselves will find in these pages a helpful mirroring of Friends decision-making. Newcomers to Quakerism and those who find themselves in roles of leadership within the community may find in this study an outsider's understanding of the possibilities and pitfalls of the Quaker method of going beyond majority rule. (Sheeran, 1996, p. xiv)

As someone interested in consensus I did “discover” the Quaker practice through his work, and even though I’ve never participated in this community I found the understanding presented to be germane to my participation in other consensus-oriented communities such as the World Wide Web Consortium and Wikipedia. (In fact, my Consortium colleague Henry Thompson introduced me to this book.) Consequently, I had a similar goal for my study of Wikipedia: For other researchers I wanted to provide compelling arguments and theories about Wikipedia collaboration; for Wikipedians I wanted to present material with the potential to resonate with and prompt insights into Wikipedia experience. As John van Maanen (1988) writes, “the trick of ethnography is to adequately display the culture in a way that is meaningful to readers without great distortion” (p. 13).

I was also excited by Sheeran’s approach of combining history and ethnography. Sheeran argues that Quaker consensus practice today is in part a consequence of both Protestant theology and state persecution in the past. In short, Protestantism permitted individual discernment, divorced from institutional authority, which eventually led to eccentric and scandalous religious teachings (e.g., the “Ranters” and the messianic James Naylor); this then prompted government persecution (p. 8). In order to distance itself from and curb such incidents the Society shifted its focus towards communal discernment, and therefore the need for consensus practice. Similarly, the Society’s pacifism was in part a response to the persecution arising after the English Restoration: twelve leading Quakers took it upon themselves to declare Quakerism as pacifistic in 1661, and implicitly no threat to the new governing authorities (p. 15). This dual approach of history and ethnography permits one to contextualize ethnography and further the relevance of historical work. However, drawing such clear causal relationships between history and recent events would not be as straightforward in the Wikipedia case, as I discuss below.

Finally, I was struck by Sheeran's finding that different constituencies of Quakers interpret their shared events differently: some more secular members of the Society believe a successful meeting is a case of skilled facilitation and the more religious as the discernment of the will of God (p. 84). The coexistence of these differing interpretations—particularly in the context of coming to agreement—and the importance of “meaning making” in this finding intrigued me and I sought out methodologies that were sensitive to this type of human activity.

With respect to these issues of drawing a connection from the past to the present and the act of “meaning making,” I took two methodological courses that influenced this work: historical research and ethnography. The historical course had a profound influence on my work though the understanding I gained is surprisingly simple: history is more than a recounting of events, it is an argument about events and people in time. Therefore, although I felt my exploration and arrangement of Wikipedia's predecessors was interesting, it was not yet proper history until I made an argument. Given Sheeran's approach, my hope was to somehow make a connection between Wikipedia's predecessors and its present day collaborative culture. However, as is often the case with technology, the popular understanding of Wikipedia is largely divorced from the past. And I could find few direct causal connections like those that Sheeran made. And so I struggled with how I should understand its predecessors: they were not “ancestors” as I had originally conceived them, but I could argue they were part of Wikipedia's “heritage.” Although I might not find a causal connection between Wells/Otlet and Wales/Sanger, I could make arguments about a modern vision of universal access, technological inspiration, encyclopedic impulse, and collaborative practice. Similarly, in the other two historical chapters I found my way to making arguments about similarities and differences in the way content was produced then and now, and how reference works often embody and provoke

larger social anxieties.

In the ethnography course I was introduced to the theory and practice associated with this method including voice of the researcher, their position relative to the subject of study, and the relationship between theory and data. This was complemented by the theoretical and methodological components of a course I took earlier on behavioral perspectives of information systems research.

On the matter of voice, in *Tales of the Field: On Writing Ethnography* John Van Maanen identifies three main types of ethnography: the realist, confessional, and impressionist tale. In the realist tale, the veiled author recounts a dispassionate description and omnipotent interpretation of events (pp. 45-66). In the confessional tale, the author is present in the text; realistic accounts are not replaced but elaborated upon by the author from her point of view. Impressionist tales present “the doing of fieldwork rather than simply the doer or done” (p. 102). I would describe my own voice as confessional. I find it comfortable to write in the first person, and appreciate it when others present their descriptions, interpretations, and arguments as embodied claims within a particular context. The few places where I do “confess” my hesitations and qualifications (e.g., settling upon the term “universal,” difficulties with periodizations, and sympathies with Wikipedia) I hope these reflections are appropriate to the material and useful to the reader—and that they at least provide some level of transparency.

On the question of position, because of my long-standing participation in open content communities it is difficult to place myself in a particular methodological school. First, I am often (even if only marginally) a participant in these communities so I cannot take for granted the distinction between researcher and subject. I tend to consider myself a reflective practitioner that sometimes, also, becomes a researcher interested in the historical development of the community’s culture. On this note, I appreciate Donald Schön’s (1983) concern with *The*

Reflective Practitioner, particularly as it pertains to how “reflective practice takes the form of a reflective conversation with the situation” (p. 295). Even so, Schön is still focused on the dyad of the researcher and the reflective practitioner, not a researcher who is also a practitioner, or what I jokingly refer to as the “native getting a Ph.D.” in contrast to the fear of a fieldworker “going native.” On this point, I feel an affinity with Henry Jenkins in his participation in and study of fan culture:

When I write about fan culture, then, I write both as an academic (who has access to certain theories of popular culture, certain bodies of critical and ethnographic literature) and as a fan (who has access to the particular knowledge and traditions of that community). My account exists in a constant movement between these two levels of understanding which are not necessarily in conflict but also not necessarily in perfect alignment. If this account is not overtly autobiographical in that it pulls back from recounting my own experiences in favor of speaking within and about a larger community of fans, it is nevertheless deeply personal. . . . Does this color what I say about fandom? Almost certainly, which is why I’m acknowledging it at the outset. . . . Writing as a fan means as well but I feel a high degree responsibility and accountability to the group’s being discussed here. I look at my fellow fans as active collaborators in the research process. (Jenkins, 1992, pp. 5-7)

My position also complicates the relationship between theory and data. Since I often engage in some level of practice first, my approach is not strictly deductive (i.e., posing a theory prior to exposure to the community). However, it is not purely inductive either (i.e., allowing my own concepts and theories to develop solely from experience) as I have already encountered many theories as part of my, and the community’s, reflective practice. The discussion in chapter 7 of whether Wikipedia is an example of the “Wisdom of the Crowds” on the wikien-l list is a good example of this co-mingling. Nevertheless, I hope my research is “empirical enough to be credible and analytical enough to be interesting” (van Maanen, 1988, p. 29). I hope to make a convincing contribution (Golden-Biddle

and Locke, 1993) by providing an account that has authenticity, “the ability of the text to convey the vitality of everyday life encountered by the researcher in the field setting” (p. 599), plausibility, “the ability of the text to connect two worlds [of the writer and reader] that are put in play in the reading of the written account” (p. 600), and criticality, “the ability of the text to actively probe readers to reconsider there taken-for-granted ideas and beliefs” (p. 600).

And despite not following any particularly formal method, I do want to note two methodologies that were influential. Barney Glaser and Anselm Strauss (1967) advocate “grounded theory” wherein a deductive approach to research yields conceptual categories and properties that are iteratively posed and tested in the field to eventually “discover theory” (p. 27). In my research I used a mind map, a type of conceptual diagramming, to organize all of my materials and, as I struggled with my data, to make sense of it. I would often print out the material and tag each excerpt with keywords. I would then review, retag, and reorganize the materials in the mind map according to these keywords, while also revising the keyword set. To this end I conceived of this task as “theoretical sampling”: “the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges” (Glaser and Strauss, 1967, p. 45). My categories evolved, subdivided, and eventually stabilized as my work proceeded: categories emerged from the data and were “constantly being selectively reformulated by them” (p. 76). Because of my circumstances of having access to real-time conversation and their context I could then search back through e-mail archives and wiki histories for related incidents and terms. I hoped that my categories would come to “fit the data, be understood both to sociologists and to layman who are knowledgeable in the area, and make the theory usable for theoretical advance as well as for practical application” (1967, p. 76). While my

approach is not strongly comparative and I deferred from formal coding schemes common to grounded theory, this type of approach led me to posit the features of my models for an open content community, good faith culture, and authorial leadership.

The second influential methodology is Harold Garfinkel's (1967) "ethnomethodology." I expect that at this point it is clear that I am preoccupied with community discourse about itself. For example, in Sheeran's study, I was intrigued at how different Quaker constituencies viewed coming to agreement differently, or, within Wikipedia, the discussions about what it means to be open or to operate in good faith. I tend to focus upon "practical activities, practical circumstances, and practical sociological reasoning" (Garfinkel, 1967, p. 1); the important point to note here is that by "practical sociological reasoning" Garfinkel is referring to the discourse and reasoning of the actual participants themselves, not that of an external researcher. How a community makes sense of its experience is what Garfinkel refers to as the "accounting processes." As Alain Coulon (1995, p. 29) writes, ethnomethodology is "the study of the methods that members use in their daily lives that enable them to live together and to govern their social relationships, whether conflictual or harmonious," that is, how "the actor undertakes to understand his action as well as that of others" (p. 38).

Research: Time, Sites, and Tags

With respect to the scale of time in my project, I engage four different periods. The first is the immediate history of Wikipedia since the founding of its predecessor, Nupedia, in 2000. I began to follow much of this material "in real time" in 2004 when I began my research though I had used wikis before this. (The Nupedia mailing lists are no longer available on the Web, however I

have been able to recover much of them from the Internet Archive.) The second period includes like-minded digital reference works going back to Project Gutenberg in the 1970s. Then there is the “modern” period of the twentieth century including those inspired by microfilm, index cards, and loose-leaf binders. The most expansive period is that of the reference work in general, reaching back to the ancient Romans. In the first three periods I was fortunately able to use and confirm primary sources—special collections and interlibrary loans proved useful to this end. However, I do cite historical figures from secondary sources for material before the twentieth century and am further reliant upon translations (from, for example, French and Latin) into English.

In researching the immediate history of Wikipedia and the culture of the community, my research “sites” are predominantly the contemporaneous exchanges and archives of online discourse. First, there are the actual Wikipedia pages and edits to them; this includes the encyclopedic articles (e.g., “Chemistry”) as well as the “meta” pages documenting the policies and norms of Wikipedia itself (e.g., “Neutral Point of View”). Second, there is the talk/discuss page associated with each article on which conversation about the article occurs (e.g., how to reorganize or suggestions for improvements). Third, there are external Web sites such as discussion forums, news sites, and blogs. Fourth, there are mailing lists on which more abstract and/or particularly difficult issues are often discussed; wikiEN-l and wiki-l often include discussions of the administration and policy of Wikipedia. Fifth, and finally, there are the physical spaces in which the community members act.

This last site, of face-to-face interaction, is critical to me though it is not strongly represented within this work. I attended two of the international Wikimania conferences and a handful of New York gatherings. Furthermore, Wikipedia is so popular that I often found myself in discussions about Wikipedia

with random people in everyday circumstances—or overheard such discussions on an elevator or subway. Such “real life” interactions provide me with a sense of individuals’ perspectives, and the community’s priorities, culture and character that is not easily discerned from online interaction alone—my primary source. However, interviews were not a substantive portion of my methodology. I only conducted one “formal” face-to-face interview, with Jimmy Wales, so as to check my understandings on four specific points from research in the “archives.” Even so, informal discussions with others permitted me to test my understanding, to get a more genuine sense of personality, and to find pointers for additional avenues of research. But I preferred to then find documentary materials on the actual events and discussion; I expect this is because of my historical sensibilities and I’m partial to Van Maanen’s (1988, p. 3) claim that for ethnography “a culture is expressed (or constituted) only by the actions and words of its members and must be interpreted by, not given to, a field worker.” Therefore it can be said that face-to-face interactions influenced the character and direction of the work, even if it is not present on its face. (This is also the result of the media of the Wikipedia community: not every researcher has ready access to tens of thousands of documents. If I were studying the oral culture of a predominantly face-to-face community my approach would naturally be different.)

In order to manage the immense amount of materials available I developed a number of methods for capturing, organizing, and citing documents and discourse within this community. For example, I developed a small script to collect and analyze the distribution of contributions (edits) to a Wikipedia page. More importantly, with the help of the MARC e-mail archivists I was able to ensure the unique message-ID of a message cited from an e-mail list has a similarly unique and easily dereferenceable URL. I also developed modules for my “busy sponge” command line tool that permitted me to easily “bookmark,”

tag, and annotate documents into my “field notes” mind map. So, in the case of an interesting “real time” email on wikiEN-l, my email procmail filters would append a header with the unique and stable URL of that message within the MARC archive to my local copy of the email. I could then feed my tool this URL which would automatically parse the author, date, and first paragraph of non-quoted text—along with my tag and annotation—into the mind map. Or, for a given a Wikimedia page, it would do the same but also extract the specific version of the URL (because wikis change), its date, and the date when I captured it—necessary for the bibliography. (This process of parsing web pages is often referred to as “screen scraping,” which is unfortunately fragile.) Occasionally, at least at the end of every week, I would review these entries and include other salient excerpts or correct bibliographic information that was not comprehensible to my tool (e.g., most blogs and news sites). In the beginning I also wrote a summary/review of that week’s “notes.”

As of November 2007 I have over one thousand Wikipedia related primary sources in my mind map, organized into roughly fifty-nine top level categories such as: apologies, bias, collaboration, conflict, criticism, plagiarism, power, trolling, verifiability, vision, volunteer, voting, and zeitgeist. Those topics on which I spent significant time are further subdivided. So, for example, the “[good] faith” category includes the subcategories of: compassion, humor, patience, relax, wikilove, and nazis.

Finally, I have been documenting many of the issues raised here (e.g., “History v. Ethnography”) and the technical details and source code of my tools are available on my research blog (Reagle, 2007c).

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