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THE ARGUMENT ENGINE

JOSEPH REAGLE

In a *Wired* commentary by Lore Sjöberg, Wikipedia production is characterized as an ‘argument engine’ that is so powerful ‘it actually leaks out to the rest of the web, spontaneously forming meta-arguments about itself on any open message board’.¹ These arguments also leak into, and are taken up by the champions of, the print world. For example, Michael Gorman, former president of the American Library Association, uses Wikipedia as an exemplar of a dangerous ‘Web 2.0’ shift in learning. I frame such criticism of Wikipedia by way of a historical argument: Wikipedia, like other reference works before it, has triggered larger social anxieties about technological and social change. This prompts concerns about the integrity of knowledge and the sanctity of the author, and is evidence for the presence of hype, punditry, and a generational gap in the discourse about Wikipedia.²

Wars over Reference Works

Wikipedia has been the subject of much consternation and criticism. In 2004, former editor of *Britannica*, Robert McHenry, wrote, ‘The user who visits Wikipedia to learn about some subject, to confirm some matter of fact, is rather in the position of a visitor to a public restroom. It may be obviously dirty, so that he knows to exercise great care, or it may seem fairly clean, so that he may be lulled into a false sense of security. What he certainly does not know is who has used the facilities before him’.³ In 2007, Michael Gorman, former president of the American Library Association, wrote that blogs and Wikipedia were like a destructive ‘digital tsunami’ for learning. In his own blog essay entitled ‘Jabberwiki’, Gorman criticized those who contribute to, or even use, the ‘fundamentally flawed resource’ and that ‘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’.⁴ More recently, Mark Helprin, author of *Digital Barbarism*, argues that the difference between authorship and wiki contributors ‘is like the difference between a lifelong marriage and a quick sexual encounter at a bacchanal with someone whose name you never know and face you will not remember, if, indeed, you have actually seen it’.⁵

1. Lore Sjöberg, ‘The Wikipedia FAQK’, 19 April 2006, <http://www.wired.com/software/webservices/commentary/alltext/2006/04/70670>.
2. This text is an update to a presentation of material originally appearing in Joseph Reagle, *Good Faith Collaboration: The Culture of Wikipedia*, Cambridge: MIT Press, 2010.
3. Robert McHenry, ‘The Faith-Based Encyclopedia’, 15 November 2004, <http://www.techcentralstation.com/111504A.html>.
4. Michael Gorman, ‘Jabberwiki: the Educational Response, Part II’, *Britannica Blog: Web 2.0 Forum*, 26 June 2007, <http://www.britannica.com/blogs/2007/06/jabberwiki-the-educational-response-part-ii/>.
5. Mark Helprin, *Digital Barbarism: A Writer's Manifesto*, New York: Harper, 2009.

While Wikipedia critics are becoming ever more colorful in their metaphors, Wikipedia is not the only reference work to receive such scrutiny. To understand criticism about Wikipedia, especially that from Gorman, it is useful to first consider the history of reference works relative to the varied motives of producers, their mixed reception by the public, and their interpretation by scholars.

While reference works are often thought to be inherently progressive, a legacy perhaps of the famous French *Encyclopédie*, this is not always the case. Dictionaries were frequently conceived of rather conservatively. For example, when the French Academy commenced compiling a national dictionary in the 17th century, it was with the sense that the language had reached perfection and should therefore be authoritatively ‘fixed’, as if set in stone.⁶ Also, encyclopedias could be motivated by conservative ideologies. Johann Zedler wrote in his 18th century encyclopedia that ‘the purpose of the study of science... is nothing more nor less than to combat atheism, and to prove the divine nature of things’.⁷ *Britannica's* George Gleig, wrote in *Encyclopaedia Britannica's* (3rd edition) dedication that: ‘The French *Encyclopédie* has been accused, and justly accused, of having disseminated far and wide the seeds of anarchy and atheism. If the *Encyclopaedia 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’.⁸ Hence, reference works are sometimes conceived and executed with a purposefully ideological intention.

Beyond the motives of their producers, reference works sometime prompt a mixed reception. In early encyclopedias, women often merited 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;⁹ King George III ordered the 40-page article destroyed, pages and plates.¹⁰ Across the channel, one can see that even the French Royals had a complicated relationship with the *Encyclopédie*, wishing they had the reference on hand during a dinner party discussion about the composition of gunpowder and silk stockings.¹¹ Furthermore, the *Encyclopédie* was both censored by France's chief censor and allegedly protected by him, as when he warned Diderot that he had just ordered work on the encyclopedia to be confiscated.¹² Consequently, reference works are understood and discussed relative to larger social concerns.

6. Daniel Headrick, *When Information Came of Age*, Oxford: Oxford University Press, 2000, p. 145.
7. Ibid.
8. Herman Kogan, *The Great EB: the Story of the Encyclopaedia Britannica*, Chicago: University of Chicago Press, 1958.
9. Tom McArthur, *Worlds of Reference: Lexicography, Learning, and Language from the Clay Tablet to the Computer*, Cambridge, UK: Cambridge University Press, 1986, p. 107. A replication of these plates is provided in Kogan, *The Great EB*.
10. Foster Stockwell, *A History of Information Storage and Retrieval*, Jefferson, NC: Macfarlane, 2001, p. 111.
11. Ibid, p. 90.
12. Robert Darnton, *The Business of Enlightenment: A Publishing History of the Encyclopédie*, Cambridge: The Belknap Press of Harvard University, 1979, pp. 9-13.

Finally, scholars, too, have varied interpretations of reference works. Foster Stockwell argues the *Encyclopédie's* treatment of crafts was liberatory in that it helped set in motion the downfall of the royal family and the rigid class system.¹³ But Cynthia Koep argues it was an attempt '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'.¹⁴ Therefore we should understand debate about reference works to be as revealing about society as the work itself. As Harvey Einbinder writes in the introduction to his critique of *Britannica*: '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'.¹⁵ Similarly, for contemporary debate, Clay Shirky, a theorist of social software, observes: 'Arguments about whether new forms of sharing or collaboration are, on balance, good or bad reveal more about the speaker than the subject'.¹⁶

Hence, reference works cannot be assumed to have always been progressive and are in fact motivated and received with varied sentiments. The best example of this insight can be seen in Herbert Morton's fascinating *The Story of Webster's Third: Philip Gove's Controversial Dictionary and Its Critics*.¹⁷ 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 holds that progressives were seeking to shake up what conservatives held dear. Yet those working on the *Third* were not a band of revolutionaries. Unlike some other examples, there is little evidence of ideological intentions. For example, its editor, Philip Gove, made a number of editorial decisions 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, these were lexicographic decisions. It was the social context that largely defined the tenor of the controversy. For example, the appearance of the word 'ain't' was a popular target of complaint. However, 'ain't' appeared in the hollowed Second edition of 1934 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'.¹⁸ Both editions, when published, attempted to reflect contemporary discourse and the latest advances in lexicography. So, *Webster's Second* wasn't inherently conservative relative to the *Third*, only dated.

13. Stockwell, p. 89.

14. Cynthia Koep, 'Making Money: Artisans and Entrepreneurs and Diderot's Encyclope'Die', in Daniel Brewer, *Using the Encyclopédie*, Oxford: Voltaire Foundation, 2002, p. 138.

15. Harvey Einbinder, *The Myth of the Britannica*, New York: Grove Press, 1964, p. 3.

16. Clay Shirky, *Here Comes Everybody: the Power of Organizing without Organizations*, New York: Penguin Press, 2007, p. 297.

17. Herbert Charles Morton, *The Story of Webster's Third: Philip Gove's Controversial Dictionary and Its Critics*, Cambridge: Cambridge University Press, 1994.

18. Philip Gove, *Webster's Third New International Dictionary*, Unabridged, Merriam-Webster, 1961.

Consequently, to properly understand the criticism of Wikipedia below, one should appreciate that discourse about Wikipedia is as much a reflection of wider society as the intentions of those who make it.

Criticisms of Wikipedia and 'Web 2.0'

Not surprisingly, though worth a chuckle nonetheless, an informative resource on Wikipedia criticism is its own 'Criticism of Wikipedia' article. It contains the following dozen or so subheadings: Criticism of the content: Accuracy of information; Quality of the presentation; Systemic bias in coverage; Sexual content; Exposure to vandals; Privacy concerns; Criticism of the community: Jimmy Wales' role; Selection of editors; Lack of credential verification and the Essay controversy; Anonymity of editors; Editorial process; Social stratification; Plagiarism concerns.¹⁹

Those are substantive concerns raised about Wikipedia, each interesting in its own way, many of which are responded to on another page.²⁰ Also, much of the specific complaints are part of a more general criticism in which Wikipedia is posed as representative of an alleged '2.0' shift toward a hive-like 'Maoist' collective intelligence. The term Web 2.0, unavoidable in a discussion about Wikipedia, is attributed to a conversation about the naming of a conference in 2004 to discuss the reemergence of online commerce after the collapse of the 1990s 'Internet bubble'. Tim O'Reilly, technology publisher, writes that chief among Web 2.0's 'rules for success' is to: 'Build applications that harness network effects to get better the more people use them. (This is what I've elsewhere called "harnessing collective intelligence".)'²¹ However, many of the platforms claimed for Web 2.0 preceded it, including Amazon, Google, and Wikipedia. Ward Cunningham launched the first wiki in 1995! So, I'm forced to agree with Robert McHenry, former editor-in-chief of *Britannica*, that 'Web 2.0' is a marketing term and shorthand 'for complexes of ideas, feelings, events, and memories' that can mislead us, much like the term 'the 60s'.²²

Fortunately, while unavoidable, one can substantiate the notion of 'Web 2.0' by focusing on *user-generated content*. Clay Shirky, in *Here Comes Everybody*, argues we are moving from a model of 'filter then publish' toward 'publish then filter'; filtering before was by publishers, today it is by one's peers.²³ This seems to be the most important feature of '2.0', one represented by Craigslist postings, Amazon book reviews, blog entries, and Wikipedia articles.

19. Wikipedia contributors, 'Criticism of Wikipedia', <http://en.wikipedia.org/?oldid=393467654>, accessed 28 October 2010.

20. Wikipedia contributors, 'Wikipedia: Replies to Common Objections', <http://en.wikipedia.org/?oldid=382875311>, accessed 4 September 2010.

21. Tim O'Reilly, 'Web 2.0 Compact Definition: Trying Again', O'Reilly Radar, 10 December 2006, <http://radar.oreilly.com/archives/2006/12/web-20-compact.html>; see Paul Graham, 'Web 2.0', <http://paulgraham.com/web20.html>; Alex Krupp, 'The Four Webs: Web 2.0, Digital Identity, and the Future of Human Interaction', <http://www.alexkrupp.com/fourwebs.html>.

22. Robert McHenry, 'Web 2.0: Hope or Hype?', Britannica Blog: Web 2.0 Forum, 25 June 2007, <http://www.britannica.com/blogs/2007/06/web-20-hope-or-hype/>.

23. Shirky, *Here Comes Everybody*.

The production of content by Shirky's 'everybody' or Wikipedia's 'anyone' is what Wikipedia's collaborative culture facilitates and what its critics lament, particularly with respect to how we conceive of knowledge and ourselves.

The Integrity of Knowledge

Index cards, microfilm, and loose-leaf binders inspired documentalists of the early 20th century to envision greater information access. Furthermore, these technologies had the potential to change how information was thought of and handled. Belgian documentalist Paul Otlet's *monographic principle* recognized that with technology 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'.²⁴ (The incrementalism frequently alluded to in Wikipedia production is perhaps an instance of this principle in operation.) Similarly, Otlet's 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 buzzwords such as 'tagging', 'feeds', and 'mash-ups', or the popular Apple slogan 'rip, mix, and burn'.²⁵ And critics object.

Larry Sanger, Wikipedia co-founder and present-day apostate, is still appreciative of open contribution but laments that we have failed to integrate it with expert guidance. In an article entitled 'Individual Knowledge in the Internet Age', Sanger responds to three common strands of current thought about education and the internet: that memorization is no longer important, group learning is superior to outmoded individual learning, and co-constructed knowledge by members of the group is superior to lengthy and complex books. Sanger critiques these claims and argues for a traditional liberal arts education: a good education is acquired by becoming acquainted with original sources, classic works, and reading increasingly difficult and important books.²⁶ Otherwise, Sanger fears that:

in the place of a creative society with a reasonably deep well of liberally educated critical thinkers, we will have a society of drones, encultured by hive minds, who were able to work together online but who are largely innocent of the texts and habits of study that encourage deep and independent thought. We will be bound by the prejudices of our 'digital tribe', ripe for manipulation by whoever has the firmest grip on our dialogue.²⁷

Michael Gorman did not launch his career as a Web 2.0 curmudgeon with a blog entry about Wikipedia; he began with an opinion piece in the *Los Angeles Times*. In his first attack,

24. Paul Otlet, 'Transformations in the Bibliographical Apparatus of the Sciences', in W. Boyd Rayward, *International Organization and Dissemination of Knowledge: Selected Essays of Paul Otlet*, Amsterdam: Elsevier, 1990, p. 149.

25. Kathy Bowrey and Matthew Rimmer, 'Rip, Mix, Burn: The Politics of Peer to Peer and Copyright Law', *First Monday* (July 2005), <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1456/1371>.

26. Larry Sanger, 'Individual Knowledge in the Internet', *Educause Review* (March 2010): 14-24, <http://www.educause.edu/EDUCAUSE+Review/EDUCAUSEReviewMagazineVolume45/IndividualKnowledgeintheIntern/202336>.

27. Ibid, p. 23.

prompted by the 'boogie-woogie Google boys' claim that the perfect search would be like 'the mind of God', Gorman lashes 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. Gorman objects to full-text search results that permit 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.²⁸

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

Yet others counter Gorman's disdain for the digital. Kevin Kelly, technology proponent and founding editor of *Wired*, resurrected the spirit of the *monographic principle* in a May 2006 *New York Times Magazine* essay about the 'liquid version' of books. 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'.²⁹ 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; now it might finally be realized. Despite being unaware that 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.³⁰

It's not hard to see Wikipedia as a 'reordered book' of reconstituted knowledge. Gorman, probably familiar with some of the antecedents of the liquid library given his skepticism of microfilm, considers such enthusiasm to be ill founded: 'This latest version of Google hype

28. Michael Gorman, 'Google and God's Mind: the Problem Is, Information Isn't Knowledge', *Los Angeles Times*, 17 December 2004.

29. Kevin Kelly, 'Scan This Book! What Will Happen to Books? Reader, Take Heart! Publisher, Be Very, Very Afraid. Internet Search Engines Will Set Them Free. A Manifesto', *The New York Times Magazine*, 14 May 2006, p. 2.

30. Ibid, p. 2-3.

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’.³¹ Conversely, author Andrew Keen fears it is a problem in the guise of a solution, claiming 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’.³²

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’.³³ As far back as 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’.³⁴ In fact, scholars have always had varied approaches to reading.³⁵ Francis Bacon (1561–1626) noted that ‘Some books are to be tasted, others to be swallowed, and some few to be chewed and digested’.³⁶ A 12th-century manuscript on ‘study and teaching’ recommended that a prudent scholar ‘hears every one freely, reads everything, and rejects no book, no person, no doctrine’, but ‘If you cannot read everything, read that which is more useful’.³⁷ Four centuries later, debates about the integrity of knowledge as mediated by technology continue.

Respect for the Individual and Author

One of the exciting activities contemporary network technology is thought to facilitate is collaboration, as seen in Howard Rheingold’s 2002 *Smart Mobs: The Next Social Revolution*.³⁸ In this book Rheingold argues for new forms of emergent social interaction resulting from

31. Gorman, ‘Google and God’s Mind’, p. 2.

32. Andrew Keen, *The Cult of the Amateur: How Today’s Internet Is Killing Our Culture*, New York: Doubleday, 2007, p. 57.

33. Kevin Drum, ‘Google and the Human Spirit: a Reply to Michael Gorman’, *Washington Monthly* (17 December 2004).

34. Paul Otlet, ‘The Science of Bibliography and Documentation’, in W. Boyd Rayward, *International Organization and Dissemination of Knowledge: Selected Essays of Paul Otlet*, Amsterdam: Elsevier, 1990, p. 79.

35. Adrian Johns, ‘The Birth of Scientific Reading’, *Nature* 409, number 287 (18 January 2001); Ann Blair, ‘Reading Strategies for Coping with Information Overload Ca. 1550-1700’, *Journal of the History of Ideas* 64, number 1 (2003): 11–28.

36. Francis Bacon, ‘Of Studies’, in Edwin A. Abbott, *Bacon’s Essays; With Introduction, Notes, and Index*, London: Longman’s, 1879, p. 189.

37. Hugh Of St. Victor, ‘The Seven Liberal Arts: on Study and Teaching (Twelfth Century)’, in James Bruce Ross and Mary Martin McLaughlin (eds), *The Portable Medieval Reader*, Penguin, 1977, pp. 584-585.

38. Howard Rheingold, *Smart Mobs: The Next Social Revolution*, Cambridge: Perseus Publishing, 2002.

mobile telephones, pervasive computing, location-based services, and wearable computers. Two years later James Surowiecki makes a similar argument, but instead of focusing on the particular novelty of technological trends, he engages more directly the social science of group behavior and decision-making.³⁹ In *The Wisdom of Crowds*, Surowiecki argues 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 or culture). Some Wikipedia critics think the collective intelligence model might be applicable, but they are repulsed by both process and result.

Gorman, the acerbic librarian mentioned earlier, writes: ‘The central idea behind Wikipedia is that it is an important part of an emerging mass movement aimed at the “democratization of knowledge” – an egalitarian cyberworld in which all voices are heard and all opinions are welcomed’.⁴⁰ However, the underlying “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’.⁴¹ 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”’. In a widely read and discussed essay entitled ‘Digital Maoism: The Hazards of the New Online Collectivism’, Jaron Lanier, computer scientist and author, concedes 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’.⁴²

Four years later, Lanier would publish a follow-up book entitled *You Are Not a Gadget: A Manifesto*. In the book he again argues that emphasizing the crowd means deemphasizing individuals and ‘when you ask people not to be people, they revert to bad mob like behaviors’.⁴³ Lanier furthermore likens discussion of crowds and collectives as a form of ‘anti-human rhetoric’ and claims ‘information is alienated expertise’.⁴⁴ Hence, Wikipedia prompts questions as to whether technologically mediated collaboration should be welcomed or lamented.

39. James Surowiecki, *The Wisdom of Crowds*, New York: Doubleday, 2004.

40. Michael Gorman, ‘Jabberwiki: the Educational Response, Part I’, *Britannica Blog: Web 2.0 Forum*, 25 June 2007, p. 4, <http://www.britannica.com/blogs/2007/06/jabberwiki-the-educational-response-part-i/>.

41. Michael Gorman, ‘Web 2.0: the Sleep of Reason, Part II’, *Britannica Blog: Web 2.0 Forum*, 12 June 2007, <http://www.britannica.com/blogs/2007/06/web-20-the-sleep-of-reason-part-ii/>.

42. Jaron Lanier, ‘Digital Maoism: the Hazards of the New Online Collectivism’, *Edge* 183, 30 May 2006, <http://www.edge.org/documents/archive/edge183.html>.

43. Jaron Lanier, *You Are Not a Gadget: A Manifesto*, New York: Alfred A. Knopf, 2010, p. 19.

44. *Ibid.*, pp. 26-29.

Hype

One of the most august and harshest critics encountered in Morton's history of *Webster's 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* unanimously condemned a work and knew where its members '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'.⁴⁵ 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.⁴⁶

One sometimes gets a similar impression of the discourse about Wikipedia today. Indeed, Michael Gorman recognizes as much at least towards those he criticizes when he notes that proponents of Web 2.0 are subject to hype, or 'a wonderfully modern manifestation of the triumph of hope and boosterism over reality'.⁴⁷

Wikipedia critics claim that technology has inspired hyperbole. In response to an infamous incident in which John Seigenthaler (rightfully) complained about fabrications in his Wikipedia biographical article, journalist Andrew Orlowski speculates that resulting controversy 'would have been far more muted if the Wikipedia project didn't make such grand claims for itself'.⁴⁸ Similarly, journalist Nick Carr writes that what 'gets my goat about Sanger, Wales, and all the other pixel-eyed apologists for the collective mediocritization of culture' is that they are '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'.⁴⁹ Jaron Lanier, 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'.⁵⁰ 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.⁵¹

Mark Helprin, in *Digital Barbarism*, likens Wikipedia to the Great Soviet Encyclopedia wherein the Kremlin sent out doctored photographs and updated pages to rewrite history: 'Revision as used by the Soviets was a tool to disorient and disempower the plasticized masses. Revision in the wikis is an inescapable attribute that eliminates the fixedness of fact. Both the Soviets and the wiki builders imagined and imagine themselves as attempting to reach the truth'.⁵² Likewise, Carr 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?'⁵³

Of course, one must ask to what extent has Wikipedia made 'such grand claims for itself?' While Wales and the Wikimedia Foundation have committed to an ambitious vision in which 'every single human being can freely share in the sum of all knowledge', no one claims this is close to realization.⁵⁴ (Though I think it is a tenable claim to argue Wikipedia has the greatest potential, or is even the closest approximation, towards this goal than any other effort in world history.) Nor does Wikipedia have few, if any, pretensions to 'truth'. As is stressed in the Verifiability policy, 'The threshold for inclusion in Wikipedia is verifiability, not truth – that is, whether readers are able to check that material added to Wikipedia has already been published by a reliable source, not whether we think it is true'.⁵⁵ Furthermore, encyclopedias gained their present shine of truth when they were first sold to schools in the middle of the twentieth century.⁵⁶ Also, we must remember Wikipedia was not started with the intention of creating a Maoistic hive intelligence. Rather, Nupedia's goal (Wikipedia's non-wiki progenitor) 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, Wikipedia was born.⁵⁷ Journalists, and, later, popular-press authors, seized upon its success as part of a larger theory about technology-related change. For example, Don Tapscott and Anthony Williams reference the wiki phenomenon in the title of

45. Jacques Barzun, 'The Scholar Cornered: What Is the Dictionary?', *The American Scholar* (Spring 1963): 176.

46. Morton, *The Story of Webster's Third*, p. 241.

47. Michael Gorman, 'Revenge of the Blog People!', *Library Journal* (15 February 2005), <http://www.libraryjournal.com/article/CA502009.html>.

48. Andrew Orlowski, 'There's No Wikipedia Entry for "Moral Responsibility"', *The Register*, 13 December 2005, http://www.theregister.co.uk/2005/12/12/wikipedia_no_responsibility/.

49. Nicholas Carr, 'Stabbing Polonius', 26 *Rough Type*, April 2007, http://www.roughtype.com/archives/2007/04/sanger_1.php.

50. Lanier, 'Digital Maoism'.

51. Gorman, 'Web 2.0'.

52. Helprin, *Digital Barbarism*, p. 65.

53. Carr, 'Stabbing Polonius'.

54. Wikimedia Foundation, 'Vision', 1 September 2007, <http://wikimediafoundation.org/wiki/Vision>.

55. Wikipedia contributors, 'Wikipedia: Verifiability', 14 November 2008, <http://en.wikipedia.org/?oldid=251829388>.

56. Stockwell, *A History of Information Storage and Retrieval*, pp. 133-134; also, see Einbinder, *The Myth of the Britannica*, pp. 323-325.

57. Joseph Reagle, 'Wikipedia: the Happy Accident', *Interactions* (New York) 16, number 3 (2009): 42-45, <http://doi.acm.org/10.1145/1516016.1516026>.

their book *Wikinomics*;⁵⁸ they use a brief account of Wikipedia to launch a much larger case of how businesses should learn from and adapt their strategies to new media and peer collaboration. In *Infotopia*, Cass Sunstein engages the Wikipedia phenomenon more directly and identifies some strengths of this type of group decision-making and knowledge production, but also illuminates potential faults.⁵⁹ Using Wikipedia as a metaphor has become so popular that Jeremy Wagstaff notes that comparing something to Wikipedia is ‘The New Cliché’: ‘You know something has arrived when it’s used to describe a phenomenon. Or what people hope will be a phenomenon’.⁶⁰

However, at the launch of Wikipedia, Ward Cunningham, Larry Sanger, and Jimmy Wales all expressed some skepticism regarding its success as an encyclopedia, a conversation that continued among Wikipedia supporters until at least 2005.⁶¹ 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’.⁶²

Some thought this was a stretch. In 2002, online journalist Peter Jacso included Wikipedia in his ‘picks and pans’ column: he ‘panned’ Wikipedia by likening it to a prank, joke, or an ‘outlet for those who pine to be a member in some community’. Jacso dismissed Wikipedia’s goal of producing 100,000 articles with the comment: ‘That’s ambition’, as this ‘tall order’ was twice the number of articles in the sixth edition of the Columbia Encyclopedia.⁶³ Yet, in September 2007, shy of its seven-year anniversary, the English Wikipedia had two million articles (over twenty times Sanger’s estimate), proving that making predictions about Wikipedia is definitely a hazard – prompting betting pools on when various million-article landmarks will be reached.⁶⁴

58. Don Tapscott and Anthony D. Williams, *Wikinomics: How Mass Collaboration Changes Everything*, New York: Portfolio, 2006.

59. Cass R. Sunstein, *Why Societies Need Dissent*, Cambridge: Harvard University Press, 2003.

60. Jeremy Wagstaff, ‘The New Cliche: “It’s the Wikipedia of...”’, *Loose Wire*, 29 September 2005, http://loosewire.typepad.com/blog/2005/09/the_new_cliche_.html.

61. Larry Sanger, ‘The Early History of Nupedia and Wikipedia: a Memoir’, 18 April 2005, <http://features slashdot.org/article.pl?sid=05/04/18/164213>; PeopleProjectsAndPatterns, ‘Wikipedia’, Cunningham & Cunningham, 2007, [http://www.c2.com/cgi/wiki?WikiPedia; danah_boyd, ‘Academia and Wikipedia’, Many-to-Many, 4 January 2005, \[http://many.corante.com/archives/2005/01/04/academia_and_wikipedia.php\]\(http://many.corante.com/archives/2005/01/04/academia_and_wikipedia.php\); Clay Shirky, ‘Wikipedia: Me on Boyd on Sanger on Wales’, Many-to-Many, 5 January 2005, \[http://many.corante.com/archives/2005/01/05/wikipedia_me_on_boyd_on_sanger_on_wales.php\]\(http://many.corante.com/archives/2005/01/05/wikipedia_me_on_boyd_on_sanger_on_wales.php\).](http://www.c2.com/cgi/wiki?WikiPedia; danah_boyd, ‘Academia and Wikipedia’, Many-to-Many, 4 January 2005, http://many.corante.com/archives/2005/01/04/academia_and_wikipedia.php; Clay Shirky, ‘Wikipedia: Me on Boyd on Sanger on Wales’, Many-to-Many, 5 January 2005, http://many.corante.com/archives/2005/01/05/wikipedia_me_on_boyd_on_sanger_on_wales.php)

62. Larry Sanger, ‘Britannica or Nupedia? The Future of Free Encyclopedias’, *Kuro5hin*, 25 July 2001, <http://www.kuro5hin.org/story/2001/7/25/103136/121>.

63. Peter Jacso, ‘Peter’s Picks & Pans’, *Online* 26 (Mar/Apr 2002): 79-83.

64. Wikimedia Foundation, ‘Wikipedia Reaches 2 Million Articles’, http://wikimediafoundation.org/wiki/Wikipedia_Reaches_2_Million_Articles, accessed 13 September 2007; Wikipedia Contributors, ‘Wikipedia: Million Pool’, <http://en.wikipedia.org/?oldid=149380521>, accessed 7 September 2007.

Granting that technology pundits make exaggerated claims (but not always to the extent that critics allege), prominent Wikipedians tend to be more moderate in their claims: in response to the Seigenthaler incident in 2005, Wales cautioned that, while they wanted to rival *Britannica* in quantity and quality, that goal had not yet been achieved and that Wikipedia was ‘a work in progress’.⁶⁵ And 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.⁶⁶

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* characterized 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.⁶⁷

Economist and author John Quiggin 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 that produces Wikipedia entries is, in many cases, far from edifying: the marvel, as with democracies and markets, is that the outcomes are as good as they are’.⁶⁸ Bill Thompson, BBC digital culture critic, wrote, ‘Wikipedia is flawed in the way Ely Cathedral is flawed, imperfect in the way a person you love is imperfect, and filled with conflict and disagreement in the way

65. Burt Helm, ‘Wikipedia: “A Work in Progress”’, *Business Week Online*, 14 December 2005, http://www.businessweek.com/technology/content/dec2005/tc20051214_441708.htm.

66. Wikipedia contributors, ‘Wikipedia: 10 Things You did Not Know about Wikipedia’, 3 September 2007, <http://en.wikipedia.org/?oldid=155431119>, accessed 7 September 2007.

67. The Guardian, ‘In Praise of ... the Wikipedia’, *The Guardian*, 9 December 2005, <http://www.guardian.co.uk/media/2005/dec/08/newmedia.comment>.

68. John Quiggin, ‘Wikipedia and Sausages’, *Out Of the Crooked Timber*, 1 March 2006, <http://crookedtimber.org/2006/03/01/wikipedia-and-sausages/>.

a good conference or an effective parliament is filled with argument'.⁶⁹ The same sentiment carried through in many of the responses to Jaron Lanier's 'Digital Maoism' article. Yochai Benkler replies, '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'.⁷⁰ Science fiction author and prominent blogger Cory Doctorow 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'.⁷¹ Kevin Kelly, proponent of the hive mind and liquid library, responds 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'.⁷²

And Wikipedia defenders are not willing to cede the quality ground altogether. On 14 December 2005, the prestigious science journal *Nature* reported the findings of a commissioned study in which subject experts reviewed forty-two articles in Wikipedia and *Britannica*; it concluded 'the average science entry in Wikipedia contained around four inaccuracies; *Britannica*, about three'.⁷³ Of course, this catered to the interests of *Nature* readers and a topical strength of Wikipedia contributors. Wikipedia may not have fared so well using a random sampling of articles or on humanities subjects. Three months later, in March 2006, *Britannica* boldly objected to the methodology and conclusions of the *Nature* study in a press release and large ads in the *New York Times* and the *London Times*. Interestingly, by this time, Wikipedia had already fixed all errors identified in the study – in fact, they were corrected within a month and three days of learning of the specific errors.⁷⁴

Yet the critics don't accept even this more moderated appreciation of Wikipedia as being imperfect but surprisingly good. Orlowski writes such sentiments are akin to saying: 'Yes it's garbage, but it's delivered so much faster!'⁷⁵ In a widely read article on Wikipedia for *The New Yorker*, Stacy Schiff reported Robert McHenry, formerly of *Britannica*, as saying, 'We can get

69. Bill Thompson, 'Wikipedia - a Flawed and Incomplete Testament to the Essential Fallibility of Human Nature', BBC - Digital Revolution Blog, 23 July 2009, <http://www.bbc.co.uk/blogs/digitalrevolution/2009/07/wikipedia.shtml>.

70. Yochai Benkler, 'On "Digital Maoism"', Edge, 30 May 2006, http://www.edge.org/discourse/digital_maoism.html

71. Cory Doctorow, 'On "Digital Maoism"', Edge, 30 May 2006, http://www.edge.org/discourse/digital_maoism.html.

72. Kevin Kelly, 'On "Digital Maoism"', Edge, 30 May 2006, http://www.edge.org/discourse/digital_maoism.html.

73. Jim Giles, 'Internet Encyclopaedias Go Head to Head', *Nature*, 14 December 2005, <http://www.nature.com/nature/journal/v438/n7070/full/438900a.html>.

74. Nate Anderson, 'Britannica Attacks Nature in Newspaper Ads', *Ars Technica*, 5 April 2006, <http://arstechnica.com/news.ars/post/20060405-6530.html>; Wikipedia, 'Wikipedia:External Peer Review/Nature December 2005/Errors', 9 February, 2006, <http://en.wikipedia.org/?oldid=38886868> accessed 6 April 2006.

75. Andrew Orlowski, 'Wikipedia Founder Admits to Serious Quality Problems', *The Register*, 18 October, 2005, http://www.theregister.co.uk/2005/10/18/wikipedia_quality_problem/.

the wrong answer to a question quicker than our fathers and mothers could find a pencil'.⁷⁶ 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.⁷⁷

Furthermore, whereas Wikipedia supporters see 'imperfect' as an opportunity to continue moving forward, critics view user-generated content as positively harmful: that 'misinformation has a negative value', or that 'what is free is actually costing us a fortune'.⁷⁸ (Perhaps this is a classical case of perceiving a glass to be either half empty or half full.) Or, much like the popular parody of an inspirational poster that declared 'Every time you masturbate, God kills a kitten', Keen concludes: 'Every visit to Wikipedia's free information hive means one less customer for professionally researched and edited encyclopedia such as *Britannica*'.⁷⁹ And Carr fears that using the internet to pursue (suspect) knowledge is actually 'making us stupid'.⁸⁰

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 but a tragedy.

Generation Gap

In the arguments about Wikipedia we can observe a generality of history: change serves some better than others. 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

76. Robert McHenry, quoted in Stacy Schiff, 'Know It All: Can Wikipedia Conquer Expertise?', *The New Yorker*, 31 July 2006, p. 7, http://www.newyorker.com/archive/2006/07/31/060731fa_fact.

77. Nick Carr, 'The Amorality of Web 2.0', Rough Type, 3 October, 2005, http://www.routhtype.com/archives/2005/10/the_amorality_o.php.

78. Peter Denning et al., 'Inside Risks: Wikipedia Risks', *Communications of the ACM* 48, number 12 (2005): 152, <http://www.csl.sri.com/users/neumann/insiderisks05.html#186>; Keen, *The Cult of the Amateur*, p. 27.

79. Wikipedia contributors, 'Every Time You Masturbate... God Kills a Kitten', 11 September 2007, <http://en.wikipedia.org/?oldid=157104187>, accessed 13 September 2007; Keen, *The Cult of the Amateur*, p. 29.

80. Nick Carr, 'Is Google Making Us Stupid?', *Atlantic Monthly*, July 2008, <http://www.theatlantic.com/doc/200807/google>; a well researched and persuasive argument of detrimental media effects can be found in Mark Bauerlein, *The Dumbest Generation: How the Digital Age Is Stupefied as Young Americans and Jeopardizes Our Future: or, Don't Trust Anyone under 30*, New York: Tarcher/Penguin, 2008.

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).⁸¹

Nonetheless, Gorman 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'.⁸² Clay Shirky 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 to the institutions and habits that have grown up around print'.⁸³ Scott McLemee, a columnist at *Inside Higher Ed*, more amusingly notes: '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.)'⁸⁴ As a more trivial example of such generational rifts, in 2010 the site Ars Technica posted an article describing research that found that while some cognitive processes degenerate in old age, there are also gains in social conflict reasoning.⁸⁵ Larry Sanger, advocate for expert guidance, retweeted a comment on the article 'Older people are wiser than younger people' with his own question, 'Who'da thunk it?'⁸⁶ Jaron Lanier makes a more complex generational argument in his book *You Are Not a Gadget*, complaining that it is actually his old friends that are impeding an understanding of the changes afoot today. 'What's gone so stale with Internet culture that a batch of tired rhetoric from my old circle of friends has become sacrosanct?'⁸⁷ Considering that encyclopedias have been around for hundreds of years and computers for many decades, he notes: 'Let's suppose that back in the 1980s I had said, "In a quarter century, when the digital revolution has made great progress in computer chips or millions of times faster than they are now, humanity will finally win the prize of being able to write a new encyclopedia..." It would have sounded utterly pathetic'.⁸⁸

I believe, ultimately, 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: reference works are claimed as proxies and hostages in larger battles, and I suspect some of the com-

81. Gorman, 'Web 2.0'.

82. Gorman, 'Jabberwiki'.

83. Clay Shirky, 'Old Revolutions Good, New Revolutions Bad: a Response to Gorman', Many-to-Many, 13 June 2007, http://many.corante.com/archives/2007/06/13/old_revolutions_good_new_revolutions_bad_a_response_to_gorman.php.

84. Scott McLemee, 'Mass Culture 2.0', *Inside Higher Ed*, 20 June 2007, p. 7, <http://insidehighered.com/views/2007/06/20/mclemee>.

85. Kate Shaw, 'By Some Measures, Older Really Is Wiser', Ars Technica, 7 April 2010, <http://arstechnica.com/science/news/2010/04/by-some-measures-older-really-is-wiser.ars>.

86. Larry Sanger, 'RT @Davidkidd Older People Are Wiser Than Younger People. <http://ls.Gd/Bjbsx> Who'da Thunk It?', Twitter, 8 April 2010, <http://twitter.com/lsanger/status/11828977920>.

87. Lanier, *You Are Not a Gadget*, p. 121.

88. Ibid, pp. 121-122.

batants argue for little other than their own self-aggrandizement. When reading generational polemics I remind myself of Douglas Adams' humorous observation that everything that existed when you were born is considered normal, and you should try to make a career out of anything before your 30th birthday as it is thought to be 'incredibly exciting and creative'. Of course, anything after that is 'against the natural order of things and the beginning of the end of civilisation as we know it until it's been around for about ten years when it gradually turns out to be alright really'. Even so, with every generation we undergo a new round of 'huffing and puffing'.⁸⁹ This is because 'old stuff gets broken faster than the new stuff is put in its place', as Clay Shirky notes in a blog entry about the collapse of print journalism. Or, as hypothesized by Steve Weber in his study of open source, the stridency of critics arises because it is easier to see 'what is going away than what is struggling to be born' but that there can be a positive side to 'creative destruction' if we are sufficiently patient.⁹⁰

Conclusion

Reference works can act as 'argument engines', sometimes inheriting the conflicts of the external world they seek to document and being seized upon as exemplars and proxies in those debates. As seen in Morton's history of *Webster's Third*, much of the controversy associated with its publication was about something other than the merits of that particular dictionary. I generalize this argument by looking to the past for how reference works have been involved in a larger conservative versus 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 a long-debated question about technology and change: although technology may inspire some toward a particular end, it might also disgust others and affect changes that are not welcome. With respect to technology, I find a concern for the integrity of knowledge and the sanctity of the author, as well as the likely presence of hype, punditry, and a generational gap – if not in biological age, at least with respect to one's sentiments about technology.

89. Douglas Adams, 'How to Stop Worrying and Learn to Love the Internet', *The Sunday Times*, 29 August, 1999, <http://www.douglasadams.com/dna/19990901-00-a.html>.

90. Clay Shirky, 'Newspapers and Thinking the Unthinkable', 13 March 2009, <http://www.shirky.com/weblog/2009/03/newspapers-and-thinking-the-unthinkable/>; Steve Weber, *The Success of Open Source*, Cambridge, MA: Harvard University Press, 2004.

REFERENCES

- Adams, Douglas. 'How to Stop Worrying and Learn to Love the Internet', *The Sunday Times*, 29 August 1999. <http://www.douglasadams.com/dna/19990901-00-a.html>.
- Anderson, Nate. 'Britannica Attacks Nature in Newspaper Ads', *Ars Technica*, 5 April 2006. <http://arstechnica.com/news.ars/post/20060405-6530.html>.
- Bacon, Francis. 'Of Studies', In *Bacon's Essays; With Introduction, Notes, and Index*, edited by Edwin A. Abbott. London: Longman's, 1879. <http://books.google.com/books?id=BDYCAAAQAAJ>.
- Barzun, Jacques. 'The Scholar Cornered: What Is the Dictionary?', *The American Scholar* (Spring 1963): 176–181.
- Bauerlein, Mark. *The Dumbest Generation: How the Digital Age Is Stupefied as Young Americans and Jeopardizes Our Future: or, Don't Trust Anyone under 30*. New York: Tarcher/Penguin, 2008.
- Benkler, Yochai. 'On "Digital Maoism"', *Edge*, 30 May 2006. http://www.edge.org/discourse/digital_maoism.html.
- Blair, Ann. 'Reading Strategies for Coping with Information Overload Ca. 1550-1700', *Journal of the History of Ideas* 64, number 1 (2003): 11–28. http://muse.jhu.edu/journals/journal_of_the_history_of_ideas/v064/64.1blair.htm.
- Bowrey, Kathy, and Matthew. 'Rip, Mix, Burn', *First Monday* 7, number 8 (July 2005). http://firstmonday.org/issues/issue7_8/bowrey/.
- boyd, danah. 'Academia and Wikipedia', Many-to-Many, 4 January 2005. http://many.corante.com/archives/2005/01/04/academia_and_wikipedia.php.
- Carr, Nicholas. 'Stabbing Polonius', 26 April 2007. http://www.routhtype.com/archives/2007/04/sanger_1.php.
- Carr, Nick. 'Is Google Making Us Stupid?', *Atlantic Monthly*, July 2008. <http://www.theatlantic.com/doc/200807/google>.
- _____. 'The Amoral of Web 2.0', *Rough Type*, 3 October 2005. http://www.routhtype.com/archives/2005/10/the_amorality_o.php.
- Darnton, Robert. *The Business of Enlightenment: a Publishing History of the Encyclopédie*. Cambridge, MA: The Belknap Press of Harvard University, 1979.
- Denning, Peter, et al. 'Inside Risks: Wikipedia Risks', *Communications of the ACM* 48, number 12 (2005): 152. <http://www.csl.sri.com/users/neumann/insiderisks05.html#186>.
- Doctorow, Cory. 'On "Digital Maoism"', *Edge*, 30 May 2006. http://www.edge.org/discourse/digital_maoism.html.
- Drum, Kevin. 'Google and the Human Spirit: a Reply to Michael Gorman', *Washington Monthly*, 17 December 2004. <http://www.scils.rutgers.edu/~lesk/spring06/lis553/ala-jan05.txt>.
- Einbinder, Harvey. *The Myth of the Britannica*. New York: Grove Press, 1964.
- Giles, Jim. 'Internet Encyclopaedias Go Head to Head', *Nature*, 14 December 2005. <http://www.nature.com/nature/journal/v438/n7070/full/438900a.html>.
- Gorman, Michael. 'Google and God's Mind: the Problem Is, Information Isn't Knowledge', *Los Angeles Times*, 17 December 2004. <http://www.scils.rutgers.edu/~lesk/spring06/lis553/ala-jan05.txt>.
- _____. 'Jabberwiki: the Educational Response, Part I', *Britannica Blog: Web 2.0 Forum*, 25 June 2007. <http://www.britannica.com/blogs/2007/06/jabberwiki-the-educational-response-part-i/>.
- _____. 'Jabberwiki: the Educational Response, Part II', *Britannica Blog: Web 2.0 Forum*, 26 June 2007. <http://www.britannica.com/blogs/2007/06/jabberwiki-the-educational-response-part-ii/>.
- _____. 'Revenge of the Blog People!', *Library Journal* (15 February, 2005). <http://www.libraryjournal.com/article/CA502009.html>.
- _____. 'Web 2.0: the Sleep of Reason, Part II', 12 June 2007. <http://www.britannica.com/blogs/2007/06/web-20-the-sleep-of-reason-part-ii/>.
- Gove, Philip. *Webster's Third New International Dictionary*, Unabridged. Merriam-Webster, 1961.
- Graham, Paul. 'Web 2.0', November 2005. <http://paulgraham.com/web20.html>.
- Guardian, The. 'In Praise of ... the Wikipedia', *The Guardian*, 9 December 2005. <http://www.guardian.co.uk/media/2005/dec/08/newmedia.comment>.

- Headrick, Daniel. *When Information Came of Age*. Oxford: Oxford University Press, 2000. <http://books.google.com/books?id=XRBPvOaiQmUC>.
- Helm, Burt. 'Wikipedia: "A Work in Progress"', *Business Week Online*, 14 December 2005. http://www.businessweek.com/technology/content/dec2005/tc20051214_441708.htm.
- Helprin, Mark. *Digital Barbarism: a Writer's Manifesto*. New York: Harper, April 2009.
- Jacso, Peter. 'Peter's Picks & Pans', *Online Magazine* 26 (Mar/Apr 2002): 79–83.
- Johns, Adrian. 'The Birth of Scientific Reading', *Nature* 409, number 287 (18 January, 2001). <http://www.nature.com/nature/journal/v409/n6818/full/409287a0.html>.
- Keen, Andrew. *The Cult of the Amateur: How Today's Internet Is Killing Our Culture*. New York: Doubleday, 2007.
- Kelly, Kevin. 'On "Digital Maoism"', *Edge*, 30 May 2006. http://www.edge.org/discourse/digital_maoism.html.
- _____. 'Scan This Book! What Will Happen to Books? Reader, Take Heart! Publisher, Be Very, Very Afraid. Internet Search Engines Will Set Them Free. A Manifesto', *The New York Times Magazine*, 14 May 2006. http://www.kk.org/writings/scan_this_book.php.
- Koepp, Cynthia. 'Making Money: Artisans and Entrepreneurs and Diderot's Encyclopédie', In *Using the Encyclopédie*, edited by Julie Candler Hayes Daniel Brewer, Oxford: Voltaire Foundation, 2002.
- Kogan, Herman. *The Great EB: the Story of the Encyclopaedia Britannica*. Chicago: University of Chicago Press, 1958.
- Krupp, Alex. 'The Four Webs: Web 2.0, Digital Identity, and the Future of Human Interaction', 2006. <http://www.alexkrupp.com/fourwebs.html>.
- Lanier, Jaron. 'Digital Maoism: the Hazards of the New Online Collectivism', *Edge*, 30 May, 2006. <http://www.edge.org/documents/archive/edge183.html>.
- Lanier, Jaron. *You Are Not a Gadget: A Manifesto*. New York: Alfred A. Knopf, 2010.
- McArthur, Tom. *Worlds of Reference: Lexicography, Learning, and Language from the Clay Tablet to the Computer*. Cambridge, UK: Cambridge University Press, 1986.
- McHenry, Robert. 'The Faith-Based Encyclopedia', 15 November 2004. <http://www.techcentralstation.com/111504A.html>.
- _____. 'Web 2.0: Hope or Hype?' *Britannica Blog: Web 2.0 Forum*, 25 June, 2007. <http://www.britannica.com/blogs/2007/06/web-20-hope-or-hype/>.
- Mcleeme, Scott. 'Mass Culture 2.0', *Inside Higher Ed.*, 20 June 2007. <http://insidehighered.com/views/2007/06/20/mcleeme>.
- Morton, Herbert Charles. *The Story of Webster's Third: Philip Gove's Controversial Dictionary and Its Critics*. New York: Cambridge University Press, 1994. <http://books.google.com/books?id=1dKJrIRXhFgC>.
- O'Reilly, Tim. 'Web 2.0 Compact Definition: Trying Again', 10 December 2006. <http://radar.oreilly.com/archives/2006/12/web-20-compact.html>.
- Orlowski, Andrew. 'There's No Wikipedia Entry for "Moral Responsibility"', *The Register*, 13 December 2005. http://www.theregister.co.uk/2005/12/12/wikipedia_no_responsibility/.
- _____. 'Wikipedia Founder Admits to Serious Quality Problems', *The Register*, 18 October 2005. http://www.theregister.co.uk/2005/10/18/wikipedia_quality_problem/.
- Otlet, Paul. 'The Science of Bibliography and Documentation', In *International Organization and Dissemination of Knowledge: Selected Essays of Paul Otlet*, edited by W. Boyd Rayward, Amsterdam: Elsevier, 1990.
- _____. 'Transformations in the Bibliographical Apparatus of the Sciences', In *International Organization and Dissemination of Knowledge: Selected Essays of Paul Otlet*, edited by W. Boyd Rayward, Amsterdam: Elsevier, 1990.
- PeopleProjectsAndPatterns. 'Wikipedia', Cunningham & Cunningham, 2007. <http://www.c2.com/cgi/wiki?WikiPedia>.
- Quiggin, John. 'Wikipedia and Sausages', *Out Of the Crooked Timber*, 1 March 2006. <http://crookedtimber.org/2006/03/01/wikipedia-and-sausages/>.

- Reagle, Joseph. *Good Faith Collaboration: The Culture of Wikipedia*. MIT Press, September 2010. <http://mitpress.mit.edu/9780262014472>.
- _____. 'Wikipedia: the Happy Accident', *Interactions* (New York) 16, number 3 (2009): 42–45. <http://doi.acm.org/10.1145/1516016.1516026>.
- Rheingold, Howard. *Smart Mobs*. Cambridge, MA: Perseus Publishing, 2002.
- Sanger, Larry. 'Britannica or Nupedia? The Future of Free Encyclopedias', Kuro5hin, July 25 2001. <http://www.kuro5hin.org/story/2001/7/25/103136/121>.
- _____. 'Individual Knowledge in the Internet', *Educause Review* (March 2010): 14–24. <http://www.educause.edu/EDUCAUSE+Review/EDUCAUSEReviewMagazineVolume45/IndividualKnowledgeintheIntern/202336>.
- _____. 'RT @Davidkidd Older People Are Wiser Than Younger People', <http://t.co/1sGd/Bjbsx> Who'da Thunk It? Twitter. 8 April 2010. <http://twitter.com/lsanger/status/11828977920>.
- Sanger, Larry. 'The Early History of Nupedia and Wikipedia: a Memoir'; 18 April 2005. <http://features.slashdot.org/article.pl?sid=05/04/18/164213>.
- Schiff, Stacy. 'Know It All: Can Wikipedia Conquer Expertise?' *The New Yorker*, 31 July 2006. http://www.newyorker.com/archive/2006/07/31/060731fa_fact.
- Shaw, Kate. 'By Some Measures, Older Really Is Wiser', *Ars Technica*, 7 April 2010. <http://arstechnica.com/science/news/2010/04/by-some-measures-older-really-is-wiser.ars>.
- Shirky, Clay. *Here Comes Everybody: the Power of Organizing without Organizations*. New York: Penguin Press, 2007.
- _____. 'Newspapers and Thinking the Unthinkable', Shirky, 13 March 2009. <http://www.shirky.com/weblog/2009/03/newspapers-and-thinking-the-unthinkable/>.
- _____. 'Old Revolutions Good, New Revolutions Bad: a Response to Gorman', Many-to-Many, 13 June 2007. http://many.corante.com/archives/2007/06/13/old_revolutions_good_new_revolutions_bad_a_response_to_gorman.php.
- Shirky, Clay. 'Wikipedia: Me on Boyd on Sanger on Wales', Many-to-Many, 5 January 2005. http://many.corante.com/archives/2005/01/05/wikipedia_me_on_boyd_on_sanger_on_wales.php.
- Sjberg, Lore. 'The Wikipedia FAQK', 19 April 2006. <http://www.wired.com/software/webservices/commentary/alltext/2006/04/70670>.
- Stockwell, Foster. *A History of Information Storage and Retrieval*. Jefferson, NC: Macfarlane, 2001. <http://books.google.com/books?id=bYGrRynxtMUC>.
- Sunstein, Cass R. *Why Societies Need Dissent*. Cambridge, MA: Harvard University Press, 2003. <http://books.google.com/books?id=0yvPaXt3lyoC>.
- Surowiecki, James. *The Wisdom of Crowds*. New York: Doubleday, 2004.
- Tapscott, Don, and Anthony D. Williams. *Wikinomics: How Mass Collaboration Changes Everything*. New York: Portfolio, 2006.
- Thompson, Bill. 'Wikipedia - a Flawed and Incomplete Testament to the Essential Fallibility of Human Nature', BBC - Digital Revolution Blog, 23 July 2009, <http://www.bbc.co.uk/blogs/digitalrevolution/2009/07/wikipedia.shtml>.
- Victor, Hugh Of St. 'The Seven Liberal Arts: on Study and Teaching (Twelfth Century)', In *The Portable Medieval Reader*, edited by James Bruce Ross and Mary Martin McLaughlin, London: Penguin, 1977.
- Wagstaff, Jeremy. 'The New Cliche: "It's the Wikipedia of..."' Loose Wire, 29 September 2005. http://loosewire.typepad.com/blog/2005/09/the_new_cliche_.html.
- Weber, Steve. *The Success of Open Source*. Cambridge, MA: Harvard University Press, 2004.
- Wikipedia contributors. 'Criticism of Wikipedia', 28 October 2010. <http://en.wikipedia.org/?oldid=393467654>. Accessed 1 November 2010.
- _____. 'Every Time You Masturbate... God Kills a Kitten', 11 September 2007. <http://en.wikipedia.org/?oldid=157104187>. Accessed 13 September 2007.
- _____. 'Wikipedia:10 Things You did Not Know about Wikipedia', 3 September 2007. <http://en.wikipedia.org/?oldid=155431119>. Accessed 7 September 2007.
- _____. 'Wikipedia:External Peer Review/Nature December 2005/Errors', 9 February 2006. [ENCYCLOPEDIA KNOWLEDGE](http://</p>
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- en.wikipedia.org/?oldid=38886868. Accessed 6 April 2006.
- _____. 'Wikipedia:Million Pool', 5 August 2007. <http://en.wikipedia.org/?oldid=149380521>. Accessed 7 September 2007.
- _____. 'Wikipedia:Replies to Common Objections', 4 September 2010. <http://en.wikipedia.org/?oldid=382875311>. Accessed 1 November 2010.
- _____. 'Wikipedia:Verifiability', 14 November 2008. <http://en.wikipedia.org/?oldid=251829388>, Accessed 14 November 2008.
- Wikimedia Foundation. 'Vision', 1 September 2007. <http://wikimediafoundation.org/wiki/Vision>. Accessed 5 June 2008.
- _____. 'Wikipedia Reaches 2 Million Articles', 13 September 2007. http://wikimediafoundation.org/wiki/Wikipedia_Reaches_2_Million_Articles. Accessed 13 September 2007.