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Textual Machinery: Authorial Agency and Bot-Written Texts in Wikipedia

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This book is dedicated to
Jacqueline DeLaat
and
Elizabeth Basse Parmelee

When I stopped seeing my mother with the eyes of a child,
I saw the woman who helped me give birth to myself.
—Nancy Friday

In the cover: This image of the London suffragettes depicts the enactment of responsibilities by rhetors who sought to rectify oppression and the denial of franchise in their society.
In her 2007 *Rhetoric Society Quarterly* essay on automation and agency, Carolyn Miller explored the consequences of allowing bots to grade compositions written by human students. Her conclusions extend previous conversations in the field that describe agency as bifurcated and illusory. In this brief essay, I draw on her work along with other rhetoricians and legal scholars to explore some of the implications of using bots to write and edit texts in Wikipedia. Most particularly, I’m interested in the question of whether or not a machine that writes can be considered an author in either a legal or theoretical sense. This question has concerned intellectual property specialists since at least 1969, when a paper on the subject by Karl Milde appeared in the *Journal of the Patent Office Society*, and it’s an increasingly relevant topic these days as our mundane textual environments become ever more automated.

**BACKGROUND**

The capital-A Author looms as a construct for so many of us who study rhetoric and writing, if for no other reason than our common concerns about plagiarism and tenure publication requirements. When we consider the Author, dead or alive, the creature we typically refer to is the Poetic Author, creator of original compositions. In this construct, the notion of *originality* is central: it is vital that the work be fresh, inventive, and unusual within its cultural context, lest it lose its cultural value or even become vilified as plagiarism. It must also typically be the product of an individual mind. With the last decade’s turn to the examination of authorship in digital environments, we’ve tended to rely more frequently on the continental critique of authorship, applying more distributed concepts such as the death of the author or the Author Construct to networked environments. This works, more or less,
but a strictly postmodern stance also potentially brushes aside some central
questions about authorial agency and responsibility, as Cheryl Geisler
(“Teaching”) and Michael Leff and Andrea Lunsford have suggested. The
fact remains that actual people—and entities, in the case of bots—create
actual texts, even if these agents do so in radically distributed, collaborative,
and sometimes automated ways.

The technological affordances of digital collaboration are not the only
factors that impact the construction of authorship; genre does as well. Studies
of authorship very often take for granted the assumption that we can safely
apply our preferred version of the Author Construct across any genre or form
of text. Our work, then, often suggests this same Author can be found in any
number of textual genres, both poetic and pragmatic. It also assumes that
authorial agency remains static across genres, rather than fluctuating accord­
ing to situation, as Karlyn Kohrs Campbell suggests when she describes
agency as “protean, ambiguous, open to reversal” (2). This poses a number of
problems for scholars of scientific and technical communication, which is
often produced in collaborative and unsigned ways, although the issue is
beginning to be addressed in the case of the scientific author. Still, we’ve not
looked deeply into the matter of reference texts, particularly those that pur­
tom to cover the broad scope of the Enlightenment project—that is, encyclo­
pedias and dictionaries.

The construction of encyclopedias requires a unique mode of composition
that focuses on collecting other texts, assessing their quality, splicing the
best information from each together with the most recent data and, in the
process, transforming the results into a new text. This composition process
more closely resembles what I’ve come to call textual curation than our
Romantic idea of original composition. Our canonical, unified Author
doesn’t easily map to this form of composition, but this difficulty doesn't
mean that such texts don’t have an author. Rather, it means the encyclopedic
author demonstrates a different sort of agency and responsibility.

**WIKIPEDIA**

These factors are compounded when we consider them within the rad­i­
cally open, densely networked digital environment of Wikipedia. The study
of authorship in Wikipedia must deal with a variety of complications posed
by the affordances of wiki applications. As rhetoric and writing scholars
already know, the technological structure of wikis, as well as their ethos
of openness, affords nearly instantaneous collaboration by anyone with suffi­
cient access, literacy skills, and leisure time. This results in co-extant texts of
primary articles, and their related prior versions, article discussions, and page
histories, all simultaneously written in real time by anonymous and pseudon­
ymous authors. Interestingly, it must also account for robot-written texts—
that is, texts written and edited by bots, which are programs or scripts that
effect change without the aid of human decision-making processes.

Bots are the unspoken textual curators of Wikipedia. Perhaps the most
well-known of these bots is the RamBot, named after its creator, Wikipedian
Derek Ramsey. In operation since October 2002, it has created articles on
every U.S. city by inserting census information in a predetermined textual
format. It has also been updated with functionality to improve existing
entries with some intelligence (User:Rambot). SpellBot, another prominent
bot in the project, corrects common typos, and an army of other bots insert
interwiki links, tags, and redirects as well as perform general maintenance
tasks such as resetting sandboxes and reverting pages that have been vandal­
ized (Wikipedia:Bot). These compositional tasks were formerly the exclusive
domain of humans, who were expected to use their critical judgment and
authorial agency to responsibly attend to these duties.

Bots are quarantined, tracked, and approved by the Bot Approvals
Group, which imposes strict policies because of the peculiar agency bots
demonstrate. As the Bot Guidelines note, “since bots are potentially capable
of editing far faster than humans can, have a lower level of scrutiny on each
edit than a human editor, may cause severe disruption if they malfunction or
are misused, and are held to a high standard by the community, high stan­
dards are expected before a bot is approved for use on designated tasks”
(Wikipedia:Bot). The Wikipedia policy on bots makes a strict distinction
between the human user who creates a bot and the bot itself. Bots are
required to have their own names and user pages. (Hence, RamMan’s bot’s
user name is RamBot.) Their scripts must be able to leave notes and com­
ments akin to the ones human users leave when making an edit . . . that is, an
automatically logged signature and a cordial description of the changes
made. (Cordiality is a basic requirement for bot approval.) An unsupervised
bot can wreak havoc in the text and leech unnecessary resources from the
infrastructure. In order to prevent these blunders, strict rules govern their
editing speed. A bot performing high-priority tasks is permitted to edit once
every four seconds; lower-priority task bots may edit every ten seconds.
Lower speeds are required during typically high-use periods: Wednesdays,
Thursdays, and between 1200 and 0400 UTC on any given day.

When we outsource these more mundane textual tasks to bots, should we
then consider them as authors when we scroll through the list of authors on
an entry’s history page? Was the article on, say, Darwin, Minnesota, drafted
by humans or by bots if 17 of its 32 edits are bot-generated? Bots are very
much products of their creator’s intentionality; indeed, they owe their exist­
cence to intention and the fulfillment of it. With that in mind, we might sug­
uggest that rhetorical agency lies in the creator of the bot, who demonstrated
intentionality by writing the program. Still, the writer of the program is not
necessarily the writer of the text that his program eventually creates.

As Miller has pointed out, agency has been previously attributed to AI
programs and expert systems (“Expertise” 208). One might object to applying
this notion to the case of Wikipedia bots, pointing out that these particular
bots work in the service of agency rather than the other way around. They
are written into being and permitted to exist and work purely in service of the task they perform; for example, they do not perform the sort of complex decision-making behavior that expert systems like air traffic control systems exhibit. Rather, they make very limited decisions as to whether or not they will perform a given task, such as reverting a vandalized page, or as to whether or not a particular word is a typo that should be fixed. None of them are meant to pass a Turing test, although they are required to leave notes that meet human standards of politeness and match human syntax. They are clearly not sentient in the ways that we normally think of agents, but they do perceive their environment and initiate action with it. They also clearly do effect change both within the texts and sometimes within the broader scope of the project, as when Wikipedia rather suddenly expanded to cover thousands of towns. When we look at a Wikipedia entry, it is not immediately apparent which edits were made by humans and which were made by bots. Which sort of writer contributed which text can only be discerned by a careful reading of the page's history. These small writing machines are in fact intelligent agents, in however basic a way.

These bot-generated texts demand that we reconsider commonplaces about the attribution of rhetorical agency as well as the ways it is split from the agent. Previous discussions in our field about agency have argued as to whether or not we should make a distinction between agent and agency and not necessarily assume that one automatically comes with the other. Geisler ("How" 9) noted this as a prominent strand of inquiry at the 2003 Alliance of Rhetoric Societies conversations on agency, and Christian Lindberg and Josh Gunn explore it more fully in their response to her synopsis. What happens to the conventional rhetorical account of agency, they ask, "if it starts out by presuming that the agency possesses the agent, as opposed to the agent possessing agency as an instrument or substance?" (97). This is the sort of bifurcation of agent and agency that we see in robot-written texts. We might well say that agency possesses the bot-agent, not the other way around. If that's the case: is there an author of the bot-written text? Perhaps so, when we apply both the theoretical and pragmatic senses of agency. But what about when we consider agency in the legal sense of authorship?

**LEGAL PRECEDENTS**

Under U.S. copyright law, anyone who modifies a text—who contributes an original expression of an idea—is an author. Does this mean that entry-writing bots are authors? According to the law, no, for reasons primarily related to agency. Legal authorship status requires both responsibility and demonstrable decision-making agency, as illustrated in the Ninth Circuit Court opinion on *Aalmuhammed v. Lee*. As most readers will remember, Spike Lee cowrote, directed, and produced the movie *Malcolm X* in 1991. During his preparation for the starring role, Denzel Washington contracted with Jefri Aalmuhammed as a subject-matter expert on both Malcolm X and Islam. Aalmuhammed reviewed the script and suggested a number of significant revisions, most of which concerned religious and historical accuracy in the scenes of Malcolm X's conversion and subsequent hajj, or pilgrimage, to Mecca. Judge Kleinfeld's opinion in the case notes the plaintiff submitted evidence that he "directed Denzel Washington and other actors while on the set, created at least two entire scenes with new characters, translated Arabic into English for subtitles, supplied his own voice for voice-overs, selected the proper prayers and religious practices for the characters, and edited parts of the movie during post production" (*Aalmuhammed v. Lee*). Aalmuhammed subsequently sued for coauthorship credit on the grounds that his contributions constituted authorship. The court ruled that the status of "coauthor" required not only a mutual initial intention to enter into joint authorship but also that both parties have superintendence, or decision-making authority. In other words, demonstrable agency concerning decisions is a central, defining facet of authorship. In the case of *Malcolm X*, only Lee, the director, had such agency. In other words, while Aalmuhammed was indisputably an agent within the larger *Malcolm X* production, he did not possess sufficient agency to be legally considered a coauthor. This bifurcation of agent and agency is in line with the previously noted theoretical arguments.

A similar bifurcation is evident in work-for-hire doctrine, which returns to one of our central concerns about impetus. As Andrew Wu points out in a 1997 article on computer-generated works, concerns about bots' lack of impetus—that is, the ability to induce the motivating factor in producing the work—is consistent with the reasoning for work-for-hire doctrine (164). The 1976 Copyright Act grants authorship rights to the employer for works produced under specific contractual conditions based on the reasoning that the employer is the motivating factor in producing the work (17 USC 101). In exchange for providing impetus, the work environment, and whatever support is needed, the employer assumes ownership of the resulting work. The decision-making agency that the worker demonstrates in the process of actually creating the work is deemed inconsequential in this contractual situation. In much the same way, the work of bots, motivated and supported by humans, could easily be considered simply work-for-hire, if a bot were considered hirable. Hiring implies entering into a contract, which implies that both parties possess sufficient agency and responsibility to make a contractual agreement. For now, our culture and economies deny attribution of such agency to machines (Miller, "What" 152).

**CONCLUSION**

The law has a long-standing precedent of both honoring and ignoring authorial agency demonstrated by individual working authors. The Romantic, poetic author is accorded full control of her creative work until 70 years after her death. Authors of more mundane texts rarely enjoy the same privileges (whatever the broader implications of such far-reaching privileges might
be). We would hardly impose this stance in our own classrooms, claiming that the university owns student writing because it provides the motivation and support for it.

Instead, we recognize more and more that writing happens as an interactive process that involves exchanges between multiple agents, texts, and influences. It is, as a number of rhetorical scholars have suggested, a performance that also includes the added factors of audience and interactivity (see Jarratt; Leff; Leff and Lunsford 55; Miller, “What”). The Encyclopedic Author must constantly negotiate all of these factors while performing the task of textual curation. This element of performance is perhaps particularly explicit in the swirling, constantly moving text that is Wikipedia, where the writer becomes the audience and vice versa and back again; where meta-discourse about the text occurs simultaneously with the text; where a bot begins an entry and humans build it out, only to have their typos edited by another bot. In a textual situation like this, agency occurs somewhere in what Miller has called the “kinetic energy” of all these exchanges (“What” 146). At this point in the life of the project, the impetus for contributing is mutable. This sense of energy and flux is particularly suited to the encyclopedic form, which is driven by an ever-broadening and deepening quest for knowledge. The Wikipedia “author” is becoming the purest sort of textual curator, shaping and showcasing what already exists—no longer fitting our construction of The Author but becoming a newly identifiable creature.

Notes
1 See also Butler and Farr for early and late 1980s perspectives on the subject.
2 Examples of everyday automated textual environments include search engines, digital forms, spell check, indexing tools, and computer viruses.
3 See Biagioli and Galison’s anthology Scientific Authorship: Credit and Intellectual Property in Science.

Works Cited