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The Fate of Expertise after *Wikipedia*

ABSTRACT

Wikipedia has challenged traditional notions about the roles of experts in the Internet Age. Section 1 sets up a paradox. *Wikipedia* is a striking popular success, and yet its success can be attributed to the fact that it is wide open and bottom-up. How can such a successful knowledge project disdain expertise? Section 2 discusses the thesis that if *Wikipedia* could be shown by an excellent survey of experts to be fantastically reliable, then experts would not need to be granted positions of special authority. But, among other problems, this thesis is self-stultifying. Section 3 explores a couple ways in which egalitarian online communities might challenge the occupational roles or the epistemic leadership roles of experts. There is little support for the notion that the distinctive occupations that require expertise are being undermined. It is also implausible that *Wikipedia* and its like might take over the epistemic leadership roles of experts. Section 4 argues that a main reason that *Wikipedia*'s articles are as good as they are is that they are edited by knowledgeable people to whom deference is paid, although voluntarily. But some *Wikipedia* articles suffer because so many aggressive people drive off people more knowledgeable than they are; so there is no reason to think that *Wikipedia*'s articles will continually improve. Moreover, *Wikipedia*'s commitment to anonymity further drives off good contributors. Generally, some decisionmaking role for experts is not just consistent with online knowledge communities being open and bottom-up, it is recommended as well.

Wikipedia has famously provoked puzzlement, even – maybe especially – among non-philosophers, about knowledge, expertise, reliability, and related matters. The fascination here is ultimately rooted in the challenge that *Wikipedia* poses to the prevailing politics of knowledge. Perhaps it threatens to undermine a sort of intellectual hegemony that experts have long enjoyed. So *Wikipedia* is both celebrated and reviled as embodying an egalitarian epistemological revolution. If so, this revolution would take place not in the academic field of epistemology, since epistemologists are only now coming to grips with the phenomenon, but in society at large. Increasingly, we are codifying knowledge in an egalitarian, open, bottom-up way, using *Wikipedia* and a variety of other open resources. What are we to make of this? Is it a good thing? Where do we go from here?

These are ultimately philosophical questions, and they need the attention of philosophers.

For knowledge and information workers of all sorts, this revolution is naturally a fascinating and highly charged topic, but I detect considerable confusion about it. The confusions are due partly to incomplete understanding of the nature of online communities and expertise, partly to basic philosophical mistakes. As an epistemologist at least by training, as chief architect of *Wikipedia*'s system, and now as a wiki-apostate and critic of what that system has evolved into, I want to take a stab at organizing some of these topics and in the process sort out some of the confusions.

The topic is well focused by this paradox: are experts still needed when *Wikipedia* has succeeded, apparently, without them? I think they are; my aim in this paper is to reduce the sense of paradox. But first, let me elaborate the paradox itself.

1. *WIKIPEDIA*'S SURPRISING EPISTEMIC VIRTUES

Wikipedia has produced over 2.5 million articles in English and over 10 million articles in over 200 languages total. More astonishing than that[1] is the fact that many of the articles are actually not very bad,[2] so that the whole is very serviceable indeed as a general information encyclopedia. It is currently ranked 8th most popular website online according to Alexa.com,[3] and about half of Internet users say they consult *Wikipedia*.[4] Common experience in schools and universities indicates that many students use it on a very regular basis. If all this seems improbable – as it surely would have ten years ago – consider that the developed world is almost entirely connected by the Internet, that the Internet is made fairly well searchable by Google, and that *Wikipedia* is often the top result in Google searches, and has been for several years. This is part of the reason why, like it or not, *Wikipedia* is now a very important fixture in modern intellectual life. Whatever else we might want to say about it, we would be justified in calling it a stunning popular success.

The philosophical fascination with *Wikipedia* is due partly to this success and partly to its open and egalitarian model of content production. Indeed, the model explains the success. When people first began learning about *Wikipedia*, when it was growing explosively, the first question they would ask is, "How can it be any good at all, if it is open to just anybody?" And yet many *Wikipedia* articles were surprisingly good. The real shock came with the realization that *Wikipedia*'s articles were good not *in spite* of its openness, but *because* of it.[5]

To understand what follows, it is crucial to grapple with this very counterintuitive claim. It can be supported by describing a series of policies or software features. The project, first, is billed as an encyclopedia project; the community that formed around the project has a specific collective goal. Second, the project is a wiki, meaning that anyone can edit any page they choose, and see the results posted immediately; and anyone can edit anyone else's work. Third,

all changes to all pages are saved, so that it is easier to revert abuse than it is to perpetrate it.[6]

There are other crucial elements of the *Wikipedia* system,[7] but these three are perhaps most central in explaining its growth. The shared goal of creating a free encyclopedia online excited many people; the open and bottom-up features of the wiki system maximized the amount and efficiency of participation; and the "self-healing" features of the system helped keep the project on track (more or less). As a result, the website grew and improved rapidly.

So, while an Internet project describing itself as "the encyclopedia anybody can edit" sounds like an invitation to vandalism, nutty pseudoscience, pornography, and all that is unholy, the fact is that being very open and bottom-up has been essential to its success. Partly, it is simply a matter of sheer numbers of participants. By opening the website on the Internet, which is global, and opening it to contributions from absolutely every Internet user, one maximizes the workers available to it.

More striking, however, is the effect of being bottom-up. In making absolutely no requirements of contributors – they could make personal decisions about when, where, and how they would contribute – they naturally felt fully welcome to participate. They saw no barriers to participation, and anticipated no (or very little) constraints from others, except what the rank-and-file participants, *all* called "editors," would ask of each other. This is a sentiment that we, the original organizers of *Wikipedia*, strongly encouraged; we wanted people to feel maximally free to do as they wished on the website, consistent with the general mission of "creating an encyclopedia."[8] When liberated in this way to pursue a truly inspirational, heady goal – to codify all of human knowledge – thousands and eventually millions of people took to the project with gusto.

That will have to do for a rough explanation of *Wikipedia*'s success.[9] Now I want to turn back to philosophy. As Don Fallis (2008) has pointed out, reliability is not the only dimension of epistemic virtue on which we might evaluate *Wikipedia*. Another is fecundity, or the sheer quantity of knowledge the resource causes people to have, and another is completeness,[10] or how many general topics, among all that one might search for, are included. Clearly, even if *Wikipedia* is only mediocre in terms of reliability, it excels in its fecundity and completeness, and a fair epistemic evaluation of it as a resource must weigh in all these virtues. This paper will focus primarily on issues connected to reliability. If my aim were to give a general epistemic evaluation of *Wikipedia*, its sheer size and instant availability would necessitate that I expand my scope. But since my aim is to determine whether *Wikipedia*'s success makes experts unnecessary, issues of fecundity are not at least so directly relevant.

So, what one might have thought, eight years ago, were obvious flaws in *Wikipedia* – namely, being open and bottom-up – have in the case of *Wikipedia* been the sources of its greatest epistemic virtues. Anyone can contribute to *Wikipedia*, and no one is standing around barking orders; and that, I claim, is just why the

resource is so useful and arguably beneficial, its several flaws aside. The paradox, then, is that *Wikipedia* achieved this success without any special role for experts. Does this mean they are no longer necessary? The next section will lay out the possibility.

2. *WIKIPEDIA*'S EPISTEMIC POTENTIAL

So far, I have described *Wikipedia*'s success somewhat conservatively. The project's most avid online advocates sing its praises more loudly. They point to the fact that everyone is an "editor" on *Wikipedia* and it makes no special role for subject matter experts or real (trained, vetted, or professional) editors. Yet, as I said, *Wikipedia*'s articles are of reasonably good quality, and as a body possess an enormous breadth and depth. This situation has inspired a lot of questioning along the lines I suggested at the beginning of this paper.

For example, has the advent of *Wikipedia*, the Blogosphere, and so on perhaps changed the nature of knowledge? *Wikipedia* seems at the very least to be changing some people's notions of what "we all know," or of who determines our "shared knowledge." In a world in which so many people are consulting an encyclopedia "anybody can edit" for answers, the conventional wisdom, the accepted knowledge, seems less tethered to experts, exclusive institutions, and publications with professional gatekeepers. Even if knowledge itself has not changed, then how we as a society determine what we take ourselves to know might still have changed. Something like that, I take it, is one main point of fascination about *Wikipedia*.[11] How, then, might *Wikipedia* (and similar Web 2.0 community projects) induce us to rethink "what we take ourselves to know"?

Jaron Lanier suggests that there is a large cadre of *Wikipedia* supporters who believe that the project heralds a new age in which "the truth" is – in some unclear sense – to be determined by a collective, something he dubs "Digital Maoism." (Lanier 2006) It is difficult to find any serious theorist explicitly endorsing this view. To interpret this attitude as a serious theory, we would need to settle some questions of detail, such as:

(1) What is it, exactly, that the collective supposedly determines? Truth *itself?*
(2) Is any online collective capable of doing this? How do we limn the community that has this remarkable authority?
(3) Putting aside the constructivist notion that the truth or knowledge is *constituted* by community opinion, what precisely is it that we say a community *does,* when it determines "the truth"?

In brief, if an online community is said to be able to limn the "true," then what precisely is this truth that it limns; what is the nature of the community doing the limning; and what actions does it take that actually accomplish the limning? The broadness and difficulty of these questions points up the vague, unformed nature of the "Digital Maoism" attitude Lanier criticized.

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But we can make some inroads by observing that, according to its defenders, *Wikipedia* is nearly as reliable as the *Encyclopædia Britannica*. This was allegedly demonstrated by a research report that appeared in *Nature* – *Wikipedia*'s greatest epistemic triumph to date. When comparing articles from *Wikipedia* and the *Britannica* on 42 topics, the *Britannica* articles averaged around three errors or omissions, while *Wikipedia* averaged around four (Giles 2005).

The *Nature* report, which was not peer reviewed but produced in-house, was seriously flawed and proved little, though I will not discuss that here.[12] But we might use this study to suggest an answer to question (1) above. So let us suppose that *Wikipedia* is about as accurate as *Britannica,* however we should understand that. Let us even suppose (straining credibility) that in the future, a massive, well-designed study of *Wikipedia* articles shows that, in the opinion of experts, 99.8% of *Wikipedia*'s articles are error-free and brilliantly written, a record far better than *Britannica's*. Next, return to question (1): what is the nature of the "truth" that the *Wikipedia* collective would henceforth be taken to limn? Here is one answer: expert opinion.

So let us suppose that a future *Wikipedia* has been a brilliant success, by tracking expert opinion faithfully. Let us suppose that *Wikipedia* achieved this spectacular feat despite lacking any special role for experts or any expert approval process for articles.[13] In that case, we could say:

> (WPT) *The Wikipedia Potential Thesis*. If *Wikipedia* fulfills its highest potential in terms of measurable quality, then experts will thereafter not need to be granted positions of special authority in order for humanity to have a resource that accurately tracks expert opinion.

This insight – the conditional suggestion that *Wikipedia* could be asymptotically approaching a perfect model of expert opinion, rendering experts unnecessary – might help explain what underlies all the popular, and professional, excitement about the resource. This insight explains why so many of us feel that *Wikipedia* might be challenging some of our prevailing notions about experts and how knowledge is represented.

WPT is vague, but then so is the insight it represents, still largely unformed in the mind of *Wikipedia*'s advocates. In this and the next two sections, I will explore a few different ways it might be clarified, to see whether there is any interpretation on which it is defensible.

First, however, I want to point out that in a certain sense, WPT might appear self-stultifying. The only way WPT can be established, presumably, is if there were a future *Wikipedia* reliability study that *really did* establish that it is a fantastically accurate model of expert opinion. But then, in at least one sense, some experts – namely, the experts who participated in the study – must have been granted positions of special authority. Indeed, they stood as judges of *Wikipedia*'s reliability itself, which looks like a privileged role. So, the same future facts that might be thought to support WPT would also undermine it.

One reply to this is that the surveyed experts need be given no positions of authority *within the Wikipedia community,* after all. In the future scenario envisioned, that is true – well, it is *stipulated* to be true. But one must recall that the more fanciful ideas of the project's potential, namely, that *Wikipedia* will somehow usher in a brave new world of epistemic egalitarianism, with essentially no need to empower experts in any way. If WPT were true, then this fanciful idea would be shown incorrect; society at large would at least need experts around to certify *Wikipedia* occasionally.

That WPT should be self-stultifying is unsurprising, because upon close examination, we can see that WPT includes, or implies, a "criterion of truth." If, henceforth, truth can be determined by consulting *Wikipedia*, what licenses us to say that truth is so determined? Here *Wikipedia*'s defender faces the famous *diallelus* of Sextus Empiricus (1990, II.20); to establish *Wikipedia*'s reliability, one must advert to the authority of something outside of *Wikipedia*, presumably expert certification, or else it faces either epistemic circularity or total justificatory groundlessness (cf. Alston 1989).

But this suggests a separate and more radical reply to the self-stultification objection: we might essentially use an excellent study of *Wikipedia*'s reliability to "bootstrap" the epistemic status of *Wikipedia*.[14] Once its reliability is established using an excellent study, nothing – including another study – can with any credibility either further establish or undermine its reliability in the future. *Wikipedia* thereafter serves as society's new touchstone of truth, replacing the inconstant, individual views of experts with the monolithic and collective view of *Wikipedia*.[15] I doubt anyone would endorse this view, though the analogy with the epistemic circularity problem implies that it is a logical possibility. It would beg the question: if an authoritative study is actually needed to establish *Wikipedia*'s reliability in the first place, then why couldn't another, later study establish that *Wikipedia*'s quality had declined? If you live by the sword, you die by the sword.

So *Wikipedia*'s defenders might go one step further. Why not simply revise WPT and say that *Wikipedia*'s credibility is wholly untethered from any basis in expert opinion? This is complementary to a view that I have not yet explicitly mentioned, a view which concerns *Wikipedia*, the Blogosphere, and online social media generally. On this view, now that we can all self-publish, and can come together without the mediation of editors or experts, for that reason *alone,* as a matter of practical fact, editors and experts are no longer needed. If I write something in my blog or in a wiki article, and you believe it, and no experts were consulted in the process, then operationally speaking, experts are no longer needed. Therefore, it is concluded, to establish the epistemic status of *Wikipedia* and other online information resources, we need not advert to their track record in the eyes of experts or anyone else. That means our brave new online world is self-certifying.

This probably does not deserve much discussion; the conclusion simply does not follow from the premises. The fact that I no longer have to get my writings

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past an expert reviewer in order to give them a wide audience obviously does not entail that experts are no longer needed to *establish the credibility* of what I write. I might also recite Socrates' warnings about the dangers of following popular opinion or mutter platitudes about the reliability of millions of Frenchmen. There is no way to make such a view plausible, I think, at least if it is presented in a realist framework.

But the "untethered" view of *Wikipedia*'s credibility becomes a little more plausible, perhaps, when developed as part of a constructivist/relativist framework that is itself supported separately. That is, whether you can take the "untethered" view seriously probably depends on your attitude toward a sort of relativism – social constructivism – of which continental philosophers, anthropologists, and others are enamored. If you believe that knowledge is constructed by groups, you might find it fascinating that *Wikipedia* does literally "construct" information that the general public often takes to be knowledge. This phenomenon might at least *encapsulate* constructivist views in a literal way, if not quite *support* them. Moreover, if, like Foucauldians, you believe that knowledge-claims function as assertions or endorsements of power, you might celebrate the fact that *Wikipedia* not only literally constructs knowledge but does so apparently without any specially privileged class of persons in power in the *Wikipedia* system. In this way, *Wikipedia* has a natural appeal to our egalitarian sensibilities (cf. my 2007). So a constructivist might well think that the views expressed by the Wikipedian masses needs no certification from a supposedly better hierarchy of more genuine knowers.

Then the relevance of question (2) above comes into play: if truth is not merely indicated but constituted by group opinion, on what grounds do we privilege *Wikipedia* over all others, such as various expert communities, however described? But here I can imagine the true believers of *Wikipedia* replying: that's easy. *Wikipedia* is a global project. Its special feature is that *no one* is privileged, and over time, the views of thousands of people are weighed and mixed in. Such an open, welcoming, unfettered institution has a better claim than any other to represent the consensus of Humanity. So it deserves our endorsement if anything does. I will not engage this strand of the dialectic any further, except to say that it is incorrect to suppose that *Wikipedia* is uniformly open and welcoming to all comers – that it really is the egalitarian paradise that simplistic portrayals suggest. This is a point I will have the opportunity to develop further in Section 4.

I am afraid that I personally do have trouble taking the whole constructivist dialectic seriously. As a realist, I do not think that the concept of truth is best understood as depending on which pressure group gains the ascendancy in any fallible community, let alone in *Wikipedia*'s easily gameable system. All groups, all collectives, are subject to irrational and sometimes frightening groupthink, a concept that I imagine cannot be explained without reference to a group-independent, non-social standard of truth. But to pursue this thread takes us into other broader issues, so I will have to drop the thread there.

3. HOW MIGHT EGALITARIAN COMMUNITIES CHALLENGE EXPERT ROLES IN SOCIETY AT LARGE?

In Section 1, I attributed *Wikipedia*'s success in part to its open and bottom-up nature – to the fact that it is egalitarian, in a sense. In Section 2, I began analyzing the popular suggestion that *Wikipedia*, especially a *Wikipedia* established as reliable using expert surveys, would in some vague sense render experts unnecessary (the *Wikipedia* Potential Thesis, or WPT). I found this view to be self-stultifying, in that the experts would still be needed at least to participate in the surveys.

Putting aside that objection, I want to examine whether *Wikipedia*'s success might show that experts need not occupy positions of special authority, as WPT claims. But what might we mean by that? We might mean that *Wikipedia itself* does not need specially-designated experts. More specifically, experts are not needed either to review and approve articles, or as decisionmakers of any other sort within the community. The main reason to think this is that *Wikipedia* is essentially an egalitarian utopia and it *really could* achieve a really credible status without expert editors. I'll address this interpretation of WPT in Section 4.

But WPT could also be taken to apply far beyond *Wikipedia* itself. This claim is perhaps more interesting. Experts (taking the term in a broad and loose sense) have been in certain positions of authority in society for a long time indeed, and Web 2.0 generally, and *Wikipedia* in particular, seems to be mounting a perhaps unprecedented challenge to these positions. To "challenge" a role is, of course, to suggest that the role is no longer necessary. *Wikipedia*'s more radical advocates sometimes seem to reflect on this possibility with unrestrained glee.

So what about experts and their role, exactly, is being challenged? Surely not the existence of experts or the fact of expertise. The availability of large and increasingly reliable free resources that are constructed by egalitarian online communities does not establish that there are *no such things* as experts or expertise. I don't think I have ever heard anyone say that.[16] The challenge, rather, is that experts are becoming "irrelevant" in some sense. Perhaps *Wikipedia* and the rest are challenging the traditional *roles* of experts, roles in which their expertise gives them certain kinds of task.

I want to discuss how Web 2.0 and *Wikipedia* might be taken to weaken two types of expert role in society at large: the occupational role and the epistemic leadership role.

By *the occupational role,* I mean any paid or volunteer position that has expertise as a requirement. In short, can Web 2.0 put all experts out of work and usher in an era in which expertise is required for no job? Surely no one, on reflection, thinks this, although journalist and former entrepreneur Andrew Keen, for example, may have suggested it in moments of rhetorical excess.[17] Here, an example commonly given is not from *Wikipedia* but journalism: there is so much free, community-created content online now that newspapers are having to lay off reporters. But this cannot plausibly be chalked up to any amateur, open, bottom-up community competing

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with the professionals; instead, newspapers and other news outlets themselves give away wire and other news stories, which for many plugged-in readers obviates the need to subscribe to the local newspaper. Newspapers are also suffering from competition with free classified ad services such as Craigslist, which, while very much open and bottom-up, is not a content-creation community.[18]

Even in the field of encyclopedias, while the industry does seem to have taken a blow, some of the heavyweights are still alive and kicking.[19] For now at least, there seems to be a continuing demand for more authoritative information sources. This is true of publishing generally, although in publishing conferences recently an anxiously-asked question is what new business model should be adopted for various kinds of content.

But as for the many other fields that require expertise of one sort or another, such as medicine, law, and academia, Web 2.0 and *Wikipedia* seem not to pose any threat at all, even in the long term. How, precisely, would the availability of instant, free information online perform the functions of diagnosing and treating disease, practicing law, or teaching and research? The short answer is that, however much the Internet might facilitate self-diagnosis, self-counseling, and self-education, experts will probably continue to be needed to do their jobs – at least jobs outside of publishing, but probably in publishing as well.

More plausible as a target for challenge is the *epistemic leadership role*. I do not offer an analysis of what this amounts to precisely. Nevertheless, I plausibly assume that various classes of certified professionals, and some others said to be "experts" or "authorities," have a role in society of articulating what is known in their fields or industries. This is manifested in various ways. They are asked for comments by journalists; their research is cited in books; their findings and theories are taught in schools. When they speak about their areas of expertise, people tend to listen carefully and accord what is said more credibility. Students and those new to the field seek out their opinions and advice. I offer no further analysis of this role, but it seems plausible enough that there is a robust phenomenon here to discuss.

Are Web 2.0 and *Wikipedia* likely to challenge this epistemic leadership role in any meaningful way? To see this claim's improbability, one has only to think what it might amount to. Let us suppose that *Wikipedia* is shown, as I (again, implausibly) allowed in Section 2, to be a 99.8% accurate match to expert opinion. Even in that case, would journalists *simply* consult *Wikipedia* for quotes about expert opinions? Would researchers cite *only Wikipedia* in footnotes? Would *Wikipedia* be the *sole* textbook in schools? Granted, these are empirical questions, but they do not even pass the chuckle test.[20]

But perhaps the claim should not be dismissed so easily; we need to think not about how Web 2.0 and *Wikipedia* are today, but how after generations of development community content might challenge the epistemic leadership of experts. There is no question, at least in my mind, that the community-built media of the future will be far more impressive than what we have today. I think you may safely let your imagination run wild, because the power of millions of intellectuals

working online together is vast. Imagine a *Wikipedia* – or a *Citizendium*[21] – that is not merely a good encyclopedia, but a vast resource, many times the size of the Library of Congress, that is extensively edited daily and managed by many of the best minds in the world. Imagine a database of research in which new findings are not published in papers that are put into volumes, but appended in various places to a single, collaboratively-managed outline of knowledge.[22] It seems that such collaborative resources might indeed change how journalists and researchers find their sources, and textbooks or their future equivalents might well be parts of such systems. This is pure speculation, but it does seem possible.

In order to make the advent of these fantastic new systems plausible, surely one *does* have to say, as I did, that the "vast resource" would be managed by the best minds in the world. Similarly, presumably the research that is appended to a collaboratively-managed outline of knowledge would itself be performed by experts. To this I can imagine someone replying that I am merely assuming what I wish to, assumptions in favor of the privileges and authority of the professional classes. That does seem to be a fair observation; after all, it *is* surely conceivable that, after some generations, the world will have created the above-described resources *without* relying on anything like expert guidance. But I merely claim that this is very unlikely, perhaps for no reason other than that the advent of *Wikipedia* and countless other egalitarian online ventures have not even come close to taking over the epistemic leadership roles, of the sort enumerated above, that experts play. But, of course, these are admittedly empirical questions and time will tell.

I can, however, make a more philosophical reply to the suggestion that the epistemic leadership role of experts will wither away upon the maturation of the social Web, as it is sometimes called. Quite apart from how information is collected, or who collects and manages it – which can all be as egalitarian as you like – there will remain the issue of what information ought to be collected, reported, and highlighted. Here we may plausibly speak of a "regress of credibility," somewhat similar in structure to the regress of justification in traditional epistemology. The regress of credibility begins by observing that, even in very crude folk epistemology, testimony is regarded as more credible if it comes from a source that is believed (by a doxastic agent) to be credible. But frequently, a source gets its own credibility from the credibility of *another* source, and so on. If some given testimony is based neither in another credible source, nor in direct, reportable observation, nor still in expert opinion, it will tend to be believed less than a source that has a "foundation" of that sort.

Wikipedia itself endorses the common position that testimony must ultimately be based on credible sources. *Wikipedia*'s "Verifiability" policy holds that "material challenged or likely to be challenged should be attributed to a reliable, published source using an inline citation." (*Wikipedia*, "Wikipedia:Verifiability") It also has a complementary rule called the "No Original Research" policy (*Wikipedia*, "Wikipedia:No original research"),[23] according to which contributors must not "go beyond what is expressed in the sources or to use them in ways inconsistent with

the intent of the source, such as using material out of context." However we should understand these two policies, they both make the *content* of *Wikipedia* rely crucially on published – and largely expert-vetted – sources. This, as I had to insist repeatedly in the early days of *Wikipedia*, is implicit in the very idea of an encyclopedia: it sums up "what is known," in some way that collaborators can agree upon, as opposed to idiosyncratic guesses that just anybody might produce.[24]

The suggestion that an even better developed online encyclopedia might somehow revoke experts' epistemic leadership role, then, requires that experts no longer be specially privileged in society either as gatekeepers of source publications or as sources themselves. But if anything, *Wikipedia*'s own policies actually reinforce the epistemic prerogatives of experts. And the regress of credibility suggests that this was bound to be the case: had *Wikipedia not* been committed to reporting information found in expert-vetted sources, it would surely not be as popular as it is.[25]

It appears that WPT, on the present interpretation anyway, cannot be supported. On reflection, perhaps the very question, whether egalitarian online communities might undermine the jobs or epistemic authority of experts, should have been dismissed out of hand. I would not be surprised if in twenty years, this article is as laughably outdated in its concerns as an article in 1930 would be about whether the stock market will ever rise again. But one must admit that there is a real, and philosophically interesting, phenomenon that inspires the worries: an egalitarian online community *really did* create over 10 million articles in over 200 languages, and it *really is* quite useful. This is a dramatic development, and in light of such developments it is often very sensible to re-examine fundamental assumptions – even if only to re-affirm them.

4. IS *WIKIPEDIA* AN EGALITARIAN UTOPIA?

So far I have argued that, surprisingly, *Wikipedia*'s egalitarianism – perhaps its very scorn of expertise – partly accounted for its stunning success. So, as one might worry (or hope), does this indicate that expertise itself is somehow passé? According to my arguments in Sections 2 and 3, online communities, even if wildly successful, would threaten neither the existence nor some traditional roles of experts. So far, WPT seems unsupported. But I have not yet addressed another more modest but still highly interesting interpretation of WPT: that *Wikipedia itself* does not need specially-designated experts, either to review and approve articles, or as decisionmakers of any other sort within the community. In brief, *Wikipedia* needs no experts in authority in order to become an authoritative source.

Before I discuss this claim, I want to explain why anyone outside of the *Wikipedia* community might care about it. Surely the main reason we might care about whether *Wikipedia* needs experts is that a world in which an egalitarian *Wikipedia* achieved a high degree of credibility would indicate that, somehow, the roles of experts in society at large are unnecessary. But that claim was dispatched

in Section 3. Still, there is another reason: if, in the Internet age, an expertless *Wikipedia* can beat out *Encyclopaedia Britannica,* for instance, then surely we must rethink our editorial processes, broadly speaking – that is, publishers, teachers, research institutions, and others should rethink the privilege they accord to experts in their own knowledge-creation processes. Again, the previous section shows that it goes too far to say that we can simply discard all special roles for experts; but perhaps the lesson is that we should make our knowledge-creating institutions *less* "elitist" and *more* egalitarian. For Western intellectuals, now so dogmatic and far-reaching in their egalitarianism, this looks like an appealing conclusion.

But I want to show that on the one hand, *Wikipedia* is nothing like the egalitarian utopia its most radical defenders might have us believe. And on the other hand, its rejection of decisionmaking roles for experts makes it unlikely that it will, *in fact,* meet the high levels of quality described in WPT's antecedent. From this discussion I want to conclude that it is not *Wikipedia*'s radical egalitarian rejection of any role for experts, but rather its freedom – which is consistent with such a role – that explains its success.

To begin with, I want to point out that *Wikipedia* has included highly knowledgeable and expert contributors since its earliest days. Hence, it is reasonable to infer, one of the reasons that there are some excellent articles is that they were developed or edited by experts.[26] But this is not my whole point. If it were, there would be a good reply ready to hand: those experts contribute in spite of the fact that they are not officially recognized as experts in the *Wikipedia* community.

My first point is that these experts – and other varyingly knowledgeable amateurs and students – are deferred to, more or less, by their fellow Wikipedians. To be sure, there have been serious problems, for example, with dilettantes pushing pet theories and telling real experts that the experts have a "conflict of interest" in writing about the subject simply because they have published articles about the subject.[27] More on this anon. But despite a sort of anti-expert bias on *Wikipedia*, it remains the case that a person who appears to write authoritatively, who has the facts at his command as an expert typically does, and who can marshall them effectively in a dispute, has a decided advantage on *Wikipedia*. This, I think, has been a necessary condition of *Wikipedia*'s improving at least as well as it has. By reputation anyway, *Wikipedia*'s articles in fields such as mathematics, engineering, computer science, and the hard sciences are rather better developed and of higher quality than its articles in the social sciences, humanities, and the arts – consistent with the finding of the aforementioned, flawed *Nature* report, which was limited to scientific topics. This, I think, is because the fields themselves are somewhat more amenable to straightforward negotiation, because expertise and sound methodology in these fields are easier for the average contributor to recognize and respect. In physics, for example, there is simply less to debate about than in, say, philosophy.

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Wikipedia, therefore, is not *wholly* free of deference to expertise, and I think this helps to explain its quality. The deference is naturally-occurring, so to speak, not imposed by policy or official role; but I think it is real nonetheless. If this is correct, then *Wikipedia* is not quite the egalitarian utopia that its more simplistic portrayals paint it as. That, I imagine, is something many Wikipedians would cheerfully admit. As long as the prerogatives of expertise are respected *voluntarily,* rather than imposed from above on unwilling participants, then there is no problem. This is not, admittedly, *officially recognized and imposed* authority, but "natural" or voluntarily recognized authority. But it is still bona fide epistemic authority.

This leads me to my second point. I have seen many complaints, especially in nontechnical disciplines, that *Wikipedia* articles that once were beautifully written and authoritative (in the opinion of some expert) were later relentlessly hacked at, senselessly rearranged, augmented with half-truths and irrelevancies, and in general, badly edited. There appears to be an assumption on the part of many Wikipedians, and even some researchers who ought to know to be at least skeptical, that while *Wikipedia* articles can decline in quality, they tend to improve over the long term.[28] I believe that anecdotal evidence over the years, at least, has shown this to be incorrect, and I have spoken with a great many experts who appear to agree with me. *A priori,* a better hypothesis would be something more like this:

> Over the long term, the quality of a given *Wikipedia* article will do a random walk around the highest level of quality permitted by the most persistent and aggressive people who follow an article.

This is glib and surely an overgeneralization with many exceptions, but I think it is far better supported by the common experience of many Wikipedians than the hypothesis of continual improvement. The difficulty, as many disaffected Wikipedians have discovered, is that there are far too many articles persistently "managed" by aggressive individuals who will simply not let it improve in certain respects. In disputes, these persons tend to drive off more knowledgeable people, thereby keeping the quality of articles low. Since experts enjoy no special privileges in dispute resolution, and since there are many aggressive non-experts who care deeply about a wide variety of topics, *Wikipedia*'s anti-expert tendencies un-surprisingly work *against* continual improvement.

Let me elaborate the latter suggestion, because it is important. *Wikipedia* has no officially-designated decisionmakers about content matters; contributors are expected to negotiate on an equal basis when they have disagreements. When someone makes a controversial edit to an article, he is required to justify it on the "talk" (discussion) page that is attached to every article. If someone else wishes to contest the edit, she should not simply undo the work, but should instead discuss the matter on the talk page. So a back-and-forth begins on the talk page, which sometimes becomes heated and protracted; this is described as an "edit war." I think many Wikipedians themselves do not quite realize that edit wars are not merely a nuisance; they are in fact *Wikipedia*'s main method of settling

difficult content questions. But since all contributors (even if they are anonymous) are held to be equal in epistemic authority, there is simply no means of settling an entrenched dispute. *Wikipedia* idealistically promotes both "consensus" and neutrality, but these are weak decisionmaking tools at best. The fact is that if two editors *cannot* reach an agreement, the dispute will continue indefinitely despite policy constraints – or until one of them gives up, so that the other side wins "by default." *Wikipedia* might be best described as having a rule of the most persistent – or, perhaps, a rule of those with nothing better to do. Since experts tend to be very busy professionals, they often cannot keep up their side of the edit war, and they lose by default.

In my opinion, this at least partly explains why many *Wikipedia* articles, especially outside more technical and "hard" disciplines, are persistently mediocre. The cause, I claim, is ultimately that the know-nothings can drive off the know-somethings in the inevitably many content disputes over such "soft" topics.[29] It seems that the failure of *Wikipedia* to vest experts with any decisionmaking authority partly explains the intractability of disputes in *Wikipedia* and the allegedly observed tendency of expert-crafted articles to deteriorate over time – to descend to the level of mediocrity with which the most persistent Wikipedians feel comfortable, as it were.

What if, by contrast, there were expert subject editors and an editor-in-chief in an otherwise open, bottom-up wiki system who had the authority, used only when absolutely necessary, to resolve disputes with some finality? This essentially describes the policy of the *Citizendium,* a wiki encyclopedia project I started in 2006.[30] For what it is worth – I am obviously biased in making this report, and so I will not spend too much time on it – the *Citizendium* project tends to have comparatively few content disputes. They tend to be more polite, more tractable, and when necessary, a subject editor or the Editor-in-Chief can step in and put an end to them. Moreover, while we do not have the comparatively long history of *Wikipedia*, I have seen few, if any, instances of articles that significantly decline in quality in the *Citizendium* system. I do not mean to imply that the *Citizendium* system is perfect in these respects. But our experience does seem to support my second point here, that the lack of *any* expert decisionmaking authority tends to lead to a "rule of the most persistent" and explains the persistent mediocrity of many *Wikipedia* articles.

My third main point is that *Wikipedia* articles are unlikely to rise above a certain level of mediocrity because *Wikipedia* cannot effectively enforce its own rules, and certain difficult types of editorial problems can only be fixed if the rules are enforced. The reason that its rules cannot be enforced, ultimately, is that real names are not required of participants. And that, as I will explain, is a reflection of *Wikipedia*'s radical egalitarianism. So to this extent, *Wikipedia*'s radical openness is a problem, not an advantage.

The unenforceability of rules in *Wikipedia* has two poisonous and predictable effects. First, a participant who is punished, for instance by *Wikipedia*'s "Arbitration

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Committee," can quite easily create a new account, and as long as he can behave in a way not recognizably similar to his earlier persona – not a difficult task in a project as large as *Wikipedia* – rejoin the project. Hence, punishments are ineffective against the most determined rulebreakers, and this is widely acknowledged to be one of the biggest management headaches for the project.[31] Second, it is only too well known that anonymity online can be used as a mask that enables aggressive behavior.[32] These two chronic problems, rooted in *Wikipedia*'s commitment to anonymity, not only make many articles difficult to maintain at a high level of quality, they also tend to drive off many of the better contributors. That further weakens the quality of articles.

This, you might well say, is not quite relevant to this section's argument – what do anonymity and any of its concomitant problems have to do with egalitarianism? But *Wikipedia*'s anonymity policy is in fact intimately connected with egalitarianism. By allowing anonymous contribution, *Wikipedia* is nearly as completely open as it can be. Anonymous contribution emboldens those who have little respect for those set up in positions of authority. Moreover, their lack of respect tends to reduce, while not entirely eliminating, the respect that expertise can command in the *Wikipedia* community. That is, anonymity allows those with an anti-intellectual or just crotchety bent to attack experts without a restraint that many would no doubt feel if their real names were known. Hence, anonymity is an especially effective technical way to implement and encourage egalitarianism.

What if we were to disallow anonymity? A project that required contributors to use their own real names would no doubt for that reason be *rather less* open, and therefore probably hindered in its replicating the Wikipedian model of success described in Section 1. But it could still be *nearly* as open, and just as bottom-up or wiki-like, for those who disclosed their real names. The advantage of this change in policy is again illustrated in the experience of the *Citizendium* project. For what it is worth, I think our rules are far more enforceable, and participants behave themselves remarkably well, compared to *Wikipedia*. Yet the project remains just as robustly "wiki-like" as *Wikipedia*.[33]

Let me tie together this section's perhaps disconnected conclusions. According to one interpretation of WPT, *Wikipedia* needs no experts to serve as decisionmakers, and this essentially establishes the superiority of a more purely egalitarian system. Against this, I argued, first, that many sensible Wikipedians *do* recognize, as one might expect them to do, the relative expertise of other contributors. This explains the surprisingly high, if still uneven, quality of *Wikipedia*'s content. So *Wikipedia*'s success in fact has depended on the community's informally respecting expertise and hence recognizing the epistemic authority of certain contributors. But, as I argued next, experts are not accorded nearly as much respect as they should be. In fact, over the long run, articles tend to do a random walk around the highest level of quality permitted by the most aggressive and persistent contributors. That level of quality is too often not high enough, because such contributors are often relatively ignorant. *Wikipedia*

is ruled by the most persistent, or those with the most time on their hands, not necessarily the most knowledgable. This problem could be combated if experts were given some low-key decisionmaking authority, as in the *Citizendium.* Finally, insofar as *Wikipedia* does have a radically egalitarian system, it is due to the project's anonymity policy. But that policy makes it in principle impossible to enforce rules effectively, and encourages bad behavior on the part of participants. This, predictably, drives away many of the better contributors and so weakens article quality further.

One might grant these various points, admit that *Wikipedia* is not perfect – whoever said it was? – and still maintain that it has the ability in the long run to beat out the likes of *Encyclopædia Britannica,* even if it has little chance of ever becoming "99.8% accurate." After all, I admitted in Section 1 that *Wikipedia* has other epistemic virtues, such as fecundity, in such abundance that perhaps we should say that it is *already* reasonable to think it is more epistemically valuable than the *Britannica,* say.

I mention the latter proposition only because I see others suggesting it, or something like it. In fact, the proposition is very vague. It would require a separate paper, or several, really to adjudicate what notions of relative epistemic value should apply to a project like *Wikipedia*, what published works, projects, or communities it should be compared to, and then what the comparison might look like.

Fortunately, in this section I am examining a narrower and more tractable question: can we project that a future *Wikipedia*'s success will show that no official role for experts within the project is necessary? In this section I have not really examined the future prospects of *Wikipedia*, mostly because there is little chance that *Wikipedia* will ever give decisionmaking roles for experts or reject anonymous contribution. These are now firmly embedded parts of its Constitution, so to speak, and so if the arguments I've made are cogent now, they will probably remain cogent in the indefinite future.

So what, then, *do* this section's arguments establish? (1) Epistemic authority for expertise is crucial to *Wikipedia*'s modest success, while (2) the lack of a role for experts explains (and will continue to predict) *Wikipedia*'s mediocrity. These two points together undermine the other main interpretation of WPT I discussed above; actually, if its managers wanted *Wikipedia* to become a really authoritative source, they would need to embrace expertise and expert-friendly policies such as real names. But, if I am right in my personal observations of how the *Wikipedia* community operates, it will never make such policy changes. Consequently, its reliability will probably never rise to the level of the *Britannica,* let alone the "99.8% accurate" level I was discussing earlier.

5. CONCLUSION

I want to conclude briefly by tying together the threads of this discussion. I began in Section 1 by posing a paradox that no doubt inspires a great deal of the worry,

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hope, and philosophical puzzlement about *Wikipedia*. *Wikipedia* is a striking popular success, and the quality of its articles, while uneven, is remarkably good; yet its success can be attributed in large part to the fact that it is both wide open and bottom-up. For good measure, many Wikipedians take a famously anti-expert posture. One might well find it startling that a successful intellectual endeavor like this can take no official notice of expertise. So one might wonder, hopefully or with dread, whether the days of experts and their roles are numbered.

In Section 2, I explored the question how *Wikipedia* might induce us to rethink "what we take ourselves to know" in terms not of what an expert community endorses, but in terms of what a much more egalitarian, global community endorses. I found it difficult even to understand this view, but explored the interpretation that an egalitarian community might limn expert opinion. This in turn suggested a *Wikipedia* Potential Thesis (WPT), according to which, if *Wikipedia* could be shown by an excellent survey of experts to be fantastically reliable, then experts would not need to be granted positions of special authority. I argued that WPT is essentially self-stultifying, that is, the survey demonstrating *Wikipedia*'s reliability would *itself* constitute a position of special authority. This I identified as an instantiation of epistemic circularity, and accordingly I explored a few of the options associated with that problem, concluding that ultimately, the credibility of *Wikipedia* remains "tethered" to expert opinion.

Section 3 explored a couple ways in which, as WPT says, egalitarian online communities such as *Wikipedia* might "challenge" expertise, i.e., show how either the occupational role or the epistemic leadership role might disappear in a future society with a brilliantly well-developed *Wikipedia*. I found little support for the notion that developments in Web 2.0 will undermine the distinctive *occupations* that require expertise. I also found no plausible way to motivate the suggestion that *Wikipedia* and its like might somehow take over the epistemic leadership role that experts play. Now, I grant that *Wikipedia*, and similarly "flat" egalitarian communities, might *share in* or *encroach on* the formerly exclusive authority of experts. But replacement is far less likely, considering that experts themselves stand as one important foundational point in a regress of credibility – even according to *Wikipedia*'s own "Verifiability" and "No Original Research" policies.

In Section 4, I cast doubt on another interpretation of WPT. On the one hand, a main reason that *Wikipedia*'s articles are as good as they are is that they are edited by experts and other knowledgeable people to whom deference is paid, although voluntarily. On the other hand, some *Wikipedia* articles suffer precisely because there are so many aggressive people who "guard" articles and drive off others, including people more expert than they are; without granting experts any authority to overrule such people, there is no reason to think that *Wikipedia*'s articles are on a vector toward continual improvement. Moreover, *Wikipedia*'s commitment to anonymity – which is intimately connected with its being open and bottom-up – further drives off good contributors, and makes it difficult for the contributors who remain to "do battle" with those who are undermining the quality of articles.

The discussion of the later sections ought to ease any sense of paradox brought on by Section 1. There is a tendency among *Wikipedia*'s defenders and observers to suppose that the very qualities that have made *Wikipedia* a success – that it is open and bottom-up – require a decidedly negative policy, to firmly reject any role for experts. The later sections have demolished this notion in multiple ways. Section 2 argued that the very success of *Wikipedia* is "tethered" to a role for experts, as their opinion is needed to make its reliability plausible. Section 3 showed to be groundless the suggestion that *Wikipedia*'s success would tend to undermine the general societal roles of experts. And Section 4 pointed to expert contribution and implicit deference to experts as improving *Wikipedia*'s quality, while policies that drive experts away harm it. *Wikipedia*'s success is not best explained by its radical egalitarianism, its rejection of expert involvement, but instead by its freedom, openness, and bottom-up management, all of which are consistent with a low-key role for experts. On this showing, in a knowledge project that is open and bottom-up, some decisionmaking role for experts is recommended, *a la* the *Citizendium*.

Still, it is surely natural that Wikipedians in fact would have rejected such a role. After all, experts, drawn from academia and professional life, tend to be hierarchical in their organization-building and top-down in their content production systems.[34] There is no doubt that many experts would, if left to their own devices, dismantle the openness and bottom-up nature that drives the success of *Wikipedia*. But the failure to take seriously the suggestion of *any* role for experts can only be considered a failure of imagination. One need only ask what an open, bottom-up system *with a role for expert decisionmaking* would look like.[35]

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NOTES

1 When *Wikipedia* was getting started, its early competitor, Everything2, announced one million "nodes." This is not widely regarded as an especially noteworthy achievement, because Everything2's articles are very casual, not often very long or in-depth, and in general more suitable for entertainment value than education or serious information-seeking.

2 Cf. Giles (2005). This report is discussed further in Section 2.

3 See http://www.alexa.com/data/details/traffic_details/Wikipedia.org (accessed November 3, 2008).

4 In winter 2007, some 36% of Americans said they use the Internet to look up information on *Wikipedia* – which was about half of Internet users, since at the time,

69% of Americans surveyed said they used the Internet on the previous day. On one typical day, 8% of all Americans surveyed said they had used the Internet to look up information on *Wikipedia* on the previous day. See Rainie and Tancer (2007).

5 This is a common saying about *Wikipedia*, but I don't know who said it first or where. I might have.

6 But this is not true of *every* kind of abuse. Generally, obvious vandalism and error can be removed instantly. But "bots" – automated software programs that mimic the behavior of human beings – can pose a real headache for those who take it upon themselves to discover and undo their work. But the main point here is not significantly weakened: there are more people who are motivated to keep the wiki high-quality than there are who want to ruin it, and they have better tools. Of course, this does not help with the problem of unintentional harm to the project, as when someone in good faith adds a claim that, unbeknownst to him, is really false.

7 Such as its freedom, i.e., its contents are available under the GNU Free Documentation License, its neutrality policy, the fact that discussion of changes to articles is encouraged and takes place on a special page separate from the article, and the fact that contribution to the project is quick and easy.

8 Hence, for example, the first rule that I proposed on a "Rules to Consider" page was this: "**Ignore all rules:** If rules make you nervous and depressed, and not desirous of participating in the wiki, then ignore them entirely and go about your business." (Bold in original) See http://en.wikipedia.org/w/index.php?title= RulesToConsider&oldid=277053 (accessed November 3, 2008). Perhaps, needless to say, this was tongue-in-cheek, and I later came to the view that, even as a tongue-in-cheek statement, it was wrong-headed.

9 The rest of this discussion rests on this explanation's being broadly correct, but I am very aware that I might need much more space to make it plausible. Moreover, these are empirical matters and susceptible to various kinds of testing and empirical analysis. No doubt, in coming years, we will see more empirical studies of how wikis work. For now, in favor of the explanation I've offered I can point only to its plausibility and logical consistency, on the one hand, and my own experience observing how wikis work, on the other hand.

10 As I have pointed out elsewhere in (Sanger, 2006b, 2; 2008a).

11 As evidence that this is not just of interest to theorists, but a very actively-felt problem, consider the fact that Stephen Colbert – the comedian who coined "truthiness" – has also famously introduced "wikiality" as meaning reality-according-to-*Wikipedia*.

12 *Britannica* responded trenchantly in a paper posed on their website (*Encyclopædia Britannica* 2006). *Britannica*'s response is devastating and embarrassing for a journal of the stature of *Nature*. In my opinion, a rebuttal by *Nature* was unpersuasive; see (*Nature* 2006).

13 Though there is a Featured Articles program, this is just as open and broadly participatory as many other aspects of the project.

14 Not coincidentally, in discussions of epistemic circularity, various methods of "bootstrapping" frequently arise. See, for example, Black (1954).

15 I do not mean to suggest that *experts* are infallible, or that *mainstream expert opinion* is in any way a "touchstone of truth" *now*.

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16 Not to say that someone *could not* say it. After all, someone might assume that expertise is wholly a socially-constructed notion and has nothing like an objective basis. In that case, if expertise really were wholly constituted by social institutions and the various kinds of recognition they confer, and if – no doubt absurdly – such institutions were wholly replaced by such egalitarian new institutions as *Wikipedia*, that would entail a collapse of the (institutional) existence of experts and expertise.

17 In Keen (2007) as well as interviews and speeches following it.

18 This is also not the best of examples because, according to the common professional prejudice, journalists are not really *expert* at anything except, perhaps, in some cases the very narrow field of journalism itself – and that is not really of help to anyone but journalists. I have spoken with a few journalists who take issue with this.

19 For example, in personal communication with the President of Encyclopædia Britannica, Inc., in 2006, I was assured that the privately-held company is not only profitable, but has grown just in the time that *Wikipedia* was growing in size and authority.

20 One might reply by saying that this is a straw man; after all, *Wikipedia is* cited in court cases, journal articles, and news articles. But this reply is unpersuasive. It is true that *Wikipedia* is widely cited, but this establishes only that it is *one more* citable source, not that it has somehow rendered all other "expert sources" irrelevant – which is the point under consideration. I do not think anyone doubts that Web 2.0 phenomenon is encroaching on expert territory to some extent.

21 A *Wikipedia* competitor I started in 2006, which requires contributors to use their real names, and makes a low-key guiding role for expert editors; see http://www.citizendium.org. This is discussed some more in Section 4.

22 I am far from being the only one to have suggested this, but I developed the idea at some length in my (2006a).

23 Unlike Verifiability, I am responsible for having started this policy.

24 I can imagine someone replying that if it is only *agreement* that is needed, then we can imagine a completely open and collaborative system in which people can, indeed, agree upon facts *without* reference to any external sources. That does seem conceivable; but whether it could be made to work at all, I very much doubt, nor could such a system produce results that would be generally accepted as authoritative. Ultimately, internal content controversies would be "my word against yours," a situation which, without expert review, could only be resolved in some arbitrary way – or perhaps by voting. (Cf. George Bragues's paper in this issue of *Episteme*.) But it is hard to believe that, in the future, very many people will regard it as the last word on a subject that the plurality of the members of some open, egalitarian community online just happen to have voted a certain way.

25 Another relevant data point here can be found in *Wikipedia*'s early competitor, Everything2.com, which has no source requirements and is better described as a collection of off-the-cuff opinions that happen to be the most highly rated by a random community. Everything2's Alexa site rank was 6,718 on November 3, 2008, it appears mainly to be an entertainment website, and there seems little chance that it will ever diminish any expert's authority.

26 I cannot quantify this empirical claim and can cite no studies, but it is certainly consonant with my observation, and specific numbers do not matter in any case.

27 This might sound like a joke, but it is not. See *Wikipedia*, "Wikipedia:Expert editors" and the section titled "Warnings to expert editors" in particular.

28 A number of researchers have uncritically assumed, for example, that number of edits of an article is directly correlated with quality. Just for example, see Lih (2004). Note that, this uncritical assumption aside, this particular article is very interesting.

29 The above discussion makes no mention of the well-known fact that there is an entrenched group of Wikipedians who generally have Administrator authority in the project and who tend to work in very informal groups that back each other up. In short, the people who are tasked with enforcing what are supposed to be merely behavioral rules, not content rules, do frequently impose their will when it comes to content matters. This is a large part of the complaint I made earlier about "gaming the system." I could easily elaborate this as another point, but it would offer only small support for this paper's argument: *Wikipedia* in fact has an "elite," if you will, that does enforce its will, and so is not really egalitarian. I might go on and argue – as one might very plausibly do – that this is not an accidental feature of the *Wikipedia* governance system, but really a predictable response to the sort of power vacuum that an idealistic sort of anarchism creates. But these points don't offer enough support for the central contentions of this paper to justify the space required to make them.

30 The name stands for "Citizens' Compendium." Found at http://www.citizendium.org.

31 There is a local name for such duplicate accounts: "sockpuppets" or "socks" for short.

32 For one excellent older, but still perfectly valid, discussion of this phenomenon, see Wallace (1999, ch. 6).

33 Arguably, even more so: this is an argument I made in a *Citizendium* blog post (2008b).

34 Indeed, I have personally observed several professional wikis, exclusively expert-managed, doing rather poorly for these reasons – or they never got off the ground in the first place. This is a problem I discussed at some length in a keynote speech (2006c). See Section 4, "Do experts have cultures that are incompatible with Web 2.0 culture?"

35 Thanks to Don Fallis for very helpful comments on a draft of this paper and to Alvin Goldman for his encouragement. Since 2001, I have benefitted from discussion with very many people on issues raised here, and many of the most useful insights were from non-experts making observations on their personal or our shared experience with wikis.

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