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Wikipedia and the Epistemology of Testimony

ABSTRACT

In "Group Testimony" (2007) I argued that the testimony of a group cannot be understood (or at least cannot always be understood) in a summative fashion; as the testimony of some or all of the group members. In some cases, it is the group *itself* that testifies. I also argued that one could extend standard reductionist accounts of the justification of testimonial belief to the case of testimonial belief formed on the basis of group testimony. In this paper, I explore the issue of group testimony in greater detail by focusing on one putative source of testimony, that of *Wikipedia*. My aim is to the answer the following questions: Is *Wikipedia* a source of testimony? And if so, what is the nature of that source? Are we to understand *Wikipedia* entries as a collection of testimonial statements made by individuals, some subset of individuals, or is *Wikipedia* itself (the organization or the *Wikipedia* community) the entity that testifies? If *Wikipedia* itself is a source of testimony, what resources do we have for assessing the trustworthiness of such an unusual epistemic source? In answering these questions I hope to further elucidate the nature of collective epistemic agency (Tollefsen 2006), of which group testimony is a paradigm example.

When a mans Discourse begineth... at some saying of another, of whose ability to know the truth, and of whose honesty in not deceiving, he doubteth not; and then the Discourse is not so much concerning the Thing, as the Person; and the Resolution is called Beleefe, and Faith: Faith in the man. (1651/1991, Ch. 7; p. 48)

Recent discussions of testimony, its nature as a source of knowledge, and the justification of testimonially based beliefs have focused almost exclusively on the testimony of individuals. As the quote from Hobbes above suggests, testimony is generally conceived of as originating from individual human beings. Gaining knowledge through testimony involves relying on the *man* (or, more inclusively, the *person*). But we often receive testimony from groups and such testimony often provides us with knowledge. In "Group Testimony" (2007) I argued that the testimony of a group cannot be understood (or at least cannot always be understood) in a summative fashion; as the testimony of some or all of the members. In some cases, it is the group *itself* that testifies. I also argued that one

could extend standard reductionist accounts of the justification of testimonial belief to beliefs formed on the basis of group testimony. In this paper, I explore the issue of group testimony in greater detail by focusing on one putative source of testimony, that of *Wikipedia*. My aim is to the answer the following questions: Is *Wikipedia* a source of testimony? And if so, what is the nature of that source? Are we to understand *Wikipedia* entries as a collection of testimonial statements made by individuals, some subset of individuals, or is *Wikipedia* itself (the organization or the *Wikipedia* community) the entity that testifies? If *Wikipedia* itself is a source of testimony, what sort of resources do we have for assessing the trustworthiness of such an unusual epistemic source? In answering these questions I hope to further elucidate the nature of collective epistemic agency (Tollefsen 2006), of which group testimony is a paradigm example.

1. ARE THE STATEMENTS FOUND ON *WIKIPEDIA* TESTIMONY?

Are the entries of *Wikipedia* testimony? Answering this question requires a closer look at theories of testimony. There has been an ongoing debate in the epistemology of testimony regarding the nature of this speech act. Conservative views of testimony define it in terms of the speaker's intention to present evidence to an audience on a matter that is known to be in dispute or for which the audience is in need of evidence (Coady 1992). More liberal accounts of testimony define it as "tellings in general" with no restriction on the domain (e.g. E. Fricker 1995, Sosa 1991). Recently, Jennifer Lackey has offered a disjunctivist account of testimony. According to Lackey: "S testifies that p by making an act of communication a if and only if (in part) in virtue of a's communicable content, (1) S reasonably intends to convey the information that p, or (2) a is reasonably taken as conveying the information that p." (2006, 193) This account allows for the fact that often times an utterance will convey information, and hence offer us testimony, even when the speaker does not intend to testify, as in the case of posthumously published work from which we obtain information about the life of the deceased. However, it also tries to accommodate the intuition that testifying very often seems to be something people do intentionally.

None of these theories would exclude *Wikipedia* entries from the domain of testimony. If I approach my colleague and ask her to tell me about the correspondence between Hannah Arendt and Mary McCarthy and she tells me it began in 1949 and continued until 1975 when Arendt died, she has offered me testimony. I could have received this information from *Wikipedia* as well. If the word of my colleague is testimony, and it is on the accounts offered above, it is difficult to see why it would not count as testimony simply because it appears on *Wikipedia*. Many *Wikipedia* entries are written with the intention of conveying information or providing evidence or can reasonably be seen as conveying information or evidence.

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Echoing concerns over the possibility of vandalism on *Wikipedia*, Brad Wray (this issue) raises the following objection to the idea that *Wikipedia* offers us testimony (of either the individual or group sort):

> As we saw above, there is some tendency to gossip on *Wikipedia* as well as a tendency to report falsehoods for amusement. Hence, we have to be especially cautious about what is posted on *Wikipedia*. Perhaps it is not even apt to describe it as an account of what some person, we know not whom, believes. In this respect, perhaps it is not aptly described as testimony at all. (Wray, this issue, 46–7)

The worry here seems to be that statements found on *Wikipedia* are created with a different aim in mind. They are not primarily, according to Wray, intended to convey information but are for some other purpose – entertainment perhaps.

But if one adopts a less restrictive account of testimony, such as Lackey's, there is no requirement that the testifier always intend for an utterance to convey information in order for it to count as testimony. Given *Wikipedia*'s discussion of its own aims, the common understanding of encyclopedias as sources of information, and the fact that *Wikipedia* appears to be as reliable as traditional encyclopedias in many areas (Fallis 2008), many people do *reasonably* perceive the statements found on *Wikipedia* to be testimony. According to Lackey's theory, at least, *Wikipedia* entries would count as testimony.

But we need not commit to Lackey's theory in order to count *Wikipedia* entries as testimony. This is because Wray's argument does not establish that there are no statements on *Wikipedia* intended to convey information. It is probably true that not every statement on *Wikipedia* should be conceived of as testimony. There will certainly be cases where a statement is more reasonably conceived of as a joke. But the fact that not all of the statements on *Wikipedia* are best conceived of as testimony does not mean that all *Wikipedia* entries do not offer us testimony. Wray's objection also seems to make the link between testimony and belief too strong. Although testimony often indicates what the testifier believes, not all assertions are expressions of belief and therefore not all testimony is an expression of what a testifier believes. If this were so, there would be no possibility of false testimony.

There is a theory of testimony, however, that might seem to exclude *Wikipedia* entries from counting as testimony. The assurance view (Moran 2006) of testimony claims that what makes testimony a unique type of speech act is that it comes with one's assurance that the statement is true. The act of testifying and the assurance are one and the same. To testify is to invite another to trust you. This does not mean that one cannot give false testimony. False testimony involves giving a false assurance. But it does mean that testimony is essentially interpersonal. When I testify, I invite another to trust me and because of this, my interlocutor has expectations that exist only because I testified. With an assurance comes an entitlement. The hearer is entitled to question me if *p* turns out to be false. To testify, then, is to appreciate one's role in an epistemic relation and to be aware that

this relation opens up the possibility of being called to question. It is helpful here to consider what happens when we do hear false testimony or when another leads us astray. We rebuke them, question them, and insist that they explain themselves. The existence of this sort of response suggests that testimony is a normative relation and that subjects who are unable to appreciate these norms are not testifiers.

The assurance view of testimony identifies an individual speaker as epistemically responsible for their testimony. Such responsibility would seem to be abandoned on *Wikipedia* since contributors remain anonymous. But there are mechanisms for holding contributors responsible on *Wikipedia* to some extent. Each contributor's change is tracked and identified as issuing from a specific user. Though their real identity is hidden, their online identity is publicized. An author has his entry subject to review by others and must respond to criticisms in order to avoid having his entry changed. The public discussion of the content of the *Wikipedia* article suggests that there is a way to address the author. The author may not respond, but if she fails to defend her view, then the article may be changed by others who think she is saying something false. Indeed, the open nature of *Wikipedia* provides a venue where people are constantly calling to question the word of another. There are, of course, those who simply change the content of articles without discussion. But these authors do so knowing that their change may be called to question.

Wikipedia entries, therefore, are not incompatible with the assurance view. The outrage generated over the Seigenthaler case (a high profile case of vandalism on *Wikipedia*), for instance, seems to reveal precisely what the assurance view identifies as essential to testimony – that it is a normative relation and when the norms of testimony are violated, we have the right to rebuke the speaker. And rebuke we did. The person who wrote the false information was hunted down and exposed as a liar. The fact that the medium makes it difficult to know who is giving their assurance is not evidence that the statements on *Wikipedia* do not involve assurances or that these entries are not taken to involve assurances.

Therefore, none of the theories of testimony currently on offer would exclude *Wikipedia* entries from the class of testimony. The pressing question for those interested in the epistemology of *Wikipedia*, then, isn't whether or not the statements posted on *Wikipedia* are to be understood as testimony, but rather, whose testimony it is. What is the source of that testimony? Is the source of testimony an individual person or persons or is the source *Wikipedia* itself?

2. GROUP TESTIMONY

In "Group Testimony" (2007) I argued that one could not always understand the testimony of a group as the testimony of some or all of its members. The argument resembled arguments put forward for the non-summative nature of group belief. When groups form beliefs, they often do so via consensus. When a group issues its view on some matter, it is very possible that this view does not reflect the beliefs

of the majority regarding the matter. Rather, group belief is often the result of collective acceptance of some proposition (though the group can still, on my view, be said to genuinely believe). The testimony offered by a group via its spokesperson or via written document similarly resists a summative approach. It simply does not follow that because group G says "There are weapons of mass destruction in Iraq" that all or most of the members (or that any member) of the group would testify similarly. In many cases, when a group testifies, the group itself will be the source of the testimony.

In "Masking Disagreement Among Experts" (2006) John Beatty provides us with a fascinating case that clearly exhibits the non-summative nature of group testimony. In 1956 a distinguished panel of geneticists formed by the U.S. National Academies of Science (NAS) issued a report on the genetic hazards of radiation exposure. There was a great deal of controversy regarding radiation exposure and its long term effects. The Atomic Energy Commission (AEC) often seized on this and used it as a way of countering charges that radiation exposure would have long term genetic effects. The perception of disagreement among the public was of great concern to those who formed the NAS panel. If the panel did not provide a unified voice, it risked undermining the public's trust in science. They were also deeply concerned that if they did not provide some testimony regarding the long term genetic effects of radiation, that someone else would. They wanted to avoid, for instance, the AEC issuing its own report regarding the hazards of radiation exposure. As Beatty notes, this wasn't just that they were concerned that some other group would usurp their expert status or undermine their authority; they were deeply concerned that some other group, one less reliable, might issue false or misleading information.

But achieving a unified view of the matter was not easy. There was considerable disagreement within the panel. The issue of the maximum permissible dosage was particularly contentious. One geneticist on the panel even refused to report anything regarding a permissible dose because of his belief that the issue was indeterminable. Despite the clear differences of opinion, all the geneticists signed the report and "in so doing very publicly agreed to let it stand as the committee's position" (Beatty, 64). The report of the NAS panel is a paradigm case of group testimony and the NAS committee and its report are not unusual. Groups routinely offer testimony. But how are we to understand group testimony? To start, we need to understand how a group can perform a speech act.

In "Group Speech Acts" Justin Hughes (1984) provides the following analysis of group speech acts:

For a group G, speaker S, and utterance x, G utters x if and only if:

1. There exists a group (G), this group has an illocutionary intention, and x conveys that illocutionary intention.
2. S believes that he or she knows the illocutionary intention of G and that x conveys this illocutionary intention.

3. G does not object to S uttering *x* on its behalf and if G intends for any specific individual(s) to utter *x*, it intends for S to utter *x*. S believes that he or she knows this.
4. 2 and 3 are the reasons S utters *x*. (388)

Hughes's discussion of the formation of illocutionary intentions is, as Anthonie Meijers (2007) points out, unnecessarily narrow. Hughes conceives of the process in terms of consensus and those groups that have decision making processes that involve something other than consensus do not count as capable of group speech acts. Following Meijers, I think we need to allow for the fact that group illocutionary intentions will be arrived at in a variety of different ways depending on the type of group and the institutional and social context in which it functions.

This indicates an additional weakness in Hughes's analysis. He makes no reference to the social and normative context that makes group speech acts possible. Performatives, for instance, function against the backdrop of constitutive rules. When the deacon says "I now pronounce you man and wife," her utterance is a performative that brings about a state of affairs, but it is not the mere utterance which does this. It is the fact that the utterance was made in the right social and institutional context. Likewise, collective utterers will be utterers only within the right social and institutional context and thus, group testimony requires the right social and institutional setting. In "Group Testimony" (2007) I cited social and institutional contexts as one of the determining factors in transforming individual testimony into group testimony. The summative account of group testimony fails to recognize that when a group offers testimony it does so in a particular institutional and social context. Groups are often charged with the task of offering information. The institutional and social context sanctions the group itself as the testifier. If each geneticist on the NAS committee issued his own report regarding the long term effects of radiation, none of those individual reports would count as the report of NAS. NAS was commissioned with the responsibility of issuing a report and was thus given the authority to do so. In effect, the social and institutional framework sanctioned NAS as a collective *utterer*. Whether a group is a source of testimony or not (or an utterer in general) rests, in part, on the social context, including the authority and organizational structure in which the group functions.

We might add, then, the following condition to Hughes analysis above:

5. S utters G in the proper social and normative context.

Hughes focuses on the case of a spokesperson who utters a statement on behalf of a group. Often, however, a group speaks by issuing a report or document. We can revise Hughes's analysis to allow for this.

For a group G and utterance *x*, G utters *x* if and only if:

1. There exists a group (G), this group has an illocutionary intention, and *x* conveys that illocutionary intention.

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2. G conveys x either (i) through a spokesperson S or (ii) through written means.
3. If (i), G does not object to S's uttering x on its behalf and if G intends for any specific individual(s) to utter x, it intends for S to utter x and S believes that he or she knows this.
4. If (i), S utters x for the reasons in 3.
5. If (ii), G does not object to the way in which x is conveyed in writing.
6. G conveys x (either in writing or via spokesperson) in the proper normative and social setting.

The above provides an analysis of group speech acts. But as we have seen, testimony is a specific type of speech act that involves the conveying of information. I offer the following analysis of group testimony:

Group G testifies that p by making an act of communication a if and only if:

1. (in part) in virtue of a's communicable content G reasonably intends to convey the information that p.
2. The information that p is conveyed by either (i) a spokesperson S or (ii) a written document.
3. If (i), G does not object to S's uttering p on its behalf and if G intends for any specific individual(s) to utter p, it intends for S to utter p and S believes that he or she knows this.
4. If (i), S utters p for the reasons in 3.
5. If (ii), G does not object to the way in which p is conveyed in writing.
6. G conveys the information that p in the right social and normative context.
7. In conveying the information that p in the right social and normative context, G is taken to have given its assurance that p is true.

3. ARE THE ENTRIES ON *WIKIPEDIA* GROUP TESTIMONY?

It seems clear that at least much of what we read on *Wikipedia* is testimony. But is it the testimony of an individual or of a group? Answering this question will involve clarifying the nature of *Wikipedia* and the process by which entries are created. First, let us consider whether *Wikipedia* is a group at all. *Wikipedia* now boasts more than 75,000 active contributors. But the mere number of contributors doesn't prove that *Wikipedia* is anything more than a random class of individuals similar in kind to the class of people who blog, use the internet, or have red hair.

If *Wikipedia* is a source of group testimony, it must be the sort of group capable of making group utterances, of forming illocutionary intentions. These types of groups form a motley crew: research teams, search committees, governments, and corporations, but nonetheless they seem to share the following traits: members of these groups are intentionally related, they share certain goals or aims, and the members are aware, in some sense, that they share these goals with other members. In addition, these groups have mechanisms for group decision making.

They engage in group decision making and joint action in general, against the backdrop of norms and rules specific to that group. Thus, the members of the group incur special rights and obligations as group members.

Given these traits, we can ask: "Is *Wikipedia* a group?" The democratic nature of *Wikipedia* is by now well known. Anyone, regardless of expertise, can write and edit *Wikipedia* articles and they can do so anonymously. In addition to authors and editors, there are over 1,500 administrators that check articles to make sure that they conform to *Wikipedia* guidelines and policies. Techies are able to develop and contribute software programs that are used to rectify vandalism and other anomalous contributions. All of the participants are subject to the guidelines and policies developed by contributors. These policies and procedures are established via the consensus approach. When a person contributes to *Wikipedia*, then, she does so with the understanding that her contributions will be subject to editing by others and she also agrees to conform her contribution and her on-line behavior to *Wikipedia* guidelines and policies. There appears to be an acceptance of group norms here. Those that fail to conform to the norms are subject to correction by others.

Wikipedia is clear about its aims. Its goal is to provide neutral, balanced, encyclopedic, and verifiable knowledge to all, free of charge. It is difficult, of course, to determine if contributors share this aim. Some who vandalize entries may not. But the vast amount of work that is done voluntarily by individuals (writing, editing, administration, organization) suggests that they are aware of these aims and share them to some extent. Despite divisions between inclusionists (those who want to accept all entries, even those deemed "inane") and exclusionists (those who want to restrict entries on the basis of topic), the behavior of contributors would be difficult to explain unless we saw them as engaging in a joint endeavor to produce an on-line encyclopedia of a certain quality.

In addition, there are various traditions, customs, rules, and policies which suggest that contributors to *Wikipedia* are not simply a class of individuals, but a community. "*Wikipedia* community" and "Wikipedians" are terms used frequently in discussion both within *Wikipedia* and outside it. In July of 2008, Wikipedians gathered in Alexandria, Egypt for an annual meeting. *Wikipedia* conferences, in which members meet to discuss the content, policy, and culture of *Wikipedia*, are ubiquitous. *Wikipedia* also has a site about itself which explores the culture of *Wikipedia*. This "self"-reflective behavior suggests we are dealing with more than simply a random class of individuals.

Given this, *Wikipedia* appears to be a structured group whose members are intentionally related. They have common goals, beliefs about each other, and incur special rights and obligations due to their participation in *Wikipedia*. But does *Wikipedia* have a decision making process for the production of group illocutionary intentions and subsequently group utterances?

Wikipedia entries begin with the submission of an individual or a small group of individuals who co-author the entry (called a *stub)*. The entry is then added to or edited by others. Any change made to the article is tracked and made public.

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Changes are often the topic of discussion and these discussions are also made public. There is, therefore, a great deal of joint deliberation that takes place in the course of the development of an article. Because such deliberation often is heated, there are conflict resolution processes to resolve disputes regarding the content of an entry. Though administrators do sometimes appeal to straw votes to resolve disputes, most decisions regarding the content of an article, policies and procedures, and the general workings of *Wikipedia* are made via a consensus. The existence of a decision making process (the use of discussion boards, and then, if need be, conflict resolution tools) suggests that there is a mechanism in place for the forming of group illocutionary intentions. *Wikipedia* seems capable of forming illocutionary intentions and thus, meets all the conditions for being a structured group.

The consensus regarding the content of an article and its quality is reached over time, however, and sometimes it is a lengthy discussion period. Articles whose content is in dispute, therefore, do not seem likely candidates for group utterances. This is because there is no clear consensus regarding the content of the article. Indeed, *Wikipedia* itself notes that the origin of an article is often a singular perspective. But those that become the topic of discussion among multiple people gradually are transformed to represent a more neutral, plural perspective. Here is *Wikipedia*'s description of the process:

> …many articles start their lives as partisan, and after a long process of discussion, debate and argument, they gradually take on a neutral point of view reached through consensus. Others may for a while become caught up in a heavily unbalanced viewpoint which can take some time – months perhaps – to achieve better balanced coverage of their subject. In part, this is because editors often contribute content in which they have a particular interest and do not attempt to make each article that they edit comprehensive. However, eventually additional editors expand and contribute to articles and strive to achieve balance and comprehensive coverage. (*Wikipedia*, "Wikipedia: About")

In order to identify those that have reached or are near to reaching a comprehensive, verifiable, and neutral point of view, *Wikipedia* has distinguished two categories: featured articles and good articles. Articles in each category go through a lengthy review process and are subject to the approval of the *Wikipedia* community. These mature articles, then, seem the most likely candidates for group testimony. The identification and labeling of these articles are what makes their transformation from individual testimony to the testimony of *Wikipedia* complete. Such a selection process provides the sanctioning necessary for group testimony. It signifies the group's acceptance of the content of the article and their illocutionary intention.

The mature articles also exhibit what might be called a stability of mind, or what Bernard Williams called a 'steadying of the mind'. Williams discusses the process by which a subject comes to sort his wishes into either beliefs or desires as follows:

> The basic mechanism depends on the fact that there are others who need to rely on our dispositions, and we want them to be able to rely on our dispositions because we, up to a point, want to rely on theirs. We learn to present ourselves to others, and consequently also to ourselves, as people who have moderately steady outlooks or beliefs. (2002, 192)

Miranda Fricker (2007) picks up on this and puts it to use in the context of testimony. Our practice of relying on the word of another presupposes that the other has a steady mind. Consider how we would treat an epistemic subject whose testimony constantly changed or was subject to changes on a whim. You ask him the time of day: He reports 2:00 p.m., but then says, "Wait, actually, it is 1:30." A few moments later, he says, "No, it is 12:30." Such a testifier would signify a great deal of unreliability. Even if in the end the testifier provided the correct time, we would not be justified in believing what we were told.[1] Because of our reliance on others and our awareness that they expect us to be stable, we are forced to avoid expressing mere wishes and attempt, instead, to offer the truth.

> We might say, then, that trustful conversation with others is the basic mechanism by which the mind steadies itself. Such dialogue pressurizes the subject into having attitudes of belief towards only those propositions that merit it. It draws the subject away from assertoric caprice and towards doxastic stability. (Fricker 2007, 52)

All of this suggests that in order for groups to be a source of testimony, there must be a settling of the "group mind." Indeed, Beatty's example of NAS is an interesting case of a group that experienced the need to steady its mind. It was the presence and needs of the community which forced NAS to achieve a consensus regarding the information they wanted to convey to the public. The doxastic stability of NAS was necessary in order to maintain the image of science (or the subgroup – physicists) as a source of truth. I would go further and say that it wasn't just necessary to maintaining the *image* of science (or a subgroup of science) as a source of truth, but it was necessary for it to be a source of truth at all. To be a testifier (individual or group) one must exhibit doxastic stability.

The fact that *Wikipedia* articles, at least in their infancy, are constantly changing or subject to change suggests that these articles do not express the "mind" of the *Wikipedia* community. The more mature articles, however, those that go through a lengthy process of discussion and review and which are then featured as those meeting the ideal, do. These articles, of course, are still subject to revision but much less so. They are maintained by those who check for vandalism and, though discussions continue about their content, substantial changes to content happen relatively infrequently. To this extent, the mature articles are no different than the steady states of individuals. Steadying the mind does not mean that beliefs are never changed or altered when new evidence becomes available. Rather, it means that beliefs have, as Fricker put it, "a life expectancy" and that changes, if they occur, are a result of responsiveness to reasons.

Wikipedia, then, includes a mix of individual testimony as well as group testimony. It is only as articles mature and go through a lengthy editing process that it seems plausible to see it as the testimony of *Wikipedia*. Prior to this, entries might be viewed either as the testimony of an individual or some small subgroup that has reached a consensus regarding the content but whose content has not been sanctioned by the larger *Wikipedia* community. The lack of stability of a great deal

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of *Wikipedia* testimony should lead us to worry about whether or not beliefs based on the testimony of *Wikipedia* are justified. *Wikipedia* itself is an immature epistemic agent. The steadying of the mind is a process we hope most adults achieve on at least a wide range of issues. It isn't clear that *Wikipedia* has reached such maturity. In this respect, *Wikipedia* may be more like a child. Often children do tell us the truth, but their grasp of the world, what they believe about it, and their understanding of their role in the practice of testimony is underdeveloped and as such we may need to monitor them more closely for trustworthiness. Likewise, *Wikipedia* is an epistemic child, and we should be careful (as *Wikipedia* itself urges us to be) to monitor it closely for trustworthiness.

4. MONITORING THE TRUSTWORTHINESS OF *WIKIPEDIA*

In "Group Testimony" (2007) I argued that beliefs based on group testimony were not good candidates for an anti-reductionist account of justification.[2] Anti-reductionism holds, roughly, that our testimonial beliefs are justified as long as the hearer has no reason to believe the speaker is either insincere or unreliable. It is to be contrasted with reductionism, the view that our testimonial beliefs are justified insofar as we have positive reasons for thinking the hearer is either sincere, reliable, or both.[3] Anti-reductionism was developed in response to a sort of everyday testimonial context; one walks up to a stranger, asks the time, and unreflectively believes what one is told. There is a presumption of truth behind acceptance of testimony and this presumption is based on the need for it in everyday conversational contexts.

But our interactions with groups are not in the form of conversations. Though not all group testimony is "formal" testimony, much of it is given within an institutional setting (legal, governmental, scientific, and so on). We don't walk up to a group on the street and ask the time. Indeed, there is a stark discontinuity between our testimonial interactions with individuals and our testimonial interactions with groups. Groups provide testimony only on matters that interest them or that fall within their domain of expertise. They speak on a limited range of issues. Contrast this with an individual who might be asked to testify about a range of matters – the time, the weather, his or her date of birth, and so on – unrelated to any expertise or interest they may have. Because anti-reductionism has in mind conversational contexts that are lacking in the group case, the motivations for adopting a non-reductive account seem not be present in the case of group testimony.

Wikipedia is an interesting counterexample to this. *Wikipedia* doesn't just speak on matters of interest to it. It speaks on a wide range of matters. Though we cannot ask *Wikipedia* the time (yet) we can ask it questions about a range of different topics and its domain of expertise is wide ranging. To this extent, *Wikipedia* is more like the person on the street from whom we ask directions and less like the cigarette manufacturer that issues statements concerning the health risks of smoking.

Despite this, I am skeptical that anti-reductionism is the right account of the justification of the beliefs we acquire from *Wikipedia*. The internet is a relatively new form of communication and it differs in many ways from face to face conversation. Indeed, it isn't clear to me that the norms of face to face communication can be easily extended to internet communication. But, more importantly, *Wikipedia*'s child-like status suggests that a default entitlement to trust *Wikipedia* (something like Burge's acceptance principle) does not hold. Its doxastic instability provides a defeater to the default assumption of trust. If our beliefs based on the testimony of *Wikipedia* are justified (and here I mean beliefs based on both individual testimony and group testimony found in *Wikipedia*), such justification must be reductive in nature.

I will focus my discussion of reductionism and its application to *Wikipedia* on two theories that require a form of monitoring on behalf of the hearer. The first requires that the speaker be monitored for trustworthiness (E. Fricker 1995), the second appeals to our background beliefs as evidence that can serve to justify our acceptance of a piece of testimony (Adler 1994). I take the latter view to imply a form of monitoring, in that what is monitored is not necessarily the speaker, but the testimony, and it is monitored or checked against a set of background beliefs. Can these positions be extended to understand the justification of our beliefs based on the testimony we receive from *Wikipedia*?

Consider first Elizabeth Fricker's position that in order for a testimonial belief to be justified one must scrutinize the speaker for tell-tale signs of insincerity. How are we to scrutinize *Wikipedia* (or its authors) for insincerity? A natural response here would be to say that the sincerity of *Wikipedia* is a function of the sincerity of its contributors. After all, if we were to find out that none of the contributors were reliable, why would we be justified in believing what was written on *Wikipedia*? And this would seem to be so whether we are dealing with the immature articles, which are more reasonably conceived of as individual testimony, and those that are more mature and can be viewed as the testimony of the *Wikipedia* community.

There are a variety of reasons why this version of reductionism will not work for the testimony we receive from *Wikipedia*. Though we know the user names of contributors and can track their activity on *Wikipedia*, we have very little knowledge of their trustworthiness. We could look at their track record as a contributor to *Wikipedia*, but often contributors do not have a lengthy track record. Also, if we consider the mature articles to be the testimony of *Wikipedia*, there is always the possibility that though each individual contributor is unreliable, the process by which articles are discussed, edited, and reviewed produces a document which is nearer the truth than any document produced by an individual contributor alone. In some cases, monitoring the trustworthiness of individuals will tell us nothing about the trustworthiness of the group.

Could there be a less individualistic monitoring requirement that would require the monitoring of the group itself? What is needed is the ability to monitor an epistemic system rather than simply the ability to monitor an individual. What

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would it mean to "scrutinize" *Wikipedia* for tell-tale signs of sincerity's absence? Fricker isn't all that clear on what scrutiny requires as the individual level. At times she seems to be referring to physical signs of insincerity. When we scrutinize an individual speaker, we can often see signs of insincerity in their overt behavior. But physical signs or behavioral cues would obviously be of no use in the *Wikipedia* case. When testimony is written certain contextual cues may not be present.[4]

But are there other cues—system level cues—that might indicate a lack of sincerity? I think there are. Indeed, these cues are what let administrators know that there is a problem with the content of an article and which allow them to eliminate vandalism. Sentences that do not fit with the overall structure of the piece or which introduce absurd or questionable information raise "red flags." Articles that are relatively stable and that then change dramatically over a short period of time without adequate discussion by other contributors suggest "tampering." Indeed, there are various computer programs, developed by contributors, which track changes and look for anomalies. These anomalies seem to be tell-tale signs of insincerity at the system's level.

It is the removal of these anomalies that has led some to criticize *Wikipedia*. P. D. Magnus (2006) has pointed out that these anomalies let a reader know they must go to a different source to verify the accuracy of the claim. If they are removed, our ability to monitor is jeopardized. As Fallis puts it:

> [Magnus] noted that we can try to verify the accuracy of a particular claim (that we are uncertain about) by considering both the *presentation* and the *content* of the information. For instance, if an author makes numerous spelling and grammatical mistakes or makes other claims that are clearly false, then we have reason to be cautious about the accuracy of this particular claim. Unfortunately, these are just the sorts of features that contributors to Wikipedia typically remove when they edit entries that other people have written. That is, they quickly remove spelling mistakes, grammatical mistakes, and clearly implausible claims. Thus, these features will no longer be available to someone trying to verify the accuracy of these entries. (2008, 1666)

To the extent that implausible claims are removed, the removal of anomalies by *Wikipedia* editors and contributors is a good thing. It improves the reliability of *Wikipedia* entries. But the removal of typographical errors may make it more difficult for readers to recognize tell-tale signs of insincerity and incompetence.[5] What I think this means, then, is that receiving testimony from a source such a *Wikipedia* involves trusting not the *man*, but the *system*. *Wikipedia* is self-monitoring and reliance on the self-monitoring capabilities of agents is something we do all the time. Indications that this monitoring is failing or not functioning well would allow us some tell-tale signs of insincerity and incompetence. And we can monitor this by looking at the history of any article. *Wikipedia* keeps track of all of the additions and changes. The fact that we can access the "reasoning process" of a subgroup of *Wikipedia* and see their discussion of the content of the article is also a way of monitoring for sincerity and competence. It is from these debates that we begin to understand some of the reasons contributors have for writing what they write.

Adler's (1994) form of reductionism may be even better suited for extension to *Wikipedia* because the evidence for the acceptance of testimony is provided by background beliefs and need not involve monitoring the speaker for trustworthiness. Although hearers may enter testimonial contexts without specific evidence verifying the truth of a piece of evidence or the reliability of the speaker, they may have general background knowledge that will provide sufficient reason for accepting a piece of testimony. What is the background in the case of individual testimony? Testimony is often corroborated by other sources. If I learn about a stock market crash from a friend, this information is quickly corroborated by newspapers, television, and radio. Further, there are significant incentives for telling the truth and in some domains (specifically science), there are significant checks and balances that assess the credibility of sources. Finally, testimony is always assessed for prior plausibility against a vast backdrop of beliefs the hearer has acquired. If someone tells me that a UFO has just landed on top of the student center, I probably would not accept this, as it does not cohere with a vast number of beliefs I already have.

As Adler points out, the monitoring of testimony against these background beliefs does not require that an agent go out and actively seek out reasons for trusting or not trusting the testifier. The constraints instituted by the scientific community are built into the very nature of science and a lay person need not seek out counter evidence or studies in the literature to confirm the reliability of the source. "…[T]he confirmation is the result of the ongoing processes of communication and inquiry, it is effortless, placing no strain on the agent's resources." (267) And in many cases, it is the accuracy of the report rather than the character of the speaker that is at issue. We trust not the testifier but that the information is true or accurate. This is, according to Adler, particularly true in the case of science.

> What matters to A, so far as his research is concerned, is that B is correct in his pronouncements, not that they are derived from a trustworthy character. In fact, we are inclined to say not that we trust the scientists who wrote the paper, but that we trust that their reports are accurate, or that they have been accepted after a thorough and fair refereeing process. (270)

Adler's version of reductionism, then, seems well suited to extension to group testimony. We need not monitor the group members for trustworthiness because what we are monitoring is the assertion made by a group or an individual against a vast background of beliefs. Testimony from a group can be corroborated via background beliefs we have. There are also significant incentives for groups to tell the truth despite the fact that many groups have interests that might lead one to be skeptical of their claims. Consider the incentives in place for corporations to speak truly about the ways in which they make their products and the impact their production has on the environment and on the consumer's health. Tobacco companies can no longer hide the truth about the effects of cigarette smoking on

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the health of the smoker. Scientific groups, too, have incentives for speaking the truth and the review process provides a process that insures that the testimony we receive from groups has a certain level of reliability. And finally, like individual testimony, group testimony will be assessed for its plausibility against a vast backdrop of beliefs. If the group testifies to something that is wildly at odds with what we know to be true, then we have reason not to accept the testimony of the group.

The testimony of *Wikipedia* will be assessed in a similar fashion. *Wikipedia* entries will be corroborated by background beliefs we have. There are, in addition, incentives in place for truth telling within the structure of *Wikipedia*. Those entries which are nearer to the ideal of the encyclopedic entry (balanced, comprehensive, and verifiable) are more likely to receive the acceptance of other contributors and more likely to be labeled "good" or those that are "featured." It is precisely because *Wikipedia*'s reliability has been challenged that it has continually instituted policies and procedures for ensuring accuracy and verifiability. Following such procedures increases the image of *Wikipedia* as a reliable source and this itself may be some incentive for avoiding inaccurate and biased information.

CONCLUSION

Epistemic collaborations such as *Wikipedia* raise some interesting and challenging questions within the epistemology of testimony. Testimony has been traditionally viewed as occurring between individuals. In this paper I have argued that groups, too, can be a source of testimony and provided an analysis of group testimony. I then considered whether or not *Wikipedia* would count as a testifier on this analysis. *Wikipedia* involves an odd mix of individual testimony and group testimony where, at times, the group testifying is *Wikipedia* itself. But the immaturity of *Wikipedia* suggests that nothing like Burge's default entitlement (1993) holds when we are browsing its entries. Luckily, there are forms of reductionism that go a long way toward explaining why we are often justified in believing what we read on *Wikipedia*. Perhaps as *Wikipedia* matures and steadies its mind, the need to reflectively monitor it will vanish. Perhaps, once this medium becomes as familiar and routine as our everyday exchanges, our learning mechanism (Coady 1992) or epistemic sensibility (M. Fricker 2007) will develop in such a way as to be able to respond to group testimony in an unreflective yet critical way.

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NOTES

1 If the agent exhibited a great deal of doxastic instability over time and in a number of different domains we might begin to question whether the agent was a testifier at all.

2 I have in mind specifically Burge's anti-reductionism (1993).

3 The distinction between reductionism and anti-reductionism has often been characterized in terms of the notion of inference. Reductionism holds that our testimonial beliefs are justified inferentially. Anti-reductionism holds that, like perception and memory, our testimonial beliefs are epistemically direct.

4 There is, however, some evidence that written testimony does exhibit certain other tell-tale signs of deception. Apparently liars are somewhat less likely to use first-person pronouns. See Newman, Pennebaker, Berry, and Richards (2003). I thank Don Fallis for this reference. There could be something like this in the case of group testimony.

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5 This presupposes, of course, that spelling and grammatical mistakes are truly an indication of insincerity and incompetence. I am doubtful that it is so. This presupposition seems to reveal the sort of intellectual elitism that *Wikipedia* is so keen to eliminate.

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