

# The role of conflict in determining consensus on quality in Wikipedia articles

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## ABSTRACT

This paper presents research that investigated the role of conflict in the editorial process of the online encyclopedia, Wikipedia. The study used a grounded approach to analyzing 147 conversations about quality from the archived history of the Wikipedia article *Australia*. It found that conflict in Wikipedia is a generative friction, regulated by references to policy as part of a coordinated effort within the community to improve the quality of articles.

## Categories and Subject Descriptors

K.4.3 [Computers and society]: Organizational Impacts – Computer-supported collaborative work.

## General Terms

Human Factors, Theory.

## Keywords

Wikipedia, internet studies, online community, conflict, mass collaboration.

## 1. INTRODUCTION

Wikipedia – “the free encyclopedia that anyone can edit” [37] – is often the subject of popular debates about the quality of information that can be produced by just “anyone,” rather than the traditional expert authors of encyclopedias. Andrew Lih [10] has termed these “anyones,” a “bunch of nobodies,” who together have authored the world’s largest encyclopedia. To popular advocates [8,9,17], Wikipedia is proof positive of the potential of the web to be open, democratic and inclusive, while to popular critics [5,7,16] it is a site of misinformation populated by amateurs where the majority consensus takes the place of fact. The critics argue that Wikipedia lacks the security and gatekeeping functions of traditional models of content production, and that consequently the information it produces is of inferior quality. Alternately, the advocates view Wikipedia as a collective that is able to self-correct and improve the content it creates, and which, in the process of producing knowledge, also creates its own set of regulatory mechanisms.

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This study investigates the issues these debates raise, specifically taking into account the role of conflict, which critics argue is detrimental to the quality of information that Wikipedia produces to answer the question, “What is the role of conflict in determining consensus on quality in Wikipedia articles?”. Through an analysis of the talk pages of the Wikipedia article “Australia,” together with an investigation of scholarship on user-generated content and Wikipedia, the study finds that conflict is central to the editorial processes of Wikipedia. Indeed, it is a “generative friction” which David Stark [19] describes as the friction that occurs at the “overlap of evaluative frameworks” where “multiple evaluative frames [challenge] the taken-for-granted.” By putting forward competing values and definitions of quality, in a “generative platform that invites contributions from anyone who cares to make them” [40], Wikipedia editors use the resulting friction as part of a coordinated effort within the community to improve the quality of articles.

## 2. UNDERSTANDING CONFLICT IN USER-GENERATED CONTENT

The assumption that Wikipedia lacks the expertise needed for quality control of the information it produces disregards the role of the user community in the editorial process. Wikipedia is more than an aggregator of facts by amateurs: it operates as an editorial community. This community of users has created more than 25 million pages [36], which are referred to by more than 400 million readers a month [4]. And as the project has evolved, it has developed its own culture and coordinating functions to manage both members’ behavior and article production.

### 2.1 Conflict as Generative Friction

Wikipedia is what Stark [19] would term a heterarchy, which is an organization, or in this case a community, “with multiple worldviews and belief systems” where authority is distributed. An inherent feature of such an organizational structure is a conflict that Stark calls dissonance and “which occurs when diverse, even antagonistic, performance principles overlap.” However rather than seeing this conflict as being an impediment to the processes of the organization, Stark sees an organized dissonance as a productive friction which can offer multiple solutions to problems. He warns however that to be constructive, conflict “must be principled, with the adherents of the contending frameworks offering reasoned justifications.”

Talk pages provide a space for users to engage productively in this dissonance. It is in this space that friction is used by participants, not as something that degenerates in to anarchy and risks the health of the project, but where the conflict is framed as a positive and generative process that enriches the project.

Assuming good faith [38] enables this process to occur, and for it to be productive. The idea of collaboration and assuming the best in others and their motivations creates a culture where conflict resides in the debates about knowledge and processes rather in the person. This method has also enabled a multitude of tasks – from policy to software development [15] – to occur, as diverse viewpoints and evaluative frameworks meet on the talk pages.

As St Vilia et al. [20] found in their study on discussions about information quality in Wikipedia, dissonance among users can also have beneficial effects as they seek, “a balance as a social group among those dimensions through the process of negotiation, logical analysis and sensemaking of their own and other’s actions.” In this way, competing views can propel the encyclopedia forward as participants work toward ensuring their viewpoint has the best possible chance of being accepted by the wider community.

To achieve this consensus among community members, “Wikipedia encourages community introspection: that is, it is strongly designed so that members watch each other, talk about each other’s contributions, and directly address the fact that they must reach consensus” [24]. Members place a high importance on achieving consensus on the talk pages as “resolving these disputes through consensus is the most fundamental discursive work that Wikipedians perform” [6]. Achieving consensus is also fundamental to the success of the wiki as an encyclopedic platform, by its nature content is in a constant state of flux, and for any article to have the stability required to achieve a measure of quality, consensus on content needs to be reached. Using and framing conflict as a generative friction that enables consensus therefore requires the community to adhere to a shared set of values regarding the editorial process, and engage in discussion and dispute in a structured environment.

## 2.2 The Evolution of Policy

In the early days of the project as conflicting points of view met, edit wars (the constant reversion of edits) were a common problem. However the community responded reflexively to develop a set of policies, guidelines and community standards (herein referred to collectively as policy) that would guide the production of articles [25]. These policies serve to regulate the behavior of editors and act as a set of community norms [12], each policy having evolved from the community in response to particular problems identified in the editorial process. In referencing policies on talk pages, editors reinforce shared values about how best to produce quality encyclopedia articles, and manage the community. Referring other users to policy is also used as an online discursive tool [6,25], and while most often this can be seen in light of the good faith and participatory culture of editors who are directing new users to the relevant policy document, hyperlinking directly to the policy page can also be used as a veiled insult when talking to another experienced editor (to insinuate they don’t understand, or aren’t applying the policy correctly). Reference to policy is also employed when “Contributors may interpret a situation differently and draw on different policies to substantiate their views” [6]. As Morgan, Mason and Nahon observe, “Wikipedia relies largely on social regulatory mechanisms in order to maintain article quality and community stability” [11].

Having developed these policies, the editorial community therefore has a great stake in ensuring their success and Joseph Reagle [15] refers to a particular Wikipedia culture that is “extraordinarily self-reflective.” He maintains that beyond the articles, Wikipedia is “suffused with a coexisting web of

practices, discussion and policy pages [where] most everything is put on a wiki, versioned, linked to, referenced and discussed.” The idea that Wikipedia exists as an aggregator of information without any form of quality control disregards these practices, and the role of the user in the editorial process.

## 2.3 Wikipedians as Lead Users

As a heterarchy, Wikipedia editors are encouraged to ignore all rules [2,35]. However in order for the community to integrate differing perspectives and worldviews into quality encyclopedic content, it requires a “discipline and commitment to norms” [14], where some users will assume more responsibility [22,39]. According to Tapscott and Williams [22], “Communities need systems of peer review and leaders who can help guide and manage interactions and help integrate the disparate contributions from users.” These users perform many duties essential to the success of Wikipedia and as Dan O’Sullivan [14] notes, “the system is based on a hierarchy of mutual respect, as well as general recognition by most users that it is to everyone’s advantage to have some decision makers with certain privileges.”

These users perform vital functions not only in terms of editorial workload, but also in designing and negotiating processes to improve the editorial processes, the functioning of the community, the overall quality of the encyclopedia, and the success of the project. Indeed, one study on information quality online found that “peer and expert oversight achieved roughly the same quality in a domain of structured, factual information” [21] highlighting the importance of active community members in preventing vandalism, blocking disruptive users and mediating disputes.

Eric von Hippel [26] defines these users as “lead users” in a community who “often attempt to fill the need they experience.” These users identify areas for improvement in those services or products they are engaged with and develop innovative solutions to meet their needs. In Wikipedia these users are becoming increasingly adept at performing the gatekeeping and security functions normally associated with more traditional knowledge producers [14] as they create solutions to problems they have encountered in the editorial process. They have for example created policies to address problem behavior, developed technical tools to complete repetitive editing tasks and formed project groups to manage content areas. Lead users also engage in a variety of tasks of a procedural and regulatory nature, such as cleaning up vandalism and blocking problem users that in keeping with the egalitarian nature of the project is likened to being a “janitor” [10]. Over and above janitorial duties, however lead users also provide valuable input into the editorial and community processes by discussing edits, changes, policies and those things that affect the quality of the encyclopedia. Therefore, the assumption by critics that Wikipedia, as one of the internet’s largest sites of user-generated content, is populated by hobbyists and non-experts, largely ignores the presence on the website of these users, known as “Wikipedians”. Wikipedians and the discussions they engage in are important for the health of the community, as it is among these users where concerns about quality, governance, behavior, and procedural issues are raised and solutions negotiated. Any external debates on the quality of information produced by a project such as Wikipedia therefore need to be informed by a grounded understanding of how those same concerns are played out by the user community.

## 3. METHODS

This research is designed to answer the central question: “What is the role of conflict in determining consensus on quality in

Wikipedia articles?” By combining a review of current research on online communities and Wikipedia together with a thematic discourse analysis of the talk pages of the article “Australia”, the study produces an understanding of the role conflict plays in the editorial process of Wikipedia. The resulting research design allowed for engagement with larger debates about user-generated content and Wikipedia itself, while simultaneously examining how issues of quality play out in an online user community, within the scope of the study.

Grounded Theory provided a methodical and adaptable approach to investigating the role of conflict in these discussions. Grounded Theory methods “consist of systematic, yet flexible guidelines for collecting and analysing qualitative data to construct theories ‘grounded’ in the data themselves” [3]. Through a cycle of collecting and reflecting on data, the research evolved to incorporate new categories and concepts as they emerged. For example, while I had initially looked for instances of contributors collaborating to achieve consensus on the talk pages, instances of conflict were found to be far more prevalent. This finding, coupled with a deeper engagement with popular debates about mass collaboration and Wikipedia, focused the study to particularly address the role of conflict in the editorial process.

In choosing the archived talk pages of the Wikipedia article *Australia*, I looked for a data set that had a good number of discussions about quality. The talk pages of *Australia* present a full and rich archived history of conversations about the article that are ideal for thematic discourse analysis. As Reagle [15] points out, “Wiki communities are also a fascinating subject of study because one can closely follow the emergence of and discourse on their culture: what is important, what is acceptable, and what does it all mean?” The history of *Australia* (in July 2011) contained seventeen archives and one active talk page dating from 2003, keeping the amount of data analyzed within the scope of the study while also giving it the breadth to gain a good understanding of the issues that are played out in the editorial process over time.

*Australia* is also a designated feature article (FA) on Wikipedia. As the community developed the FA status to recognize good encyclopedic content and writing, I took this as an existing measure of quality to determine how conflict is used by the community to achieve and maintain what they see as a high standard of content.

I initially summarized each conversation – where a conversation is a set of individual posts underneath a topic heading – according to its major themes, and whether or not it related to article quality. This initial coding round resulted in descriptions like “compromise about wording” or “collaboration to work out structure” or “debates about intended audience.”

I then refined the data set to only include conversations about quality and coded the discussions with one-word descriptors. This initial coding phase was conducted quickly, reading the data and then immediately assigning codes as “speed and spontaneity help in initial coding. Working quickly can spark your thinking and spawn a fresh view of the data” [3]. I analyzed the selected conversations again using focused coding to synthesize the discussions into conceptual categories.

This grounded discourse analysis is, “particularly well suited to the study of online communities in which language stands in place of the geography, institutions, and artifacts taken for granted in offline communities” [1]. Having readily available the discussions about the content being produced, discourse analysis provides a

good qualitative method for examining how users arrive at a consensus on quality.

## 4. FINDINGS AND ANALYSIS

In total, 147 conversations (comprising 156,112 words) among participants in the editorial process were analyzed, resulting in two major themes emerging: conflict was more prevalent on the talk pages than collaboration, and participants often referred to policy and community norms in discussions.

Using a quantitative approach to measuring these references to policy I was then able to compare the variables of formal and informal references and combine this with my qualitative observations about the role of conflict to form the theory that conflict plays a generative role in discussions about quality on Wikipedia and that it is managed by references to policy.

### 4.1 “Australia” Editors as a Community

The earliest recorded edit to *Australia* was made on 4 November 2001 at 13:33 and by September 2011 had undergone another 13,068 edits [23], and the article you will find on Wikipedia in 2013 is similar to what took shape after significant contributions by the editors in 2005. *Australia* was awarded feature article status on June 22, 2005.

As at September 2011, 4,653 unique users had contributed to the article, however in keeping with the general Wikipedia trend of a small number of users doing the largest number of edits, the top ten contributors to the article have contributed nearly one-fifth of all edits [23]. The top ten editors of the article’s content are also some of the most significant contributors to its talk pages and in adhering to the Wikipedian norm of discussing proposed edits on the talk pages, these editors often engage other editors for opinions or to explicitly seek consensus.

*Does anyone object if I remove it from the main text in a few days on a trial basis? The international ddmmyy formatting used in Australia would be seen by all WPians, not just our millions of readers, and it would allow the high-value links to breathe—the article is quite heavily linked already. Tony (talk) 06:09, 20 July 2008 (UTC)* [31]

Seeking consensus is one of the main functions of the talk page of an article and provides a space where editors can discuss issues and, if in dispute, work as a community toward agreement. A guiding tenet of editing on Wikipedia, it is “Wikipedia’s fundamental model for editorial decision-making” [34] and for users is summed up as, “discuss first, then make changes” [33]. Some users explicitly seek consensus for changes yet to be made, other users may take no responses as consensus, while most negotiate until they achieve an edit which is not reverted, or a version that is agreed upon on the talk page. It is “usually [an] implicit and invisible process across Wikipedia” [34] however references to consensus occurred 134 times in the sample data. and served to reinforce the community’s goal and consequently a stable version of the article.

*Can we please reach some consensus, otherwise the page is going to be 99.999% pointless discussion, instead of just 92%. --AussieLegend (talk) 14:54, 31 October 2010 (UTC)* [31]

One of the longest running discussions on the talk pages (5,261 words) – the conversation “Consensus on anthems?” – was the result of disruptive editing before the community had reached consensus and resulted in the article being locked (which prevents

the article from being edited). The length of this particular conversation highlights the importance the community places on consensus. It also reinforces the notion of editors as a community with a common goal.

*And so we're back where we started. I'm thoroughly pissed that a dispute as exceedingly trivial as this has disrupted an article which has been maintained in a stable condition for years. I said above that I would be blocking anyone who edited the article in relation to the anthem before the conclusion of this discussion. I fully meant that...--cj | talk 04:55, 12 June 2007 (UTC) [29]*

Occasionally however the tension between different editors has resulted in heated discussions. And as one contributor the talk pages noted, “The implication of some type of entitlement [sic] or expertise here which disallows edits by non-Aussies or non-biologists is quite un- Wikipedian... Fuzheado” [27].

This early – 2003 – reference to the concept of a Wikipedian, shows that a community with expected behavioral norms has long been at the core of the Wikipedia project. Similarly, the participants in Wikipedia have exhibited other behaviors that are consistent with how online communities operate. For example, the practice of sharing knowledge with new users is shown in the following excerpt from a post about Australia’s geographic status:

*It's ok, Ūalabio, it's all part of the learning curve of becoming a Wikipedia editor! There are more tips etc. at the Wikipedia:Community Portal, but don't worry, most people will point things out to you on Talk pages as I have done. – Chuq 04:37, 19 Jul 2004 (UTC) [27]*

While this highlights the participatory nature of the Wikipedian culture, the community is not always so accommodating on the talk pages of *Australia* as some editors were also noted as having ownership issues (where particular editors are seen as trying to control article content) with the article:

*It seems that there are just a few people at the top thinking that they are 'big' guys and don't care for the opinions or facts submitted by other users.... —The preceding unsigned comment was added by User:Valley2, 22 October 2005 [28]*

Nevertheless, these editors arguably provide a valuable service to the article, and by keeping it on watchlists vandalism can be removed quickly and new edits can be monitored for quality. As different editors come together to negotiate what makes a quality article however, heated debates often do occur.

## 4.2 Conflict on the Pages of “Australia”

Before narrowing the study to focus on conflict, I initially coded for different types of communication that occurred on the talk pages – including compromise, agreement, praise, advice, disagreement, and personal attacks. What was most evident after this stage of coding was that conflict was significantly more prevalent than collaboration on the talk pages and that it resulted in relatively few personal attacks between members. The main sources of conflict among editors relate specifically to the composition of the article and the four main themes that emerged as cause for debate among the editorial community were sources, wording, structure and content accuracy.

Friction around such basic editorial functions as wording and structure reflect the confusion among contributors to *Australia* as to how making the sum of all knowledge freely available [18]

relates to audiences, visitors to the site and their role within the project. Similarly, as something as basic as layout was being negotiated, it prompted the bigger question in the community of who would be using the article, and what the role of Wikipedia is beyond information provision.

Additionally, the tension between a global readership and a traditional encyclopedic style resulted in conflict between those who would prefer to see Wikipedia more closely reflect its printed predecessor with those who see the project as having a more global scope.

*...and this entry (IMHO) is of most value if written for an audience outside Australia... --fuddlemark 22:26, 14 August 2005 (UTC) [29]*

While issues around the article’s audience have played out on the talk pages, conflict has also served to negotiate the structure of the article. As Wikipedia as a project was still rapidly evolving, structure across the project was a contentious topic of discussion. Not only did contributors to the *Australia* article have to negotiate the structure of the article among themselves, but also in light of the changes that were occurring to country articles across the whole of Wikipedia.

Along with negotiating audience and structure, the community also used the talk pages to improve the referencing and quality of sources for the article. It is important to note that referencing did not become commonplace on Wikipedia until 2005 [31]. The inclusion of content was debated on the talk page, as although some edits remained uncontested, there were issues with what different editors deemed important. As these debates became more heated and conflicts escalated many editors turned to outside sources to reinforce their position.

*“The casualties suffered by Australia were the highest per capita of any Allied nation, and the war had a profound effect on the national character.” I believe this is not true. I will see if I can find a source for my disbelief. In the mean time can any editor find a source to substantiate the assertion?--User:AYArktos | Talk 10:26, 10 October 2005 (UTC)*

*I've always thought it true (60,000 dead of a population of less than 4 million), but I don't have a source. I'll have a look around.-- Cyberjunkie | Talk 10:35, 10 October 2005 (UTC) [28]*

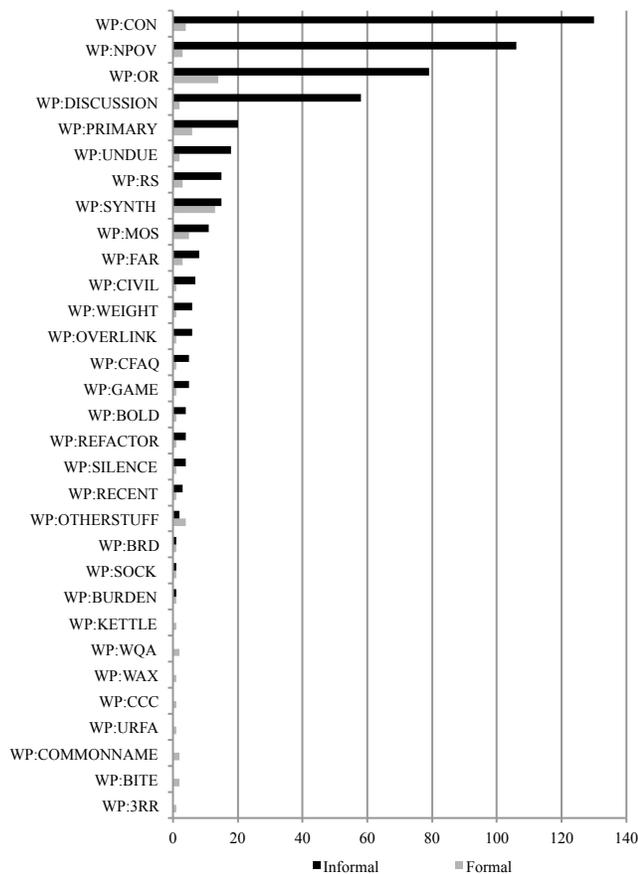
Conflict therefore had a role in developing a mechanism to ensure the accuracy of information by prompting participants to properly source and reference material. It highlighted larger procedural issues in the production of online encyclopedic content, and is one example where conflict is employed as a generative friction.

## 4.3 Managing the conflict

Policy governs the editorial process in Wikipedia. It determines not only best practice for the production of articles, but also lays out norms in regard to members’ behavior. And as policies were developed by the community to address the procedural issues, implementing them has become a function of the talk pages. The study found that participants in the editorial process often referred to policy to reinforce their position in a debate and to regulate others’ actions. It found that personal attacks in heated debates were rare and attributes this to members of the editorial community referencing community norms and policy both formally and informally to influence other members’ behavior.

Figures 1 and 2 display the number of references to individual policies by members of the editorial community on the talk pages of *Australia*. Formal references by editors were counted where they had used the “WP:” prefix and/or hyperlinked to the policy webpage (if the “WP:” reference was hyperlinked it was counted as one instance). Informal references were counted where contributors had not specifically referred to the policy itself, but still used the main phrases from the policy document. For example WP:OR was coded as an informal reference as “OR” or “original research”. Similarly, WP:NPOV was coded as “NPOV”, “POV”, “neutral point of view”, “point of view” and “neutrality”.

**Figure 1. References to policy by policy type**



Additionally, as Figures 1 and 2 show, the study found that while policy is referenced formally, it is referred to far more often in an informal capacity. Policies not only offer guidelines of how to treat other members of the community, but also how to produce article content. In this way, if conflict is occurring over some aspect of article production, participants can reference the appropriate policy to strengthen their position. Similarly in instances where personally held views are coming into conflict, referring to the policy of neutrality, reminds editors to check the language of their edits. However, neutrality is referred to far more often informally than through the official WP:NPOV shortcut.

The study found that 31 different Wikipedia policies (and standards including guidelines and essays) were referred to in the sample conversations and that more than 86 per cent of these references were informal. This means that more than being a set of isolated rules for the community, policies are part of the fabric of the culture of the talk pages. They regulate both behavior and

the production process and manage conflict so that it remains a generative friction.

Reference to policy plays a key role on these pages by organizing the “dissonance” in such a way that conflict remains generative. It also shows how participants in the editorial process see themselves as a community with a common goal and how they have developed a self-regulating mechanism – reference to policy – to ensure the success of the collaborative process and consequently improve the quality of the article.

## 5. CONCLUSION

As a site of both collaborative knowledge production and one of the largest online communities on the internet, Wikipedia has changed the way we create, access and frame knowledge. Popular debates about the quality of Wikipedia as an information resource have been critical of its approach and argue that it lacks the security and integrity of expert authored information produced via a traditional model of content production.

However as the literature, empirical evidence and analysis of the talk pages of the article *Australia* revealed, the Wikipedia community has developed a set of self-regulating mechanisms that operate as a form of security which works equal to traditional methods of gatekeeping. The study found that conflict in Wikipedia is a generative friction, regulated by references to policy as part of a coordinated effort within the community to improve the quality of articles.

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