

The Trouble with Knowing:
Wikipedian consensus and the political design of encyclopedic media

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Abstract

Encyclopedias are interfaces between knowing and the unknown. They are devices that negotiate the middle ground between incompatible knowledge systems while also performing as dream machines that explore the political outlines of an enlightened society. Building upon the insights from critical feminist theory, media archeology, and science and technology studies, the dissertation investigates how utopian and impossible desires of encyclopedic media have left a wake of unresolvable epistemological crises.

In a 2011 survey of editors of the online encyclopedia Wikipedia, it was reported that 87 per cent of Wikipedians identified as men. This statistic flew in the face of Wikipedia's utopian promise that it was an encyclopedia that "anyone can edit." Despite the early optimism and efforts to reduce this disparity, Wikipedia's parent organization acknowledged its inability to significantly make Wikipedia more equitable. This matter of concern raised two questions: What kinds of knowing subjects is Wikipedia designed to cultivate and what does this conflict over who is included and excluded within Wikipedia tell us about the utopian dreams that are woven into encyclopedic media? This dissertation argues that answering these troubling questions requires an examination of the details of the present, but also the impossible desires that Wikipedia inherited from its predecessors.

All general encyclopedias engage in some kind of "encirclement" of knowledge, an activity that is inscribed in the Greek roots of *enkuklios paideia*, which has come to mean a *circle* of subjects, a *cycle* of knowledge, or a *rounded* education. But what is recognized as the circle has differed from one encyclopedia to the next. The dissertation synthesizes the results of a four-part multiperspectival discourse analysis to demonstrate that Wikipedia's current troubles emerge as an effect of inheriting a century-old desire to encircle knowledge through consensus.

The analysis of these issues begins with a genealogy of encyclopedias, encyclopedists, encyclopedic aesthetics, and encyclopedisms. It is followed by an archeology of the twentieth century deployment of consensus as an encyclopedic and political program. The third part examines how Wikipedia translated the imaginary ideal of consensus into a cultural technique. Finally, the dissertation mobilizes these analyses to contextualize how consensus was used to limit the dissenting activities of Wikipedia's Gender Gap Task Force. The dissertation demonstrates that the desire and design of encircling knowledge through consensus cultivated Wikipedia's gender gap. In this context, if encyclopedic knowledge is to remain politically and culturally significant in the twenty-first century, it is necessary to tell a new story about encyclopedic media. It must be one where an attention to utopian imaginaries, practices, and techniques not only addresses how knowledge is communicated but also enables a sensitivity to the question of who can know.

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1. Introduction

Encyclopedias are imaginary media. They are as much interfaces between knowing and the unknown as they are vehicles for calculating past, present, and future desires for knowledge. However, as much as their designs are animated by hope, they are inherently troublesome. They bring together different authorities and histories that are in themselves, representative of different systems of knowing. In some cases, these systems may co-exist as orders of knowledge. In others, the incompatibility between these systems threatens the fundamental — and impossible — desire of all encyclopedias: to communicate knowledge as a circle (*enkuklios*) of learning (*paideia*) or a “cycle of knowledge” (Burke, 2000, p. 93; Ribémont, 1997, p. 53).

If these alliances and contests are taken seriously, then the description of encyclopedias as the *sum of all human knowledge* is woefully inaccurate. Instead, it is necessary to come to terms with the broad range of imaginations, practices, and techniques that encyclopedias enlist; operations that subtract knowledge, multiply it, and divide it; designs that amplify and highlight chosen forms of knowledge while at the same time marginalize and hide others. In this sense, encyclopedias as circles of knowledge are discursive *closures* that “appear as natural and delimited aspects of reality” (Jørgensen and Philips, 2002, p. 186). Each circle of knowledge therefore functions to settle and legitimize a particular vision of knowledge when they inscribe, repeat, and circulate one way of knowing at the expense of others. Encyclopedias are therefore machines for calculating and interpreting different encounters with the world as either coherent or incoherent with a chosen circle of knowledge. It is time to take stock of how this activity has been inherited.

Previous encyclopedias have enlisted many cultural techniques and systems of knowledge to perform these calculations: alphabetization, systems of science, and epic narratives

(Yeo, 2001, p. 25; p. 180; Frye, 2006, p. 298). But these systems are not chosen purely for pragmatic reasons. They are animated by the desire to produce a particular kind of knower. As one twentieth century encyclopedist pointed out, the Greek circle of knowledge produced a “whole” people; the Medieval trivium and quadrivium was envisioned to cultivate a people unified with God; and the Enlightenment encyclopedias gave people the knowledge to be intellectually and politically autonomous (Preece, 1965, p. 13). Warren Preece’s colleague Mortimer Adler also argued that “[t]he very word ‘encyclopedia’ promises to provide the great circle (encyclo) of general learning (paideia) that every cultivated human being should possess” (1986, p. 4). A similar statement can be said of users who are committed to Wikipedia, the *online encyclopedia that anyone can edit*. In fact, the founder of the platform tempted us to dream about these utopian people. “Imagine a world,” Jimmy Wales said, “in which every single person on the planet is given free access to the sum of all human knowledge” (Miller, 2004).

But access is just the prelude. As researchers have explained, the underlying goal of Wikipedia is to turn every reader of the encyclopedia into a “coauthor [...] to give everyone the chance to contribute equally” (Matei and Britt, 2017, p. 51) and this includes “everyone’s participation” (Menking and Rosenberg, 2020, p. 17). If the ancient Greek encyclopedias made whole people, and the European medieval encyclopedias cultivated a pious people, then the twenty-first century is animated by a unified people, one that casts off their individual differences in the pursuit of creating a community bound to participation, inclusion, and neutrality. They are an encyclopedic people, and they call themselves Wikipedians.

But here lies the trouble. Knowledge is partial and the assumption that our knowledge of the world excludes our position within it does not recognize — as Donna Haraway (1988) and other critical feminists have argued — that knowledge is situated. This is not an abstract point. In

the past decade it has been startlingly clear that Wikipedia — and English Wikipedia in particular — is failing its own promise of creating an encyclopedia that anyone would choose to be a member of, let alone that anyone can edit. This condition is starkly confirmed by the 2011 survey which found that approximately 83 per cent of contributors to English Wikipedia identify as men (Hill and Shaw, 2013; Glott, Schmidt and Ghosh, 2010). For many women Wikipedians, this created an environment where they have been harassed, subjected to misogynistic behaviour, and been under-represented for their contributions to knowledge (Paling, 2015; Gautier and Sawchuk, 2017; Kramer 2018). This situation has been replicated for other marginalized groups where discrimination and harassment have been based on race, gender, and sexuality (van der Velden, 2013; Wexelbaum, Herzog and Rasberry, 2015; Roued-Cunliffe, 2017; Damas and Mochetti, 2019).

This cultural unevenness is also exacerbated by the fact that in addition to identity, “Wikipedia reflects inequalities” that include education and Internet skills (Shaw and Hargittai, 2018, p. 145) which can be a function of the inequalities that arise from “digital divides” where “access to the internet, [...] level of online activity, and usage of [social networking services]” are linked to differences in “socioeconomic status, education, immigration status, and age” (Haight, Quan-Haase and Corbett, 2014, p. 514). Therefore, the socio-technical requirements to engage with the internet not only have repercussions for the size and breadth of non-English versions of Wikipedia (Rask, 2008), but Wikipedia’s concept of access is one that does not include access to oral knowledge (Vetter and Pettitway, 2017), such access is not always seen as desirable nor does it meet the information needs of different people across the globe (Gebhart, 2016; Toupin, 2019). Furthermore, its concentration on presuming that knowledge is a product limits its egalitarian project of epistemic participation (Menking and Rosenberg, 2020, p. 14) and

is “at odds with the broader understanding of knowledge that emerged from the last century” (Vetter, 2019, p. 4).

Based on this inability to square itself with the actual conditions of knowing in the twenty-first century, the very premise of free and universal knowledge could lead us to a rather severe conclusion: it is time to move on from these problematic ideals. However, this is not the case. Critical feminists have argued that ideas of the Enlightenment are invaluable inheritances. What must change is the story being told about these processes and meanings associated with knowledge. Moving this perspective forward, I argue that this can be achieved by asking different kinds of questions. Which kind of knowledges emerge from the conflict *between* the whole and the part? Which techniques are used to cultivate this contentious knowledge? Which knowledges are grafted together, and which are pruned, dismissed, or forgotten? What kinds of knowers are cultivated by ambiguity and difference rather than certainty? These questions, which lie at the heart of this dissertation, are not just epistemological questions. They are fundamentally political in nature and demand our attention.

Encyclopedias are troublemakers and encyclopedic users, editors, and designers have inherited the trouble they make. Theirs is a responsibility that not only requires craft and care to consider what is known, but also to understand how encyclopedias mediate the unknown, uncertainty and the impossibility of encirclement. These ideas are necessary to negotiating encounters with pluralist knowledges in the twenty-first century. But to do so requires a reimagining of the cultural purposes that are attached to these devices.

As a white heterosexual man born into the upper-middle class of Canada and trained as a graphic designer and academic, I am situated amongst a long history of other white university-trained men, who have used their privilege to contemplate and determine what counts as the sum

of “human” knowledge. It is a history that used a heavy hand to obscure who was included in that word and, more often than not, overlooked or appropriated the knowledge produced by people of races, ethnicities, sexualities, genders, classes, and abilities other than my own. Aware of this, my research project explores the complex ways that hegemonic desires are woven into the texture and material of encyclopedic media. By studying how this occurs, my goal is to provide a media-sensitive approach to understanding the extent to which the history of encyclopedias informs Wikipedia's gender gap.

To do so, I conduct a multiperspectival discourse analysis of the political design of encyclopedic media that is framed by critical feminist theory, media archeology, and design theory. This is conducted by first excavating the cultural inheritances buried within a troubling genealogy that has shaped the variety of impossible desires associated with encyclopedic media. The first task was to deconstruct the myth that the history of encyclopedias can be characterized as progressive innovation and increased utility. It establishes that each encyclopedic expression is an act of purposeful inheritance, one that is a choice to reproduce a particular vision for what an encyclopedia can be. I then follow these inheritances to connect to Wikipedia's dream for encircling knowledge through Wikipedians to a century-old pursuit for a global epistemic community. After giving this historical background, I analyze how this desire has become discursively and materially embedded as a Wikipedian technique expressed within its policy of consensus and interface. Finally, I examine the political consequences of community consensus as an encyclopedic practice when it was used to limit the political actions of women Wikipedians involved in Wikipedia's Gender Gap Task Force.

The concentration on the concepts of community and consensus in these analyses serve to illustrate the deep connections between encyclopedic processes and encyclopedic politics. As

both Wikipedia researchers (Emigh and Herring, 2005, p. 10; Reagle, 2010, p. 106; Pentzold, 2011, p. 717; Niesyto, 2011, p. 154; Leitch, 2014, p. 27; Tamani, Mandiberg, Mabey and Evans, 2019, p. 4) and feminist political theorists have recognized (Fraser, 1990, p. 80; Mansbridge, 1993, p. 367, Mouffe, 2000, p. 104), every construction of a community requires hegemonic acts of exclusion. It is on these grounds that I examine how community consensus has cultivated the conditions of Wikipedia's gender gap that marginalized the ability of users to engage in the complementary political process of dissensus.

In the context of Wikipedia, these exclusions for the sake of unity shape an understanding of what can be known and who is authorized to know it. I conclude these examinations of the past and present conditions of encyclopedic media by suggesting a future that is composed, equipped to deal with difference, and is suited to the actual existing conditions of a pluralist society. Without reservation, this dissertation is as much a critique as it is a reconstitution of encyclopedic knowledge. It is a composition of hope — a utopia.

Wikipedia: Our Most Recent Troublemaker

Since the eighteenth century, encyclopedias have been sustained through the expertise or celebrity status of its authors (Yeo, 2001, p. 246; Thompson, 1992, p. 7) — and the monetary value they gained as cultural commodities (Darnton, 1979). Up to the early twenty-first century, the model encyclopedia for the popular imagination was the *Encyclopaedia Britannica*, an encyclopedia that had “come to define what an encyclopedia is” (Yeo, 2001, p. 170). Two twentieth century editors of the *Britannica* also took note of this expectation among readers when they explained that “[t]oday most people think of an encyclopaedia as a multivolume compendium of all available knowledge, complete with maps and a detailed index, as well as

numerous adjuncts such as bibliographies, illustrations, lists of abbreviations [...], alphabetically arranged contents will have been written in their own language by many people and will have been edited by a highly skilled and scholarly staff” (Preece and Collison, 2016).

Wikipedia — an online encyclopedia that ranged from being the sixth to thirteenth most visited website on the Internet (Alexa.com, 2012; 2020) — replicates most of this description in its own article about encyclopedias. According to Wikipedia, an encyclopedia is “a reference work or compendium providing summaries of knowledge either from all branches or from a particular field or discipline. Encyclopedias are divided into articles or entries that are often arranged alphabetically by article name and sometimes by thematic categories” (“Encyclopedia,” 2020). Notably, there is an important omission that leaves room for Wikipedia to claim itself as part of this tradition — a paid staff of editors.

Nicholas Carr, a member of the *Encyclopaedia Britannica*’s editorial board of advisors, was well aware of this fact. He argued that because Wikipedia was based on the “wisdom of the crowd” rather than paid encyclopedists (Carr, 2005; 2006), it could not be included among the great encyclopedias. His criticism was leveled against the fact that without “a centralized team of authoritative experts and editors, Wikipedia is nothing more than an unusually unvarnished avatar of the marketplace of ideas” (Leitch, 2014, p. 59). Wikipedia’s attachment to the “wisdom of the crowd” and a “marketplace of ideas” requires more than hyperbole to understand. It requires coming to terms with how Wikipedia compared to past encyclopedic media, and what kinds of politics it was envisioned to enable. In this brief introduction to this topic, I will review the two founding conditions of the encyclopedia, its software and community consensus, and how these relate to Wikipedia’s gender gap.

Wikipedia as a useful and collaborative software. The production of content on Wikipedia is based on crowdsourcing, a form of production that solicits users to provide some of the labour or content to produce a product (Bruns, 2008, pp. 31–33). In the case of Wikipedia, crowdsourcing has been facilitated through a user interface that provides features for reading — headings, table of contents, summary information, images, and references — as well as a number of different “screens” that users can click to edit an article (“Help:Editing,” 2020). When users click on the *Edit* tab, they can make changes to the article without anyone else’s permission or needing to sign into the platform as a registered user. This activity is a socio-technical affordance of the *wiki* software that serves as the basis of the platform.

Named after the Hawaiian word for “quick” or “informal” (Cunningham and Leuf, 2001, p.14), “wiki” software was designed by Ward Cunningham in the 1990s to provide “interactive content update / access” (pp. 4-5) for digital pages and communications within a single online “collaborative space” (p. 16). When users edit any page on the wiki, this action creates a new version and is arranged chronically. This provided the unique feature of allowing users to view the differences between previous versions (p. 308) and to overwrite the present version with an older one. On Wikipedia, this act of going back in time with a version is commonly called a “revert” (Kittur, Suh, Pendleton and Chi, 2007, p. 456).

Wiki software also provides two different “modes” of writing to assist collaboration. The first is “thread mode” and is used to discuss personal opinions about the page being edited and come to an agreement with other users about its content (Cunningham and Leuf, 2001, p. 326). The second is “document mode” used “to reflect changing community consensus” about “factual issues” (p. 326; p. 332). Tied together, these two modes served what Cunningham imagined its

main purpose of a wiki to be: a means “to organize and cross-link *knowledge*” (p. 15, emphasis original).

These technical affordances of the wiki software make Wikipedia adept at several kinds of editorial activities. Cunningham’s document and thread modes now describe the relationship between Wikipedia’s “spaces” (such as articles) and its complementary “talk page” which contains discussion threads (“Wikipedia:Namespace,” 2019). The encyclopedia therefore does not just contain articles about topics, but also the discussions about how the article was produced.

Wiki software also makes it possible for a number of other novel encyclopedic features. It can be quickly updated by users to reflect changing information (Avieson, 2019). Editors can choose whether their contribution will be minor (e.g. fixing a sentence’s grammar) or major (i.e. creating an article), both of which were seen as valuable contributions (Bryant, Forte, and Bruckman, 2005, p. 4). Additionally, it can be accessed and edited by internet-connected users across the world in over 300 languages, each with own degree of comprehensiveness (Vrandečić, 2019).

Due to these features, English Wikipedia users have collectively produced over six million individual articles (Wikipedia:Size of Wikipedia, 2020), with over 5,800 of these reaching the rank of “Featured Article” (Wikipedia:Featured-article, 2019) — a status that designates the highest quality of articles that are well-written, comprehensive, well-researched, neutral, stable, and illustrated (Wikipedia:Featured-article-criteria, 2019). But perhaps even more impressive is the fact that the lion’s share of this crowdsourced encyclopedia is not its articles.

Outside of its articles, Wikipedia is composed of another 44 million pages used to support and coordinate the collective activities of users (Special:Statistics, 2020). This is due to

the social function that talk pages have assumed. Users not only decide on what content to keep and how it should be presented. They discuss what counts as encyclopedic content and which behaviours are acceptable to facilitate the creation of the encyclopedia (Kriplean, Beschastnikh, McDonald and Golder, 2007).

So, Wikipedia's users do not just produce articles. They produce policies that record accepted norms surrounding content and conduct (Butler, 2008). They create user pages to communicate with other users (Welser et. al, 2011, pp. 124–125). They gather in spaces like the Tea House to socialize with new users (Morgan, 2018). They create template pages to assist the work-flow of creating the encyclopedia (Viégas, Wattenberg and McKeon, 2007, p. 450). They develop semi-automated scripts (called bots) for automating repeatable tasks (Geiger, 2017) and co-authoring articles (Niederer and van Dijck, 2010, p. 1377). And finally, they create noticeboards like the Village Pump which are “designed to request advice and assistance, report abuse and discuss problems” (O'Neil, 2009, p. 161).

And staggeringly, most of this is done for free *and* made freely available. Though this is not a pure exercise in volunteerism. Wikipedia is supported by a paid staff employed by the Wikimedia Foundation, the parent organization that provides economic, legal, and technical support to the encyclopedia via donations (Lund, 2015, p. 59; pp. 166-167). As well, Wikipedia's founder Jimmy Wales has exerted limited leadership authority (Reagle, 2010, p. 133). But, beside these caveats, the structure and content of Wikipedia is produced almost exclusively by unpaid users. Even when users have been paid by companies to edit Wikipedia — which is against English Wikipedia's policies — those edits are reverted or the articles are removed once they are discovered (Joshi Spezzano, Green, Mayson and Hill, 2020, p. 2899).

This collective free labour drastically reduces the cost of the entire project. Based on the wages for labour within similar professions, researchers estimated that if users were actually paid for their work, the annual labour costs for English Wikipedia would be \$485–492 million USD (Lund and Venäläinen, p. 2016, p. 84). In addition to users contributing to the project on a volunteer basis, they must also consent to releasing their contributions to be used by anyone through a “general public license” (Reagle, 2010, p. 77).

To summarize, Wikipedia is based on the socio-technical structures that allow for digital access, editing, and communication at a scale not seen before in the form of an encyclopedia. And what is impressive is that Wikipedia has disrupted previous notions about who can create an encyclopedia by relying on a legal-economic framework of publicly licensed content and software created by volunteer labourers. Contrary to Carr’s lamentations, it has gone beyond being a successful reference source for nearly two decades. As theorist Yochai Benkler noted, Wikipedia has “become the basic knowledge utility of contemporary society” (2019, p. 4).

Wikipedia as a political project. Part of Wikipedia’s disruptive character is born from using the affordances of software that achieve new levels of access and participation for creating encyclopedic knowledge. While these capacities exist at a new in scale, Wikipedia should also be seen as continuous with its predecessors. For one, far from being technologically conservative and indebted to the technologies of print, the *Encyclopedia Britannica* was an early adopter of CD-ROMS and websites in the 1990s (Auchter, 1999, p. 296; 298). Even farther back in time, Wikipedia’s view of knowledge finds kinship with Diderot and d’Alembert’s eighteenth century *Encyclopédie*, an encyclopedia that manifested the idea that knowledge is “a tangible commodity

[...] something to be tracked down, recorded, and shared with the world” (Vetter, 2019, p.4).

The connections go deeper still.

As Matthew Vetter argued, as “Wikipedia challenges traditional notions of expertise, authorship, access, and transparency” it also “conserves features of the genre that characterize its emergence from western Enlightenment logic” such as “always evolving and striving toward a universal circle of knowledge” (Vetter, 2019, p. 2–3). This connection is also carried through the shared idea of verifying knowledge through the epistemological logics associated with print-based scholarship (Vetter and Pettiway, 2017). These connections also touch on the early modern encyclopedias like the *Britannica* that sought to make “science public” and therefore “exemplified the Enlightenment ideal of knowledge as open, collaborative and public” (Yeo, 2001, p. xiv). Just as it is with Wales’s dream of universal access, the early *Britannica* promised it too. This earlier encyclopedia was also imagined to be “capable of transcending social, religious and geographic boundaries” (Yeo, 2001, p. xiv).

Far more than just work of reference, both the early modern encyclopedias and Wikipedia were imagined as tools of knowledge production that had the capacity to reform the political landscape. Even Ward Cunningham’s initial design of wikis included such political aspirations, describing it as “inherently democratic” (Cunningham, 2001, p. 16) and able to provide “freedom from hierarchy or domination” by existing as an alternative “to systems that enforced submission to control relationships” (Benkler, 2019, p. 3; p. 4). This belief that new technical structures can be used for ushering in egalitarian political structures was part of the guiding principles of hacker cultures that produced this kind of software.

During the 1980s and 90s, networked communities emerged that not only used digital technologies to communicate, but they built and hacked existing software in order to sustain

them. In other words, these hackers were just as much members of the community. They were its social and technical architects — as was the case with the influential forum *The WELL* (Turner, 2006, p. 143). Under these conditions, many online communities coalesced around a set of values that were enabled by the technologies they themselves had developed: autonomy, “conspicuous contribution” and demonstrable skill (O’Neil, 2009, pp. 38-39); collaboration and self-organization (Reagle, 2010, p. 46-49); as well as the social principles of openness and transparency (Tkacz, 2014, p. 29). Some of these principles became embedded in the Free Software Movement (Tkacz, 2014, p. 22; O’Neil, p. 75, p. 130), and other forms of cultural production that existed outside of the economics of copyright-based business models (Benkler, 2006, pp. 455–456). These new communities became important articulators of social and political changes that were underfoot. A flurry of inspired theory emerged during this period in order to make sense of them: Manuel Castell’s “network society,” Howard Rheingold’s idea of “virtual communities,” Étienne Wenger’s “community of practice” and Peter Haas’s “epistemic communities” (O’Neil, 2009, p. 14; 24–25).

Conceptually, these communities imagined a clear symmetry between the technical affordances of a decentralized “peer-to-peer” network and the possibility to increase peer-based collaboration and individual freedom (O’Neil, 2009, p. 17). In other words, because the internet was structurally “flat,” it was believed that social lives could be non-hierarchical as well (Benkler, 2006, p. 366). The consequence was that these communities were suspicious — if not hostile — to credentialed expertise (Benkler, p. 79–80), established hierarchies of authority (p. 367), centralized knowledge, and economic barriers to cultural access and participation.

With a vanguard’s appeal, John Perry Barlow, founder of the Electronic Frontier Foundation, poetically distilled these ideas in 1996 as *A Declaration of the Independence of*

Cyberspace. In this widely-circulated manifesto, he announced: “We have no elected government, nor are we likely to have one, so I address you with no greater authority than that with which liberty itself always speaks. I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us” (Barlow, 1996).

Free software, digital networks, community, self-governance, and openness. These are the halo of watchwords that surround Wikipedia and support Benkler’s interpretation of Wikipedians as committed to “self-conscious use of open discourse, usually aimed at consensus” (Benkler, 2006, p. 72). Importantly, this consensus is not limited to articles, but is extended to the meaning and practices of these unified users. Early Wikipedians imagined themselves as part of a “ethos-action community” (Pentzold, 2011, p. 713) where the boundaries of membership were defined “by adherence to a set of standards regarding the project’s purpose, norms, values, and valid actions” (p. 713), with most of these standards being contextualized through discussions on the English-language Wikipedia (p. 715). By this definition of community, not all users of Wikipedia can be considered “Wikipedians.” As Christian Pentzold noted, “[p]eople can be active in Wikipedia without being a member of the community because it takes more than edits to be a *Wikipedian* – membership is based on compliance” (p. 718).

This aspect of community is an important structural feature of the encyclopedia for two reasons. The first is that practically, “[o]pen collaboration systems like Wikipedia must continually recruit and retain new members in order to sustain themselves” (Morgan, Bouterse, Stierch and Walls, 2013, p. 839). Specifically, by recruiting a diversity of new editors the community will “increase the quality and completeness of the encyclopedia” (p. 846). Therefore, the more users there are, the larger the community becomes, the more the encyclopedia’s

knowledge has been sorted and sifted by its members. Subsequently, the goal is to also shift these new editors from the periphery of the community into its core, where they can operate as “power editors” and contribute to “community organizing roles” (p. 839). The quality of the encyclopedia is therefore a function of the quantity within the community and the quality of its consensus.

Citing Raymond Williams, Pentzold argued that Wikipedians adopted this term “community” for the same reasons that many have; it is a “warmly persuasive word to describe an existing set of relationships’ which ‘seems never to be used unfavourably” (p. 707). In other words, when the term *community* is articulated by Wikipedians, it is “often used to suggest an uncomplicated goodness” (Tamani, Mandiberg, Mabey and Evans, 2019, p. 4). This positivity can be seen at work in “Wales’s utopian vision,” where the underlying desire of Wikipedia is to create “a universal community devoted to the sharing of all human knowledge” and mutual trust (Leitch, 2014, p. 27). In this sense, Wikipedia is imagined as more than just summarizing all knowledge. It is desirable because *every single person* is a potential Wikipedian; a member of a community committed to a shared understanding and stewardship of humanity’s knowledge.

The encyclopedia and the gender gap. This is an inspiring vision. It is also a troubling one.

Despite the rhetoric of massive collaboration, 77 per cent of Wikipedia’s articles that were written in the first ten years were edited by only 1 per cent of the Wikipedia’s total editors (Matei and Britt, 2017, p. 1). The openness of the community was further hampered by the shifting preference from revising new edits to automating the process. This led to an increase in the rejection of contributions and “the unintended consequence of driving away well-meaning newcomers” (Halfaker, Geiger, Morgan and Riedl, 2012, p. 683). In a move to re-articulate his

initial optimism about Wikipedia, Benkler aptly described that while Wikipedia created structures to remain stable, it did so as an “oligarchy” rather than “a paragon of participatory democratic self-governance” (Benkler, 2019, p. 6).

These studies and assessments painted a very different picture of Wikipedia in the 2010s. Instead of the semi-anarchist meritocratic descriptions of a fluid and flat political structure, they found calcification and hierarchy, two characteristics from which Wikipedia was meant to escape. But even more troubling than this contradiction between the desire and the actual is a second swell of critiques that have challenged the assumption that “anyone” edits the encyclopedia (Ford and Wajcman, 2017). As a number of studies have shown, the largest part of Wikipedia (English Wikipedia) is overwhelmingly — 83.9–87.3 per cent — dominated by men (Hill and Shaw, 2013; Glott, Schmidt and Ghosh, 2010).

The response to this issue has been telling. The communication scholars Stine Eckert and Linda Steiner have summarized that the American media’s reporting of the predominance of men was simply patronizing. They “blamed women for not joining [and] suggested it was women’s choice, or mocked girly interests” (2013, p. 284). Understanding the nuance of this issue has therefore fallen on the shoulders of internet researchers. Some have argued that the gap exists partly because of psychological differences (Bear and Collier, 2016) or that the patriarchal language and subject matter within articles have entrenched gendered assumptions (Reagle and Rhue, 2011; Wagner, Graelles-Garrido, Garcia and Menczer, 2016; Jemielniak, 2016). Or, that pages about women “undergo aggressive editing and that detractors turn to an ‘infinite’ system of policies to exclude feminist perspectives” (Gauthier and Sawchuk, 2017, p. 394). Some researchers have pointed to the fact that while there are differences between men and women between linguistic editions of the encyclopedia, all of them demonstrated significant gaps

between these two genders that were in line with reported gender gaps in the sciences of respective nations (Massa and Zelenkauskaitė, 2014). In Ford and Wajcman's (2017) provocative opinion, they argued that researchers need to reconsider "how Wikipedia's infrastructure produces hidden layers of gendering at the levels of code, policy and logics" (p. 3). More recently, Menking and Rosenberg (2020) have followed this insight and critiqued how Wikipedia's principles of organization articulate an epistemology that excludes feminist knowledge.

Integral to these critiques is a concern that has been eloquently summarized by Wikipedian members of the Art+Feminism collective, one that opens up the space to the underlying concern for many identities and not just thinking of the gap in terms of women. They asked, "[h]ow is Wikipedia 'open' if there are so many barriers to entry for women, LGBTQIA+ identified folks, and people of color" (Tamani, Mandiberg, Mabey and Evans, 2019, p. 4). In part, they provided the answer when they reminded us that despite the rhetoric of Wikipedian inclusion, "exclusion is what creates the conceptual coherence of a community" (p. 4); a point that Nathaniel Tkacz also described when he summarized Wikipedia's politics as one where, "the logic of openness actually gives rise to and is perfectly compatible with new forms of closure" (2014, p. 33).

With these concerns about the relationship between the gender gap and the community, I argue that there are two complementary positions of inquiry to revise and redirect Wikipedia's utopian and political desire. One way is to interrogate how the gender gap emerged from the socio-technical structures of the social network platform. In other words, researchers can study the gender gap in terms of how the open / closed nature of community is the result of Wikipedia

existing *as a wiki*. Within these studies are questions concerning how different social practices (Gauthier and Sawchuk, 2017), wiki techniques (Ford and Wajcman, 2017; Menking and Rosenberg, 2020), and imaginaries of openness (Tamani, Mandiberg, Mabey and Evans, 2019) have contributed to this problem. Analytically speaking, the gender gap is understood as the result of external inputs (society-wide and online-facilitated misogyny) that shape the unique policies and social norms of the wiki-community in its common pursuit of producing an encyclopedia. From this perspective, the gender gap is a heteronormative problem that can be solved by changing either its inputs by increasing the number of women editors (Cohen, 2011), changing its processes such as redefining Wikipedia's social principles and policies (Menking and Rosenberg, 2020), or changing its outputs by creating more articles about women (Kramer, 2018) and others across the spectrum of gender (Tamani, Mandiberg, Mabey and Evans, 2019).

The second form of inquiry about Wikipedia's gender gap focuses on Wikipedia's latter half of its portmanteau, its status as an encyclopedia. Unfortunately, far fewer scholars have followed this route, and this is perhaps due to an ontological problem concerning encyclopedias themselves. In addition to Nicholas Carr, Ward Cunningham, and media scholar danah boyd once agreed that Wikipedia was not an encyclopedia (Reagle, 2019, pp. 4-5). This position is understandable. Wikipedia was neither rationalized through the diagrammatic system of knowledge used in the *Cyclopaedia's* "View of Knowledge" (Chambers, 1728, p. ii), nor was it structured as a comprehensive circle like the *Encyclopedia Britannica's Propaedia* (Selinger, 1976, p. 441). After all, "Wikipedia revels in its incompleteness and turns its eternal state of change into a feature" (Salor, 2014, p. 181).

Indeed, Wikipedia appears at odds with many expectations about previous encyclopedias. But these expectations also raise questions about how to define encyclopedias in the first place.

This was Joseph Reagle's point of agreement with Clay Shirky who once wrote, "[t]he idea that the Wikipedia will never be an encyclopedia is in part an ahistorical assertion that the definition and nature of encyclopediahood is fixed for all time, and that works like *Britannica* are avatars of the pattern" (Reagle, 2019, p. 5). Therefore, if Wikipedia's status as an encyclopedia can be considered to impact the gender gap, it is necessary to understand what makes it an encyclopedia in the first place. In other words, how is Wikipedia's articulation of gender a consequence of the epistemological conditions of communicating encyclopedic knowledge? Answering this question comes with all kinds of trouble.

Encyclopedias as Media

My approach to studying Wikipedia makes a slight course adjustment from the feminist approaches that articulate Wikipedia as an "infrastructure" (Ford and Wajcman, 2017), as an "encyclopedic process" (Menking and Rosenberg, 2020, p. 14), or the literary approach to studying encyclopedias in terms of genre (Fowler, 1997). Instead of the language of structure, production, and text, I rely on theoretical language that conceptualizes encyclopedias as media. When I invoke the term *media*, I am drawing from the field of media archeology that challenges "teleological assumptions" concerning progress, linearity, and the "evolution of media culture" (Parikka, 2012, p. 144). This means that media technologies are not simply the historical accumulation of better and more efficient communication devices. As John Durham Peters succinctly summarized, "[t]he fundamental problems that media face are both old and new: time, space, and power. Media record, transmit, and organize; they have memory, networks, and processors; they embody the institutions of temple, market, and palace; and they fill the three main functions of recording, transmission, and logistics" (Peters, 2013, p. 42). This analytical

aesthetic of basing our understanding of current media on a “heterogeneous past” is a consistent feature of media archeology (Emerson, 2014, p. xiii), one where “[n]ew media return us to old media” (Peters, 2013, p. 42).

While the past serves as a pivot for looking into the present, so too are imaginations and dreams about the future of media. This premise is also entertained within media archeology where scholars study the socio-technical imaginaries that structure the design and use of media (Marvin, 1988; Flichy, 2007). It is therefore necessary to describe media not just in technical terms, but through the *imaginaries* that “weave in and out of the purely imagined and the actually realized media machineries” (Kluitenberg, 2011, p. 48). The name given to studying these features is the study of imaginary media; devices that mediate “impossible desires” (Kluitenberg, 2011, p. 48).

This same sentiment about investigating the impact of imagination on media has been expressed by communication studies more broadly. Peter Nagy and Gina Neff argued that communication scholars interested in the affordances of media must attend to both the material and the affective aspects that give meaning to media. To this point, they identified the value in examining “imagined affordances” that “emerge between users’ perceptions, attitudes, and expectations; between the materiality and functionality of technologies; and between the intentions and perceptions of designers” (2015, p. 5). It is under these media theories that I study encyclopedias as *imaginary media*, a type of medium that is demarcated by its seemingly magical *imagined affordances* and designed to mediate *impossible desires*.

These complementary media theories serve as the basis of my examination of encyclopedic knowledge. However, the link between this perspective and the topic of encyclopedias has not been previously articulated. Traditionally, the study of encyclopedias has

been the domain of historians (Darnton, 1979; Yeo, 2001; Kafker and Kafker, 1988; Kafker, 1996) and literary scholars (Frye, 2006; Eco, 2014; Clark, 1992), who understand these works in terms of a history of authors and a collection of genres. On occasion, encyclopedias have also been the interest of philosophers of knowledge and meaning (McRae, 1957; Foucault, 2005; Macintyre, 1991; Eco, 2014). With the meteoric rise of Wikipedia, human-computer interaction researchers and computer scientists have joined this group by studying encyclopedic knowledge as a valuable mine of semantic and social data (Viégas, Wattenberg, Kushal, 2004; Kittur, Chi, Pendelton, Suh, Mytkowicz, 2007; Forte, Larco, and Bruckman, 2009). Coming from the disciplines of business (Tapscott, 2006), political economy (Benkler, 2006; Fuchs, 2013), and communication (Lih, 2009; Reagle, 2010) Wikipedia has also been studied to understand contemporary social structures and communication practices in the early twenty-first century.

The perspective that encyclopedias exist as media — and should be studied and analyzed as such — is not counted among these works. It is more common to treat them first as books or part of a genre. Yet, their status as media is always just below the surface, hovering beneath descriptions of knowledge storage, networks, processors, and desires. In some cases, scholars and historians have understood encyclopedias as being structured by their associated book and information technologies (Doody, 2010, p. 41; p. 61) or the “communication circuit” that they belong to (Darnton, 1982, p. 68). Others described encyclopedias in terms of having “transmitter-receiver” and “retrieval” functions (Ribémont, p. 51; Clark, 1992, p. 99); being “marked by its function” and is meant to be “used” rather than read (Murphy, 2004, p. 12). Some authors have gone as far as to attach the terminology of “apparatus” (Selcer, 2007, p. 30), “device” (Reagle, 2010, p. 19), “tool” (Konieczny and Klein, 2018, p. 4629), or “machine” (Lough, 1971, p. 61) to the encyclopedias they examine — real or imagined, print or electronic.

Other times, they are a mediated form of the archive (Macovski, 2009, p. 207; Franklin-Brown, 2012, p. 29), a “knowledge-ordering medium” (König and Woolf, 2013, p. 18), or simply a “medium” (Zurndorfer, 2013, p. 537). Even more to the point, one historian recounted an encyclopedist’s suggestive argument that “to know is to mediate” (Wellmon, 2011, p. 81). Sometimes, the imaginary component of these media is recognized when they are described as encyclopedic visions (Yeo, 2001), fictions or narratives (House, 2000; Mendelson, 1976), dreams (Jacob, Treves, and Gage, 1997), impulses (Preece, 1965, p. 802), desires (Clark, 1992, pp. 95–96), utopias (Eco, 2014, p. 404), or imaginations (Selcer, 2007).

Despite these descriptions, the connections of how encyclopedic knowledge, media, and imagination are connected have been largely left under-theorized. There are however a few exceptions. Historians have investigated how the structure of encyclopedias are tied to philosophical and utopian ideals, but the focus largely concentrates on what was written and how it was produced (Darnton, 1979; Thomas, 1992; Kafker, 1996). In contrast, Jacob, Treves, and Gage (1997) were well aware of these connections that serve as the foundation of this dissertation. They wrote that,

“encyclopædism cannot be reduced to simply collecting all the forms of knowledge in the world. It implies transmitting and communicating them in forms that produce specific intellectual effects, and it is therefore necessary to reflect on the mediums and instruments of totalization: treatises, collections, commentaries, glossaries, maps, syntaxes. Each of these forms deploys its own rules for collecting, unifying, and ordering knowledge.” (p. 3)

Since the mid-2000s, there have been a handful of other scholars who have also leaned toward this argument. Richard Yeo’s *Encyclopedic Visions* (2001) shifted incrementally toward examining how the imaginations attached to encyclopedias were expressed within the changing

techniques of early modern British encyclopedias. Aude Doody's (2010) reception history analyzed how interpretation was encoded in the design of each reproduction of the encyclopedia. This shared approach for discourse and design is also found in Mary Franklin-Brown's *Reading the World* (2012). Through a Foucauldian analysis of medieval encyclopedism, she examined the discursive formations of both real and imaginary encyclopedias through a close examination of "the materials, technique, and consequences of compilation" (2012, p. 12). Replicating some of the argument of Jacob, Treves and Gage, Franklin-Brown understood that since the goal of the encyclopedist was "to represent all knowledge [...], to organize it [...], and to transmit it to an audience" any "changes in the way encyclopedias are constructed indicate nothing less than alterations to the very paradigms of knowledge and its role in the human community" (pp. 3–4).

Of note is that each of these historians brought their findings into a conversation about Wikipedia (Yeo, 2007, p. 61; Doody, 2010, p. 41; Franklin-Brown, 2012, pp. 2–3). However, it is clear that their skill as analysts faltered when they attempted to reckon with this new encyclopedia. Either they gave it only a passing mention or made broad claims about the organization, neutrality, and hypertext functions on Wikipedia (Franklin-Brown, 2012, p. 306). The reverse could be said for research about Wikipedia where the history of encyclopedias is condensed into an introductory sentence that does little to illuminate Wikipedia's place amongst its kin.

Despite this critical blind spot, Joseph Reagle's anthropological study (2010) stands out in terms of his sensitivity to making Wikipedia's genealogy coherent. His analysis treated the platform as both a "textual artifact" and a community that is supported by the utopian desires attached to twentieth century information technologies and novel social practices. This approach was similarly adopted when he and Jeff Loveland pointed out the encyclopedic inheritances that

Wikipedia reproduces (Loveland and Reagle, 2013). From a critical perspective, Nathaniel Tkacz's (2014) media archaeological study of Wikipedia dug a bit deeper by excavating the epistemic utopias attached to neoliberal theories of knowledge and openness and how they became operationalized as political enclosures within policy, debate, and the construction of bots. Unknowingly agreeing with Franklin-Brown's position, Haider and Sundin's (2014) study of Wikipedia and the print edition of the *Britannica* also argued that "our cultural imagination of information" is to a degree "materially and socially bound" to the shape of our encyclopedias (p. 2), and in turn, "different types of encyclopedias epitomize different orders of knowledge" (p. 8). And finally, Thomas Leitch (2014), provided a digital humanist approach to Wikipedia in which he explored the consequences of its cultivation of authority and its connections to liberal education. Importantly, he demarcated the consequences of three possible futures where authority is structured by either Wikipedian, corporate, and individualist practices.

These studies come from dramatically different disciplines and come to very different conclusions about encyclopedias. While they do not provide a coherent program to study encyclopedias as media, they share common concerns: the relationship between the discursive and the material, the real and the imagined, the socio-technical and the political, as well as a concern for connecting cultural histories with the present and the future. What is lacking is a clear articulation of how each concern relates to the other. One of the major contributions that I make for scholars of encyclopedias and Wikipedia is to make these connections through the overarching framework of utopia informed by media archaeology, design, and critical feminist political theory.

Theoretical Framework

By starting from this premise, that encyclopedias are media, it is possible to ask overlooked questions: What sort of impossible desires does this imaginary medium presume to fulfill? What are the imagined affordances that structure the meaning of encyclopedias for both designers and users? Who are the utopian people that are intended to populate the new encyclopedia-influenced “world” that Wales asked us to imagine — and who is not included? Or, to quote Lynn Hankinson Nelson’s title directly: “Who knows? What can they know? When?” (1993).

I answer these questions by excavating and critiquing the utopian desires that structure encyclopedias. It is here that media archeology again plays a crucial component of analysis. Quoting Thomas Elsaesser, Jussi Parikka argued that “the media-archaeological interest of knowledge is geared towards what could be modestly called ‘what is missing or has been suppressed and left out in our genealogical chart’” of media apparatuses and their contexts (Parikka, 2012, p. 22). Most often, this is achieved through the methods of genealogy, archeology (Parikka, 2012, p. 13), and variantology (Zielinski, 2005; 2006).

But media archeology can explain only so much. While it is useful for describing the real and imagined features of media, it often requires interventions from other fields like feminist and post-colonial theory “to open up the situated nature of the imaginaries” that are embedded within media (Parikka, 2019, p. 229). Likewise, Parikka also advocating for the enlistment of design theory, specifically in connection to the study of imaginary media as a means to consider “how alternative worlds might be created and how temporal, social, and technological fabulations situate coordinates of past-future in alternative ways (p. 208). I take up Parikka’s suggestion on both accounts and use critical feminist political theory and design theory to interrogate the politics of these media that encircle knowledge.

This is especially necessary given the importance that Wikipedia has placed on the political role on community as a means to arrive at a consensus on how to sort, filter, and organize knowledge. The conceit of this dream of a democratic community guided by consensus is tethered to the history of liberal-democratic thought where there exists a possibility of “consensus without exclusion” (Mouffe, 2000, p. 49). However, in following the work of critical feminist political theorists like Chantal Mouffe, Nancy Fraser, and Jane Mansbridge, I agree that “[c]onsensus in a liberal-democratic systems is — and will always be — the expression of a hegemony and the crystallization of power relations (2000, p. 49).

Importantly, this does not mean that hegemony is always a negative social force. In reality, hegemony and community are names for the same social phenomenon. This was the point Mouffe made when she wrote that “[c]onsensus is indeed necessary” to maintain democratic systems; it is the means through which a people can create a common identity (2000, p. 113). She further explained that it is a “moment of closure” that offers the ability to form a “people” (2000, p. 113). This also means that consensus is necessarily exclusionary. It creates the conditions where some identities are included but others are not. The caveat is that in order to keep this we-making process accountable and democratic it must also “be accompanied by dissent” (Mouffe, 2000, p. 113). Here, dissent, or dissensus — “is not simply a conflict of interests, opinions, or values” (Rancière, 2004, p. 6), or in other words, it does not describe disagreement. As Jacques Rancière put it, dissensus “is a conflict over the common itself,” a contention over who has the right to assert that their concerns are also the concerns for all (Rancière, 2004, p. 6).

These concerns about the capacity to enable political difference and dissensus have been picked up by feminist inspired approaches to design that concentrate on political imagination. In

particular, Carl DiSalvo's (2012) work is an explicit operationalization of Mouffe's agonist theory of democracy. Johanna Drucker's *Graphesis* (2014) provided an epistemological approach to analyzing the relationship between design, knowledge, and the construction of political subjectivities that go beyond the neutral and corporate user interface. Additionally, Anne Balsamo (2011) and Daniela Rosner (2018) theorized on the necessity of expanding the imagination of designers and the stories that are told about design. The common thread of each of these works was to provide an analytical toolkit for reverse engineering the systems that are at hand and recompose them in ways that support a more democratic future, one that is attentive to the concerns of difference.

As one might notice already, the disciplines that I draw from to analyze encyclopedias as media are quite disparate. For one, I use critical feminist theory to draw attention to concerns over gender, situated knowledges, the value of craft and care, and a sensitivity to the relationship between marginalized subjectivities and hegemonic power structures. I use media archeology to conceptualize discourse — not merely as a linguistic practice — but as a phenomenon that entangles both cultural practices and techniques with one another. The temporal aesthetic of media archeology also contextualizes the present by not only examining history, but by focusing on how past techniques, imaginaries, and social practices erupt within present media and subsequently, channels imaginations about the future. Thirdly, I use design theory as a methodological means to identify and analyze the material of encyclopedias and to theoretically ground speculative — sometimes described as “fabulating” (Haraway, 2016; Rosner, 2018) — forms of critique.

While Parikka (2019) offered that media archaeology could serve as a way point between each of these fields, the overarching concept that unites all of these fields, theories, and practices of analysis is the concept of utopia. To solidify this connection, I rely on the work of critical feminist and historian of sociology Ruth Levitas (2013). She argued that the analytical overlap of excavating the past, examining who is deemed as an ideal subject of society, and rebuilding the future from these critiques are latent modes of mobilizing utopia. She convincingly asserted that utopia is a critical method that can be used for the reconstitution of society through archaeological, ontological, and architectural forms of analysis. The symmetries between these three modes and my theoretical framework are readily apparent. For the mode of archaeology, I draw from the media archaeology of Eric Kluitenberg (2011) and Jussi Parikka's (2012) imaginary media. For the ontological mode I pull on the strings provided by Chantal Mouffe's theory of democracy (2000) and Donna Haraway's theories of knowledge (1988; 2016). And finally, under the architectural mode I follow the trajectory set by Daniela Rosner's (2018) theory of feminist design. Through this unique triangulation of fields, I provide a framework capable of analyzing encyclopedic media from both critical and creative perspectives.

Based on this framework, my research questions are guided by the three modes of utopia:

Archaeological inquiry: What are the historical and contemporary imaginaries, social practices, and techniques that animate desires for encyclopedic knowledge? What are the prominent and marginalized meanings that exist within these discourses? Which of these meanings has Wikipedia inherited to encircle knowledge?

Ontological inquiry: What types of knowledges are prioritized in the design of general encyclopedias? How do cultural techniques correspond to the cultivation of particular kinds of

knowers? What concepts serve as nodal points of discursive struggle between those who are included and excluded in these designations?

Architectural inquiry: How can the impossible desire for complete or encircled knowledge been reconstituted to address the conflicts that emerge from gendered and incommensurable forms of knowing? How might the inheritances of encyclopedic knowledge be re-articulated by critical feminist theory?

Research Contributions

Studying the “wiki” and the “pedia” in Wikipedia’s gender gap. I present a new trajectory for researching Wikipedia’s gender gap by examining how it is rooted in Wikipedia’s status as an encyclopedia. To begin, Wikipedians use five fundamental principles, or pillars, for “informing and undergirding the prevailing epistemic and social norms and practices of participation in and contributions to Wikipedia” (Menking and Rosenberg, 2020, p. 3). One of the most consequential of these is that “Wikipedia is an encyclopedia” (“Wikipedia:Five Pillars,” 2005), which connects to a policy that states that “Wikipedia is an encyclopedia and, as a means to that end, also an online community” (“Wikipedia:What Wikipedia is not,” 2004).

This articulation of Wikipedia makes a clear distinction, Wikipedia has two separate identities — the online community (the wiki) and the product of that community (the pedia). In terms of a topic of study, researchers have largely focused on the “wiki” in Wikipedia. In this capacity, Wikipedia has been heavily studied in terms of social organization (Beschastnikh, Kriplean and McDonald, 2008; Lih, 2009; Tapscott, 2006), human-computer interaction (Viégas, Wattenberg and Kushal, 2004; Kittur, Suh, Pendleton and Chi, 2007) and computer sciences research (Gabrilovich and Makrovitch, 2007; Ponzetto and Strube, 2007). These disciplines

continue to be the source of most studies about Wikipedia (Bayer, Mako Hill, Al-Kashif and Abdulai, 2018; Mako Hill, 2019, p. 3). In large part, this type of research either studies Wikipedia for instrumentalist purposes (to mine its content to support new kinds of software) or constructivist purposes to describe how human interactions exist when mediated through online spaces.

There are far fewer studies that are conducted as critical investigations of the relationship between power and knowledge. Some of these studies fall under sociological studies (Jemielniak, 2014; Peake, 2015) or political economy (Fuchs, 2013; Lund, 2017). While related, my research leans away from these humanist arguments and toward the study of Wikipedia's post-humanist politics (Van Dijck, 2013; Tkacz, 2014) and techniques (Menking and Erickson, 2015; Geiger, 2017, Ford and Wajcman, 2017). Regardless of whether research about Wikipedia engages with positivist, constructivist, or critical perspectives, each offers insight into the inner workings of how Wikipedian practices and techniques have created new conditions for producing knowledge.

Unfortunately, the same cannot be said about this literature for understanding the "pedia" in Wikipedia. The contribution of this dissertation to this topic of study is twofold. The first is by adding to a short list of studies that have acted as a counterweight to this one-sidedness: Joseph Reagle's description of how Wikipedia connects to "the pursuit of a universal encyclopedia" (2010, p. 17); his article with Jeff Loveland about the history of encyclopedic production (2013); Michael Vetter's description of Wikipedia's connection to the Enlightenment (2019), as well as Seth Rudy (2014), Ulrike Spree (2014), and Katharine Schopflin's (2014) comparisons of Wikipedia to previous encyclopedias. The subtext of these works is that instead of positioning Wikipedia features as radically unique, the historical analysis of these novel features reveal that they are continuous with older encyclopedias. My research adds to this by demonstrating how

the ideas of consensus and community, two ideas at the core of Wikipedia, are deeply connected to the encyclopedic imaginations of knowledge that have circulated for the past hundred years. This historical perspective not only serves as an antidote to the rhetoric of novelty, but it also provides an invaluable insight into how the encyclopedia has been designed to enable hegemonic situations when women's subjectivity has been perceived as a threat to community that is used to encircle the encyclopedia's knowledge.

By examining the techniques and the practices of consensus and dissensus associated with the Wikipedia's Gender Gap Task Force (GGTF) from May 2013 to May 2019, I uncovered how Wikipedia's policies, arbitration framework, and goal of producing consensus were used by anti-feminist discourses to limit the political activities of women when they attempted to close the gender gap. While this can be connected to broader misogynist activities happening online at the time, what was unique to Wikipedia was the response. The result of six years of conflict was not to necessarily keep women out, but to keep them from rearticulating the common subjectivity that held the community — and its capacity to encircle all knowledge — together. The GGTF's pursuit of changing policies, creating spaces specifically for women, and changing the culture to accommodate the concerns of women was disrupted while acts to increase the representation of women within Wikipedian articles were less virulently opposed. I conclude that this happened because it allowed the status quo of the community to be largely unchanged. By editing articles, women were confirming the consensus that being a Wikipedian was not shaped by their gender or any other identities. As such, the socio-technical structures of Wikipedia nudged women toward assimilating into the existing community rather than legitimating their concerns on their own terms. Such a dissensus threatened the guarantee of community consensus that constitutes the epistemological system that allows the encyclopedia to pursue to the encirclement of all

knowledge. In other words, the community's response to the gender gap task force was one that validated by Wikipedia's status as an encyclopedia.

Defining Encyclopedias as Media: A contribution to Book History and Wikipedia Studies.

In order to proceed with analyzing Wikipedia as an encyclopedia, it is necessary to define what an encyclopedia is in the first place. This is not an easy task since the term “encyclopedia” and its cognates have been applied to disparate projects, across two millennia, dozens of cultures, and subject to change and reinterpretation. Instead of a timeless answer to the question of “What is an encyclopedia?” scholarly definitions are often pragmatic: they are directly related to the questions that are valued within their respective disciplines.

For instance, the *Oxford English Dictionary* defines encyclopedias in linguistic terms, linking it to its etymological roots — the pseudo-Greek word for encyclical education— and locations of texts where it was first used (encyclopaedia | encyclopedia, 2020). The library scientist William Katz defined encyclopedias in terms of their contents of “detailed survey articles,” “explanatory material” and brief historical, biographical, and geographical data which made them “ideal for reference work” (Katz, 2002, p. 214). The literary scholar Northrop Frye defined encyclopedias in terms of a literary genre — the encyclopedic form (2000, p. 332). The medieval and literary historian Mary-Franklin Brown defined encyclopedias in terms of a set of textual practices limited to a historical period — scholastic encyclopedism (2012). And finally, historians who studied the relationship between books and the communication of knowledge defined encyclopedias precisely in these terms, as Aude Doody did when she wrote that the encyclopedia “is a particularly mobile genre, propelled along by changes in what counts as common knowledge and by developments in the technology of the book” (2009, p. 4).

In other words, the answer to “What is an encyclopedia?” always depends on the subsequent questions one is trained in asking. In my case, the triangulation of media archeology, critical feminist political theory, and design creates a unique set of follow-up questions: How do encyclopedias store, circulate, and process knowledge? What past ideas and techniques influenced the design of these functions? What are the desired and actual politics of these designs? How can encyclopedic media be designed in ways that inherit the history of encyclopedias while also making them more democratic?” From this perspective, I am interested in the *variety of meanings and materials* that have been used to imagine and design encyclopedias — and — how this variety can serve as a basis for re-imagining the possibilities of encyclopedic knowledge.

Unfortunately, these questions will struggle for answers if I use the definitions that describe encyclopedias in terms of genres, books, or ideas. I am not alone in this perspective. For example, during a conference on Classical, Oriental, Medieval and Renaissance Studies in the early 1990s, scholars convened to discuss encyclopedias in their respective fields. They argued that such a collection “requires a sufficiently broad definition of the topic to include works from the various areas [...] to draw together comparable phenomena” (Fowler, 1997b, p. xvi). For this task they settled on the term “pre-Enlightenment encyclopedic texts” and used it to acknowledge that “[t]he functions of encyclopaedic works in various cultures are more diverse than a narrow view based on modern encyclopaedias would encompass” (p. xvi). This was reiterated more recently by König and Woolf who favoured studying the spectrum of encyclopedic texts rather than a genre (2013, p. 1) and when Loveland and Reagle suggested the term “encyclopedic production” could describe a long history of works of reference that was not confined to a

monolithic genre (2013, p. 1295). Both concepts of encyclopedic texts and production provide some analytical room to breathe. However, their utility for my research is limited.

Consider the following list of cultural expressions (each of which are covered in more detail in Chapter 4): Wikipedia's user interface; Novalis's fragmented poetry from the eighteenth century; illustrations in the *Encyclopédie*; H. G. Wells's proposal for a *World Brain*; Ramon Llull's diagrammatic images; G. W. F Hegel's lecture on philosophy; Hannah More's schools for lower class children; Pliny the Elder's Roman collection called the *Natural History*; James Joyce's modernist novel *Ulysses*; religious scriptures (the Quran, the Torah, and the Bible); Gottfried Wilhelm Leibniz's concept of universal characteristic; and Jorge Luis Borges cautionary fable *The Library of Babel*. Each of these have been studied as encyclopedias or as *encyclopedic*; and yet only some of these examples are texts, fewer were designed as works of reference, and enough of them are neither to warrant a different term altogether.

It is on these grounds that I contribute the neologism of *encyclopedic media*: a type of media (either real or imagined) that enlists techniques and coordinates social practices to mediate the impossible desire of encircling knowledge. Admittedly, the concept of "media" does a lot of heavy lifting in this definition. But for scholars who examine archaeologies of media, *media* is a term used to describe writing technologies (Vismann, 2008), as well as poetry (Emerson, 2014), religious artifacts (Stolow, 2013), and education systems (Kittler, 2004). Throughout the dissertation, I attempt to demonstrate the analytical utility of describing these cultural phenomena as media and provide additional avenues of inquiry within book history.

Outline of Dissertation

The plan for this dissertation is composed of eight chapters. After the introductory chapter, *Chapter 2* reviews the literature on my chosen theoretical framework and uses the concept of utopia as method as an overarching through-line. While Levitas touched on politics and power, her survey of critical sociologists did not discuss how knowledge, power, and utopia connect to one another — a connection that is at the center of my research. To make up for this gap, I investigate these relationships through the work of Francis Bacon, Michel Foucault, and Donna Haraway. After pointing out the various affordances and limitations in Bacon and Foucault's epistemologies, I make the argument that Haraway's feminist theory of situated knowledges, the necessity of imagination, and "staying with the trouble" are unequivocally appropriate for broadening the scope of utopia as method as a coherent analytical program.

With Levitas and Haraway serving as theoretical guides, I engage with three theoretical approaches that will bring their insights in line with the questions of my research. I review media archeology for its sensitivity to questions concerning epistemology, media, and time; feminist critical political theory for its questions concerning publics, the political, and discourse; and feminist theories of technology and design that concentrate on technical and design imaginaries, craft, and democratic and epistemic technologies. At the end of this review, I argue that Levitas's three modes of utopia (archeology, ontology, and architecture) is well suited to connect with archaeologies of imaginary media, agonist political theory, and critical fabulations concerning design.

Chapter 3 begins by summarizing the concepts from the literature review that are operationalized in the discourse analysis for analyzing encyclopedic knowledge. Jørgensen and Phillips (2002) argued that discourse analysis suffers from a significant degree of ambiguity, and

this ambiguity expresses itself in its tangentially related methods. Some are useful for generating significant theoretical insights about the eclectic nature of power structures and meaning, like those of Michael Foucault or Ernesto Laclau and Chantal Mouffe's. Others are more grounded in the minutiae of linguistic practices, like Norman Fairclough's take on critical discourse analysis. After examining the strengths and weaknesses of various forms of discourse analysis, I establish that Jørgensen and Phillips's (2002) argument that a combined — or multiperspectival — discourse analysis is best equipped to address the unique theoretical requirements of excavating the imaginaries, practices, and techniques of encyclopedic knowledge. Making these disparate methods fit together takes some work. As such, I lay out the main components of discourse analyses that depend on the component parts of genealogy, archaeology, content analysis, network text analysis, and frame analysis. In turn, I describe how each of these are born out as part of utopia as method: a genealogical analysis on the meaning of encyclopedic knowledge; an archaeology of the encyclopedic concept of consensus over the past century; a series of content and frame analyses of Wikipedia's cultural technique of consensus; and finally, a discourse analysis of how the cultural technique of consensus has played a pivotal role in cultivating Wikipedia's gender gap.

Chapter 4 works to establish the foundation for the rest of the dissertation by dispelling the myth that encyclopedias can be characterized through a narrative of progressive innovation and increased utility. Instead of a monolithic and essentialist view of encyclopedias, I explore the field of discursivity that has historically circulated around the meaning of encyclopedic knowledge. Through a genealogical analysis, I have come to the conclusion that its meaning has been structured by the perception of a class of texts, a history of texts, a class of discourse, an institution of discourse, and a technique of inscription. Respectively these perspectives are

represented as the various suffixes of encycloped- (encyclopedia, encyclopedist, encyclopedic, encyclopedism, and encyclopedize). The results of this analysis provide not only the means for establishing the dominant threads of discourse that give meaning to the concept of encyclopedic knowledge, but points out numerous inconvenient examples, counter-histories, and conceptual threads that can be mobilized as inheritances to reconstitute the meaning of encyclopedic knowledge in later chapters. It therefore establishes that each encyclopedic expression is an act of purposeful inheritance, one that is a choice to reproduce a particular vision for what an encyclopedia can be. Synthesized together, I argue that the genealogy of encyclopedic knowledge has been structured by four inherited perspectives concerning the threshold between the known and the unknown: the transcendental, the cosmological, the universal, and the hegemonic.

Chapter 5 takes over where Chapter 4 leaves off by concentrating on the concept of consensus as discursive nodal point for understanding Wikipedia's particular political imaginary. The chapter begins with a review Chantal Mouffe's twin reading of Antonio Gramsci's concept of hegemony. After outlining the differences between a transformative and expansive hegemony, I explain how Jürgen Habermas's concept of the public sphere is politically predisposed towards the latter form of hegemony and its utopian ideal of unity by transforming individual differences. While this concept of hegemony has been heavily critiqued by critical feminists like Mouffe, Nancy Fraser, and Jane Mansbridge, it is this expression of hegemony that finds purchase within encyclopedic articulations of consensus.

Following this theoretical discussion of a political philosophy of consensus, I conduct an archaeology of the encyclopedic use of consensus over the past 150 years. In doing so, I follow a number of eclectic leads: from the various editions of the *Encyclopedia Britannica* to the

documentalists H. G. Wells and Paul Otlet, and then onto a deliberative democratic vision of an encyclopedia described by Otto Neurath and John Dewey. This archaeology is then brought in alignment with neoliberal and hacker articulations of consensus before analyzing how each of these discourses of community intersect within Wikipedia's Five Pillars that constitutes the encyclopedia's community consensus.

Chapter 6 reverse engineers the process of how Wikipedia transformed a set of systems of meaning associated with community consensus into the design of a cultural technique. I begin this examination by analyzing Wikipedia's consensus policy through the key signifiers, subject roles, and antagonisms expressed on the policy talk page. These discourses then served as the background to examine how consensus was developed over the course of the policy's existence. Finally, I end with a frame analysis of Wikipedia's interface to examine how these systems of meanings resonated with Wikipedia's technical structure. The discourse analysis reveals that there is no singular form or process of "Wikipedian consensus." Instead, the meaning of consensus is constrained by the spaces in which it is situated: the composition of articles, the enclosure of talk, the calculation of history, social policies, and hegemonic expressions of community.

Chapter 7 brings together the insights of each of the previous analyses by examining the epistemological limits and consequences of Wikipedia's hegemonic inheritance as an order of discourse. The chapter explores these concerns through a case study of Wikipedia's Gender Gap Task Force (GGTF). As part of examining the GGTF's project according to conclusions described in Chapter 6, I narrate a history of the task force's encounters with hegemonic discourses. I conclude that at the start, the GGTF was envisioned as a counterpublic seeking to re-articulate the meaning of the "Wikipedian" as a means to recognize the epistemological value

women can provide, *as women*. However, through hegemonic pressures, the dissensus of these women was neutralized by limiting their ability to cohere as a group while simultaneously opening up the potential to make activist interventions within Wikipedia that did not upset established social norms and the culture of the community.

Chapter 8 ends the dissertation by engaging with Levitas's architectural mode of utopia. First, I reiterate the theoretical worth of connecting feminist political theory, media archaeology, and design theory together under the concepts of utopia and imaginary media. I then provide a set of policy and interface recommendations for a feminist design of Wikipedia that offers equal epistemological value to consensus and dissensus. This runs parallel with a reverent critique of design practices that embrace "critical design" or "political design" solutions. Based on these assessments, I argue that what is required at the current moment is not the design of a new encyclopedia, but a redesign of the ideas and stories that are told about encyclopedic knowledge. This position is supported by the arguments made by Daniela Rosner and Donna Haraway's concept of "fabulation." Following a short discussion of fables and fabulation, I review of the style and tenor of fables that are instructive in educating the encyclopedic imagination—Ramon Llull's *Libre de plasent visio* (Franklin-Brown, 2012, p. 34), Jorge Luis Borges's *Labyrinths* (2007), Italo Calvino's "Shells and Time" and "The Spiral" (2009), and as well as Stanisław Lem's *Verstrand's Extelopedia* (1984). Informed by the imagined role of knowledge in these fables, I compose a tangential speculation about the role of dissensus, partial knowledge, and agonism as procedural filters for encyclopedic knowledge. In doing so, I provide a poetic reconstitution of encyclopedic knowledge that brings all the through-lines of the dissertation together in the form of a fable.

2. Literature Review

This dissertation critically studies the communication of knowledge through contemporary and historical culture by drawing from the resonances between critical feminist theory, media archeology, and design theory. The triangulation of these fields have a number of consequences to how I approach my research: the purpose of my project is to analyze and reveal under-recognized and gendered power structures; the concept of knowledge raises questions about how power structures are embedded within the design of media and technology; understanding contemporary culture requires careful study of its past; and finally, that my work serves as a basis for intervention in the way the multitude of encyclopedic users and designers think about the design of encyclopedic knowledge.

In addition to these intellectual alignments, this interdisciplinary study also comes into contact with a number of disciplinary frictions. For example, my research is historical, but it is not a work of history. It concerns design but does not culminate in the design of a prototype, design solution, or final product. It examines contemporary issues but is not limited to the description of the present. What then, is this chimera that I have written? It is best described as utopian, a term that is both useful and problematic because of its ambiguity and diverse usage.

Since Thomas More's usage of the word in title of his 1516 book, the concept of utopia has had ample time to accumulate its many meanings. Of those available, it is Ruth Levitas's historical outline of utopia as a process of knowing and a method that stands out. This is a departure from both the literary and affective theorizations that were popularized by Darko Suvin (2010) and Fredric Jameson (2005). My focus is therefore *not* to categorize specific encyclopedic texts as

members of a utopian literature. Neither am I assessing whether or not encyclopedias act as an articulation of Jameson's utopian break.

Levitas took on a rather different but still ambitious task. She read through the canon of critical sociologists from the last two centuries (Karl Marx, Lewis Mumford, Émile Durkheim, Charlotte Perkins Gilman, Karl Mannheim, Zygmunt Bauman, the Frankfurt School, Fredric Jameson, Richard Rorty, Ernst Bloch, and Jürgen Habermas, but to name a few) and found an underlying commitment. These theorists used the concept of utopia as a means for analysis. Seeded in these enquiries were methods woven into the sociological tendencies of science fiction writers like William Morris, Edward Bellamy, and H.G. Wells. So instead of making clear distinctions between theoretical and fictional sociology, she concluded that each of these individuals were engaged with the single method of utopia: the differences being between modes of the method, rather than between genres of writing.

Beginning with the first mode of *archeology*, she summarized that it assembles “together the images of the good society that are embedded in political programmes and social and economic policies” (p. 153). Archeology in this sense is understood as the “excavations and reconstructions of both artefacts or cultures, based on a mixture of evidence, deduction and imagination, representing as whole something of which only shards and fragments remain” (p. 154). The second mode is *ontology*, which is used to examine how a particular utopia interpellates, develops, and accepts specific kinds of subjects and people (p. xvii; p. 153). She argued that examining how subjectivities are articulated is necessarily a “processual ontology” or “one of becoming” (p. 181) as it accounts for the space between “the actual and the possible” (p. 180) and involves the “individual and a social level” (p. 180). The third mode is *architecture*, and this is the activity most commonly associated with utopian literature. It engages with “the

imagination of potential alternative scenarios for the future,” and acknowledges “the assumptions about and consequences for the people who might inhabit them” (p. 153). Ultimately, these simultaneous modes do not simply describe latent utopias, but render them “open to scrutiny and to public critique” (p. xvii). To summarize, Levitas demonstrated that utopia is not a *new* method of analysis. It was merely a frayed thread that needed mending.

There are clear advantages to this kind of inclusive approach to the concept of utopia. For one, it is genre-agnostic: whether one is creating a work of science fiction, a government policy, scholarship (or an encyclopedia), differences in formal qualities do not exclude them from being “utopian.” What is important is that they can be identified as engaging with at least one of the three modes: excavating past assumptions and silences, interrogating who is included and excluded in a given society, or presenting future plans for decreasing inequality. But just as important, a full-fledged and self-aware use of utopia as a method cannot rest on either the negativity of critique or the unfettered optimism of creation. Utopia is a precipice that balances the practicalities of *is* with the hope of *ought*, the future with the past, the desire for transformation with the transformation of desire as they exist in the present. It is on these characteristics that I describe my dissertation as utopian.

While compelling, Levitas’s synthesis is only a starting place. This has been true for researchers who used Levitas’s modes to retheorize architecture (Coleman, 2014) or to criticize and dismantle assumptions about digital technologies (Lindtner, Bardzell and Bardzell, 2014; Schmid, 2018; Bina, Inch and Pereira, 2020; Sodero and Rackham, 2020). In doing so, Helga Schmid came across a limitation of this method. She noted that Levitas’s approach was constrained “to social science [...] without encouraging a general application of utopian thinking

outside her discipline” (pp. 176–177). To make this connection clearer, Schmid connected the critical design theories of Dunne and Raby to expand Levitas’s vision for sociology (pp. 177).

I agree with Schmid’s assessment: not only did Levitas not provide much in the way of making connections to adjacent fields of study, there also exists an overlooked connection with theories of technology and design. However, unlike Schmid, I take a different track of connecting design and technologies with utopia. Instead of relying on Dunne and Raby, I find that Levitas’s feminist approach to utopia resonates with feminist approaches to knowledge (Haraway, 1988), technology (Haraway, 2016) and design (Rosner, 2018). Furthermore, Levitas also used the term “discourse” as a means of analyzing utopia, but she did not define it. I take that as an opportunity to infuse this meaning with discussions of discourse that have emerged from media archeology. And finally, while her synthesis drew attention to the different modes of the method, I have not encountered a description of how these modes might be connected in a single analysis. To be honest, this was beyond the scope that she intended for her study of connecting different sociological methods together. But in doing so, the next step suggests that new studies should be dedicated as much with the criticism of utopia as it is with the reconstitution of society through these three modes.

Knowledge, Power, and Utopia

While my dissertation is framed by Levitas’s method, she did not explore how utopia relates to analyzing knowledge and power, least of all, the concept of encyclopedic knowledge. This is not only a difficult task because of the great variety of available definitions of knowledge itself, but there exists an entire disciplinary tradition dedicated to the questions of “What is knowledge?”, “How do we know?” and “What can be known?” In its traditional Anglo-American form,

epistemology has been described as the pursuit of “a theory of *knowledge in general*” (Alcoff and Potter, 1993, p. 1, emphasis original), where each knower is assumed to be interchangeable (Addelson, 1993, p. 265) and the conditions for knowing are presumed to be universal (Code, 1993, p. 16). When I draw on the concept of *epistemology*, it is not this one.

The approach that I take concerns “epistemologies” rather than a singular epistemology. This shift toward plurality argues that any epistemology (read: theory of knowledge) carries with it “an ontology and a methodology,” with both being based “on a set of presuppositions about the nature of knowledge, of knowing beings, and of known objects” (Addelson, 2013, p. 266). It also means that the work of epistemologists is to critique and understand those presuppositions as part of social and historical — rather than logical — conditions. From this perspective, the analysis of knowledge is not based on assessing the *epistemic* quality, or validity, of knowledge as a rational product that has a standard of evaluation. It is an analysis of the consequences of *the epistemological* itself: those presuppositions, ontologies and methodologies that constitute and reproduce a theory of knowledge.

By following this approach, I do not rely on definitions of knowledge that are essentialist, naturalistic, psychological, cognitivist, or are otherwise limited to a universal individual. What is left is an operationalization of knowledge as a socially distributed and culturally specific process. As I situate knowledge as accountable to its socio-cultural context, the question of what any culture decides what they *should* know and how its members come to know it becomes a thoroughly political question. In order to unpack this relationship between knowledge and power, I follow the philosophies of knowledge associated with Francis Bacon, Michel Foucault, and Donna Haraway. In no uncertain terms, I adhere to Haraway’s epistemological stance as it is best suited to Levitas’s description of utopia as a method. Yet, it is necessary to investigate Bacon

and Foucault's insights on how power can be expressed through *instruments of knowledge*. This approach is justified for several reasons. First, each theorist suggested ways that utopia and the analysis of knowledge can be drawn together. Second, the Foucauldian concept of "archeology" is latently present in Levitas's modes of utopia. And third, the philosophies of Bacon and Foucault have been crucial articulators of encyclopedic knowledge. The argument of this section of the review is that while both philosophers present a productive and critical tradition that would be unfortunate to forget, it is Donna Haraway's compostist epistemology that contributes a necessary corrective to Bacon's universalism and Foucault's normative ambiguity.

Francis Bacon's method of producing knowledge. Francis Bacon first published the *New Organon* in 1620, a treatise that is famous for stating that "Human knowledge and human power come to the same thing" (2000, p. 33) or its more common aphorism "knowledge is power." This phrase encapsulates Bacon's practical epistemology where "making and doing as the best means of understanding the world" (Serjeantson, 2002, p. 85). Underlying this statement is his deeper argument that knowledge is the basis of political and social structures which are expressed as technical practice, scientific institutions, and utopian desires for knowledge.

In line with the "practicality" of his theory, he argued that both the hand and the mind have little power if they are unaided (Bacon, 2000, p. 33). The aid that Bacon alluded to was the logic of induction, which he said was a "reflection or imaging of nature" (p. 29) and "a technical device applied *ab extra*" (p. 28). Formally, logic finds its authority not in the second-hand accounts of ancient texts, but by examining "the particulars of history, and by proceeding in unbroken ascent from less general axioms to higher and more general axiom" (McRae, 1957, p.

32). The process of scaling knowledge from the micro to the macro was therefore conceived of as a powerful technique for iteratively making the unknown, knowable.

Bacon's philosophical endeavors did not stop at merely outlining inductive logic. His epistemology was fueled by the belief that it would lead to "an entirely new and largely unforeseen scientific theory," (2000, p. xv), one that could once and for all describe a "common discourse of the chain of the sciences how they are linked together" as the "'Circle of Learning'" (McRae, 1957, p. 27). Knowing this circle of learning amounts to a general, or perhaps more accurately, a "universal wisdom" (McRae, 1957, p. 34). This wisdom was based on "the three parts of man's understanding [...]: history to his memory, poesy to his imagination, and philosophy to his reason" (Bacon, 1930, p. 67). With both the explanation of inductive logic and his outline for the system of human knowledge, he created both the compass and the map to wrest learning from "the darkness of traditions" (p. 67).

The combination of Bacon's vision of a practical and logical science had no lack of consequence. He imagined that it would transform and advance the world so long as it "was conceived as pre-eminently public knowledge [...], revealed the design and order of nature," and was communicated (Yeo, 2001, p. xiv). In other words, knowledge was not an individualist enterprise. It had to be put to use for all of humanity. Bacon explored this condition through his seventeenth century travel narrative *New Atlantis*. In this utopian fiction, Bacon described the society of Salomon's House, a scientific people whose pursuits "are practical, not theoretical" and experimented within the "aim to do things to the natural world: to change it and to use it, not just to observe and understand it" (Serjeantson, 2002, p. 84). It must be noted that Bacon's imagined science in a very particular light. As one might expect, he was guided by his Christian

beliefs, which manifested as the assumption that there was a moral “Christian obligation of charity” on the part of a productive science (McRae, p. 33).

What then is knowledge? Bacon answers that it is empirical and demonstrable. What is the purpose of knowledge? It is to form the powerful and centralized institution of science with the maintenance and horizon of this power depended on the public diffusion of this knowledge. What amounted to the political structure of Bacon’s utopia was therefore an effect of the epistemological arrangement. Just as his aphorism dictated, Bacon’s speculative utopia described how the shape of the political is a consequence of the epistemology that supports it. In other words, the advancement of learning and knowledge will lead to an equal advancement in politics.

Michel Foucault’s methods of analyzing power/knowledge. It should not come as a surprise that the twentieth century French philosopher Michel Foucault might have some sticking points with Bacon. He argued that any causal relationship between knowledge and power and its reliance on natural truth — a perspective held by Bacon — is incorrect. As Stuart Hall (1997) explained, Foucault rejected an ahistorical or transcendental notion of truth because what is true is true “only within a specific historical context” (1997, p. 31). Instead of knowledge (and by extension truth) being powerful, Foucault collapsed the aphorism to “power/knowledge”, a move that suggested that “not only is knowledge always a form of power, but power is implicated in the questions of whether and in what circumstances knowledge is to be applied or not” (Hall, 1997, p. 33). Instead of Bacon’s causal relationship, Foucault argued that knowledge, truth, and power were inseparable.

This political premise is primary to how Foucault understood the nature of discourses and their orders. By studying *epistemes*, “the total set of relations that unite [...] the discursive

practices that give rise to epistemological figures, sciences, and possibly formalized systems” (2002, p. 211), he asserted that “a culture sometimes ceases to think as it had been thinking up till then and begins to think other things in a new way” (2005, p. 56). Foucault’s investigation here was not to be concerned with answering what knowledge and power are on their own. Instead, he wanted to know what they were together.

Foucault used a variety of different concepts to interrogate this relationship: apparatuses, discursive formations, archives, as well as the associated methods of archeology and genealogy. Let it be said that the inventiveness of these concepts are equally matched by their ambiguity. To this point, a significant amount of scholarship has been spent separating each concept or method from the other and producing usages of his “terminology for different ends” (Zwaan, 2014, p. 89). On this account, working with Foucauldian terminology also means working around it. To aid in understanding their value for the current study, I will quickly, if not roughly, demarcate their borders.

One common term used to understand power/knowledge is the discursive formation. Foucault described it as a set of statements that forms the limits of a discourse (Foucault, 2002, p. 131) and that are then drawn into “a body of anonymous, historical rules, always determined in the time and space that have defined a given period, and for a given social, economic, geographical, or linguistic area” (Foucault, 2002, p. 131). Put more succinctly, a discursive formation orders different kinds of discourses that are systematically dispersed (Foucault, 2002, p. 42) by specific strategies (p. 76) so that some become valued while others are marginalized or silenced. When power and knowledge are analyzed as discursive formations, one reveals how knowledge

mobilizes bodies, structures behaviours, and sets up the conditions for struggles and conflicts (2002, p. 131).

Another form of power/knowledge is the apparatus or *dispositif*. In parsing Foucault's prose, Giorgio Agamben (2009) usefully defined it as the network of interconnections between a "heterogenous set" of any linguistic and nonlinguistic elements (pp. 2–3) which "always has a concrete strategic function" and "appears at the intersection of power relations and relations of knowledge" (p. 2). By this definition, there exists relations that are exclusive to each power and knowledge, but the apparatus is the name of their intersection. Stuart Hall clarified this point when he identified the *place* where power operates within is "an institutional apparatus and its technologies (techniques)" (Hall, 1997, p. 32).

A third concept to understand power/knowledge is the archive. It is the form that defines "the law of what can be said" and governs the temporal appearance of when it can be said (2002, p. 145). The structural analysis of the archive establishes the "tree of enunciative derivation" (2002, p. 164) by uncovering its base of "operation rules of formation" to its branches where statements are as delicate, delimited, and locally regulated (2002, p. 164). Chasing these lines therefore presents a study of discursive "transformations that constitute 'change'" (p. 191).

There are obvious overlaps between each of these concepts. However, each one is used with a slight shift of emphasis to highlight one facet of power/knowledge that the other two are not as well as equipped at demonstrating. For instance, the concept of discursive formations can be used to compare different systems of thought, apparatus can be used to understand how power/knowledge entangles meanings and materials with strategies, and the archive can be a conceptual tool to study the internal transformations that happens to a system of power/knowledge that remains, so to speak, the same. Placed together, these three concepts

provide a unique basis for understanding the divergent relationships between knowledge and power.

Let us complicate this situation further. Foucault's examinations of different expressions of power/knowledge led him to the conclusion that different methods of analysis are required (Foucault, 1997, p. 332). Reviewing these methods is necessary for three reasons. First, there is a nominal connection between Levitas's mode of archeology and Foucault's method. Second, Foucault's archaeological and genealogical methods are directly used within media archeology (as the name suggests). Third, Foucault's concept of heterotopia is a direct commentary on utopia. At this point, a valid question might be the following: Given these connections, why do I position Levitas as the theoretical guide rather than Foucault? The answer requires some explanation.

Outlined in *The Archeology of Knowledge* (2002) — and implicitly used in *The Order of Things* (2005) — Foucault described archeology as a means of excavating the conditions of expression that demarcate the edges of knowledge. As David Garland usefully summarized, Foucault's archaeological method is “one that digs down into the past, uncovering the discursive traces of distinct historical periods and re-assembling them, like so many distinct layers or strata, each one exhibiting its own structured pattern of statements, its own order of discourse” (2014, p. 369). Following this, what makes archeology distinct is that it “wants to show structural order, structural differences and the discontinuities that mark off the present from its past” (Garland, 2014, p. 371).

In Foucault's latter work (1978), he described “genealogy” as a variation on these earlier themes. Garland explained that a genealogy “traces how contemporary practices and institutions

emerged out of specific struggles, conflicts, alliances, and exercises of power” and is made evident by “troublesome associations and lineages” or an “erratic and discontinuous process” (p. 372). Nancy Fraser added that these discontinuities reflect the “plurality of incommensurable discursive regimes” that vie to succeed one another (Fraser, 1981, p. 274). Eric Kluitenberg made the further distinction that this method “exceeds the frame of archaeological description in order to account for changes and relationships between different discursive settings” (Kluitenberg, 2011, p. 52). What stands out between the two methods is their temporality: while genealogy pays closer attention to continuity, archaeology focuses on ruptures. Another way of putting it — without calling it *History* — these methods are used to study the temporality of culture. In turn, Foucault also developed a separate, though less expansive, method for analyzing culture in terms of space.

In the brief article “Of other spaces: utopias and heterotopias” (1997), Foucault suggested the concept of heterotopias as a means to identify spaces where “all the other real arrangements that can be found within society, are at one and the same time represented, challenged and overturned” (1997, p. 332). These tense locations of incommensurable practices represented “effectively realized utopia,” though, he admonished the concept of utopia itself (p. 332). While heterotopias and utopias share certain “curious properties” (1997, p. 332), utopias are “fundamentally unreal” as perfected or inverted society (p. 332) and have little to tell us about society as it presently exists.

Despite their differences, archaeology, genealogy, and the study of heterotopias are each united by their ability to diagnose, conceptualize, and problematize the present, a point that Garland emphasized as essential to understanding Foucault’s work (Garland, 2014, p. 367). In terms of both archeology and genealogy, this diagnosis was temporally achieved by “using

history as a means of critical engagement with the present” or, conducting a “history of the present” (Garland, 2014, p. 367). Likewise, one could extrapolate that the study of heterotopias was Foucault’s attempt at using space (instead of time) as a means to diagnose the present.

At first glance, there is certainly an alignment between Levitas’s modes of archeology and ontology and Foucault’s archaeological and genealogical methods. Levitas wrote about the necessity to excavate from discourses the various silences, omissions, and subjectivities that utopias accrue. Each of these activities has a Foucauldian flavour to them. However, his schismatic presentation of discursive formations and the “diagnostic” purpose of his methods causes a certain theoretical friction.

First, numerous scholars have contested his focus on ruptures and deterministic description of knowledge regimes (Burke, 2012, p. 247; König and Whitmarsh, 2007, pp. 6–8; Kluitenberg, 2008, p. 43). This is not to say that the concept of discursive formations is not analytically useful. Many scholars have successfully expanded the concept (Kittler, 1990, p. xix). However, as Marianne Jørgensen and Louise Phillips argued, most discourse analysts “replace Foucault’s monolithic view of knowledge regimes with a more pluralistic model in which many discourses compete” (2002, p. 17). This description of archaeology is more amicable to the kind of analysis that Levitas inferred with her mode of archaeology.

The second issue with pairing Foucault with Levitas is that he did not offer a method for reconstituting society. He saw no reason to go beyond a diagnosis of the present. This reluctance to form a normative vision of society has been a critical concern. As Nancy Fraser aptly explained, Foucault raised a number of important “philosophical and political questions,” that his method of genealogy was “not [...] equipped to answer” (Fraser, 1981, p. 272). Even more to the point, she could “only conclude that Foucault’s work is normatively confused” (p. 284) and

feminist scholarship could not afford such ambiguity when it comes to challenging regimes of power/knowledge (Fraser, 1985, p. 181).

Donna Haraway's situated knowledges and staying with the trouble. In ways that are similar to Foucault, Donna Haraway argued, *all* accounts of reality — including scientific ones — cannot escape being “story-laden” (Constance, Ross and Haraway, 1990, p. 8). They gain significance, value, and influence not through a self-obvious truth, but as the consequence of cultural processes. However, this is not to say that everything is relative as “stories are not all equal” (Constance, Ross and Haraway, 1990, p. 8). In a more recent phrasing of this argument, she stated that “[i]t matters what thoughts think thoughts. It matters what knowledges know knowledges. It matters what relations relate relations. It matters what worlds world worlds. It matters what stories tell stories” (2016, p. 34). In contrast to Foucault, her analysis of knowledge and power does not stop at describing their relation but extends into composing new ones.

It is here that Haraway forges a different path. The long-term goal of her work has been to upset the patriarchal narrative concerning knowledge and supplanting it with a feminist one. This is a task that comes with clear difficulties as objectivity has been coupled with the resilient narratives of originality. These stories begin with the common tropes of “original innocence and privileges the return to wholeness imagines the drama of life to be individuation, separation, the birth of the self, the tragedy of autonomy, the fall into writing, alienation” (2006, p. 143) At issue is that these “plots are ruled by a reproductive politics—rebirth without flaw, perfection, abstraction” (p. 143). What constitutes the authority of knowledge is therefore only recognized in its connection to a source or a clone or a copy that retains none of the inherent variation that occurs with birth. As she stamps out in capitalized nouns, this kind of objectivity belongs to

“White Capitalist Patriarchy”, an epistemological regime “that turns everything into a resource for appropriation, in which an object of knowledge is finally itself” only to guarantee and refresh “the power of the knower” (1988, p. 592). The story of knowledge becomes the myth of control.

Haraway drew this story into a connection with epistemic technologies of vision. With control being the primal desire, objectivity has been rendered as an “ideology of direct, devouring, generative, and unrestricted vision, whose technological mediations are simultaneously celebrated and presented as utterly transparent” (1988, p. 582). Yet, they are not transparent. They obfuscate a knower’s location in time, space, and culture. Objectivity in this limited sense is a dishonest and mythical “vantage point of the cyclopean, self-satiated eye of the master subject” (p. 586), an “unregulated gluttony,” and a “god trick of seeing everything from nowhere” (p. 581).

Despite these critiques, objectivity is not the problem. The problem is the story with which it has been laden. Objectivity is something Haraway argued to be epistemologically valuable, along with the other “enlightenment modes of knowledge” that were composed from the sciences and “*have* been radically liberating; that they give accounts of the world that can check arbitrary power” (Constance, Ross and Haraway, 1990, p. 9, emphasis original). She argued that objectivity cannot be abandoned in the pursuit of a fresh start; such an act would require the legitimating story of originality. Instead, she argued that what is required is a sensitivity to a “common livable world” that “must be composed, bit by bit, or not at all” (p. 40). It means “staying with the trouble,” a commitment that requires the acknowledgement of how the present is “full of inheritances, of remembering, and full of comings, of nurturing what might still be” (p. 2).

Today, this enlightenment heritage continues as scientific accounts demonstrate that analyzing the world as a division between exceptional “man” and nature “has become unthinkable” (2016, p. 30). Not only do humans and non-humans interact as “sympoietic collaborators, colaborers” (2016, p. 100), they “become-with each other, compose and decompose each other” (2016, p. 97). This “compostist” (p. 97) epistemology means that “[a]lone, in our separate kinds of expertise and experience, we know both too much and too little, and so we succumb to despair or to hope, and neither is a sensible attitude. Neither despair nor hope is tuned to the senses, to mindful matter, to material semiotics, to mortal earthlings in thick copresence” (Haraway, 2016, p. 4). In other words, universalist theories of knowledge like Bacon’s are ill-equipped to deal with the great variety of situations that serve as locations for knowing. Likewise, Foucault’s diagnostic methods only point out the trouble. They offer no way to stay with it; they offer no means to participate in the composition of our world.

Therefore, objectivity must be recomposed by understanding how it is enabled by its “limited location and situated knowledge” (1988, p. 583). She added that understanding includes a type of vision that treats objects of knowledge and ways of seeing those objects as fundamentally different. Instead of a view from nowhere, organic and technological ways of seeing are translations — rather than presentations — of the world. Likewise, the “object of knowledge” is not a passive thing, so much as “an actor and agent” (p. 592). The result of Haraway’s theoretical flip strengthens the concept of objectivity by making the act of knowing accountable to the processes that led to the construction of that knowledge.

This form of objectivity — where a “we” can be both composed and critiqued — perfectly aligns with the critique and the reconstitution of Levitas’s method. In fact, Haraway explicitly threaded knowledge and utopia together when she argued that “[s]cience has been

utopian and visionary from the start; that is one reason ‘we’ need it” (p. 585). Haraway took this track even further when she added that how we come to know through technologies and narrative is part of the situatedness of knowledge. We therefore need not just science facts to guide our compositions of knowledge, but also a whole host of other SF’s: “science fiction, speculative feminism, science fantasy, speculative fabulation” (Haraway, 2016, p. 10). She tells us that we must be thoughtful and invested in our critiques. We must be creative with the fables we tell and careful with the knowledge we make.

While explicit questions concerning the relationship between knowledge and power and utopia are missing in Levitas’s work, Haraway is exceptionally suited to bridge this gap. Her combined assertions that “All is not to be done from scratch” (Haraway, 1988, p. 586), that utopia and fabulation are important for composing a just world, and this includes being critical of racist, capitalist and patriarchal claims of knowledge are all in keeping with the modes of utopia. The same degree of alignment cannot be said about either Foucault or Bacon.

While Bacon utilized utopian speculation to explore his philosophy, his practical epistemology was still rooted in stories about origins and a transcendental nature. In contrast, Foucault was quite clear that such origin stories are the products of social processes, but his philosophy failed to produce a viable normative position or accept utopia as a valuable method of analysis.

Despite these differences, Bacon, Foucault, and Haraway support a singular argument. The meaning of “knowledge is power” cannot be assumed to assert that an individual’s knowledge is an individual’s power. Instead, knowledge is generated from — and put to use for — social purposes. These purposes, in turn, shape political subjectivities. Likewise, all three

placed the balance of their theoretical focus on the structure of knowledge (even when power and knowledge were argued to be entwined). It is this agreement that makes the absence of a discussion on knowledge in Levitas's work even louder. If the goal is to produce new utopian moments by which to "imagine ourselves otherwise" (Levitas, p. 219), then one must begin with the trouble that comes with knowing.

Utopian Knowing

The main argument that Ruth Levitas made was that utopia is a method for imagining the reconstitution of society. While she provided an invaluable assessment of how utopia needs to be used as a "critical tool" in the twenty-first century, her application of it was self-limited to "exposing the limitations of current policy discourses about economic growth and ecological sustainability" (2013, p. xi). In this form, utopia as a method falls short of my requirements to attend to questions of knowledge and technology. To address this issue, I have shown that Haraway's feminist reimagining of objectivity, utopia, knowledge, and composition is an appropriate match. But this pairing does not answer all the questions that result from their connection: Which forms of analysis are best used to excavate epistemic plans under the method of utopia? Which methods can be enlisted to analyze utopian subjectivities structured by new epistemologies? What alliances are required to compose utopian epistemic architectures? What technological mediations are required to engender utopian ways of knowing?

The answers are already partially here. Foucault's descriptions of archives, discursive formations, and apparatuses can serve as conceptual waypoints to negotiate these questions. However, the ambiguity that he used and the limits he placed on utopia means he can only be taken so far. By leaning on Levitas's survey of critical sociologists, these limitations can be

pushed back. For example, she described a number of pivotal figures whose work circulated around utopia and knowledge in terms of media archives (H.G. Wells), discursive publics (Jürgen Habermas), and technical apparatuses (Lewis Mumford). These three figures and their corresponding concepts will act as thresholds for discussing media archeology, feminist political theory on publics, and feminist philosophies of technology and design.

To be clear, these three areas have not been chosen arbitrarily. They have been chosen because they demonstrate deep affinities with utopia. From media archaeology, Eric Kluitenberg advocated for over a decade that media archeology should embrace a utopian and political commitment (2008; 2011). Likewise aligned, Jussi Parikka recently argued that media archeology could benefit from connecting to speculative design (2019). The feminist political theorist Chantal Mouffe (2007) and design scholar Carl DiSalvo (2012) argued that critical components of agonist democracy can be mobilized by creative practices of design. Donna Haraway herself also explained how critical theory must be connected to the creativity that is inherited in the multitudes of SF: “science fiction, speculative feminism, science fantasy, speculative fabulation, science fact, and also, string figures” (2016, p. 10). More recently, feminist scholar and designer Daniela Rosner (2018) followed Haraway’s argument and argued that the creativity of design needs to be rearticulated through critical fabulations.

As a group, these theorists advocate for a focus on connecting the temporal fluidity of media, the critical perspective of feminism, and the creative practices of design. While each exhibits elements of utopia, individually they focus on only the connection of two of the three modes. The following sections argue that a combination of these perspectives can be made more cohesive if they are directly attached to utopia as a method, and conversely that utopia as method, theoretically and practically, is deepened by these fields. This is the path I follow.

Utopia and mediated knowledges. H. G. Wells — science fiction writer, critical sociologist, utopian — wrote about the relationship between media and knowledge by imagining new kinds of archives. Wells’s fictional and non-fictional works did so by investigating the “power of technologies of communication to shape profoundly the cultures within which they operate” (Worth 2010, p. 66). While his considerations included imagining how the scale, speed, and portability of new media increased the efficiency of these archives, his focus went beyond utility. The media historian Aaron Worth explained that Wells’s speculation about these new kinds of visual, oral, and textual archives shaped human communication. He imagined that media could overcome the temporal drift of cultures, the diversity of the British Empire, and unify humanity under a globally networked and temporally unbroken archive of knowledge (pp. 83–84). In addition to being capable of annihilating space and time, Wells understood new media as “prostheses of thought” that could eradicate difference (pp. 84–85). In other words, they were capable of radically changing the human race.

Wells’s speculations can be seen as parallel to a number of important questions raised by media scholars. How do media change our relationship to the world and our knowledge of it? To what degree do we think *with* or think *through* media? Do different media create different kinds of people? How do imaginary media impact the development and domestication of actual media? This is the general tenor of questions raised by media archeology.

It will come with little surprise that these media archaeological questions fall under the terminology of “imaginary media” and involves a multifaceted methodology that attends to the questions of who, when, and why the meanings of imaginaries are entwined with media. On the question of who is involved in imbuing media with its imaginary components, Eric Kluitenberg points to individuals involved in the “productive (the design) as well as the consumptive end of

the chain (and in-between)” (Kluitenberg, 2008, p. 12). But he also emphasized that this kind of analysis must incorporate the study of “the interplay of material and cultural conditions that invoke and shape the emerging cultural and technological formations that it wishes to address” (p. 16). He explained that it requires a kind of description that attends to the locality and dependency of interconnection of media to its cultural context. This is not a straightforward affair. For Kluitenberg, the study of imaginary media — and media archaeology in general — demand a method of analysis that is complicated given the intent to uncover the heterogenous composition of media and their processes (2011, p. 50). As such, the study of imaginary media is expressed through different — if not inconsistent — analytical registers.

Kluitenberg has not been alone in his call for studying imaginary media. Other scholars working within media archeology have confirmed the value of this trajectory (Young, 2017, p. 26; Parikka, 2019) with Simone Natale and Gabriele Balbi adding that “fantasies are something that media continuously produce, and which continuously influenced media” because the “imagination is an engine for media change,” it therefore needs our attention (2014, p. 212). Even communication scholars studying contemporary media are cognizant of the structuring power of the imagination when it comes to media. This is the case when Peter Nagy and Gina Neff (2015) revisited the concept of *affordances*, a concept that is commonly understood as the “qualities, features, or cues within a technology.” (p. 2). However, this understanding “too often serves to separate questions of the materiality of technology from discussions of social construction and human agency” (p. 2). To rectify this situation, Nagy and Neff described the concept of “imaginary affordances,” which include properties that “emerge between users’ perceptions, attitudes, and expectations; between the materiality and functionality of technologies; and between the intentions and perceptions of designers” (p. 5). I argue that this

idea of “imaginary affordances” usefully fills in some of outlines of Kluitenberg’s media theory. When he asserted that imaginary media mediate impossible desires, scholars would be served well to identify the imaginary affordances that are enlisted to do so.

While “archaeologies of imaginary media” are sensitive to the same utopian temporalities that Levitas outlined (Kluitenberg, 2011; Peters, 2013; Marvin, 1988; Parikka, 2019), questions about knowledge tend to be latent. In this capacity, other corners of media archeology are worth noting. For instance, studies of discourse networks (Kittler, 1990; Ernst, 2012) and media history (Eisenstein, 2005; Hayles, 2012; Gitelman, 2014; Vismann 2008) put epistemological concerns front and center, though the normative politics of these studies are pushed to the background. This is not the case with the study of media aesthetics (Chun 2011; Galloway, 2012; Emerson, 2014) where the interface between aesthetics, media, and politics is often a key component of the theorist’s argument. Playing to the strengths of these different facets of media archaeology leaves one no other choice than to follow the advice of one summary of the field: each researcher to “puzzle” together their own media archeology (Zwaan, 2014, pp. 93–94).

In part, this is due to the nature of the field. Media archeology avoids clear boundary lines. It has been described as an “emerging field” (Huhmato and Parikka, 2011, p. 2), an approach (Eric Kluitenberg, 2011, p. 50), a “bastard discipline” (Gansing via Zwaan, 2014, p. 16) or “a response to various kinds of crises” (Elsaesser, 2016, p. 183). Lori Emerson has quite rightly added to this list by writing that it is “a (deliberately) frustrating field because it does not have a clear, overall methodology with precise parameters and a driving philosophy” (2014, p. 185). Nonetheless, people have tried.

As one of its main interlocutors, Wolfgang Ernst has suggested that media archeology is both an aesthetic and a method (Ernst, 2012, p. 55). The aesthetic quality emerges from a conscious attempt to reconfigure media's relationship to time which finds its nominal source from Michel Foucault's archaeological (2002) and genealogical methods (1978). With this connection, Jussi Parikka argued that "media-archaeologically tuned research [writes] counter-histories to the mainstream media history, and [looks] for an alternative way to understand how we came to the media cultural situation of our current digital world" (Ernst, 2012, p. 6).

Likewise, as Lisa Gitelman (quoting Geert Lovink) asserted, media archeology is a method, "a hermeneutic reading of the 'new' against the grain of the past, rather than a telling of the histories of technologies from past to present" (Gitelman, 2006 p. 11). As such, there is a clear Foucauldian flavour to much of media archeology, often relying on his catchwords of "counter-," "rupture" and "heterogeneity," each of which are inoculants to the teleology of history. However, there are corners that are unsatisfied with the suggestion that it must always be understood temporally as a rupture or theoretically from a Foucauldian perspective.

As I noted earlier, there is a friction between Foucault's chosen temporality and utopia. This is echoed by scholars who argued that the past and present must be drawn into "thinking a different kind of future" (Elsaesser, 2016, p. 183). Eric Kluitenberg extended this thesis by arguing that it is not enough to merely open up the phase space of possible futures by interrogating history or generating counter-histories. He argued that media archaeologists must elicit "a critical scrutiny of imaginary media, some potential for improving future prospects for media and technological development" (Kluitenberg, 2011, pp. 54–55). This means that the question of "how to retain a certain utopian potential for the media [...] is quite crucial for the archeology of imaginary media and is frankly unavoidable" (p. 55). In this regard, Foucault's

concepts become re-articulated with other theories and associated methods like “theories of gender, postcolonial studies, visual and media anthropology” (Huhmato and Parikka, 2011, p. 2) and design (Parikka, 2019).

Liam Cole Young has argued that different methods of media analysis can also be a means to usefully delineate some of these overlaps. To this end, he referred to two traditions of thinking about media, one where we think *with* media, and another where media works *on* our thoughts (2017, p. 20). In both cases, media technologies gain an agency, a way of shaping cultural expressions and social interactions that cannot be ignored. This is their common ground. But situating oneself on either “with” or “on” (or between the two) has theoretical and methodological consequences. The following subsections explore the different threads of media archeology that can help negotiate this relationship between media and knowledge.

Placed under the umbrella term of “discourse networks,” Young applied the term to a whole track of media analysis that investigates how media work *on* us and studies the past “from disciplines other than History” (2017, p. 22). In this vein, Wolfgang Ernst argued for dispensing with the activities of history, counter-histories, or telling stories (Ernst, 2012, p. 7). As an alternative to a history of ideas or a history of knowledge, he preferred analyzing the impact of physical media on the communication of cultures. This process includes examining how stories are inscribed in the temporal logics of media, an approach he called “epistemological reverse engineering” (p. 55). This led to Ernst's provocative argument that what counts as knowledge is made meaningful through counting rather than narrative (p. 143). For Ernst then, the way that inscription machines do their recording — the way they count — become the basis for structuring knowledge.

Ernst's theoretical approach is part of a general re-interpretation of Marshall McLuhan, as "a media archaeologist *avant la lettre*" (Emerson, 2014, p. 89). McLuhan's core argument was that media "are vast social metaphors that not only transmit information but determine what is knowledge; that not only orient us to the world but tell us what kind of world exists" (Carey, 1967, p. 18). So, when McLuhan argued that "[e]very culture and every age has its favorite model of perception and knowledge" (1964/1968, p. 21), this had nothing to do with culturally significant texts. Instead, a culture and its social structure are determined by the possibilities of expression found within the media that it uses to communicate — a media theory that McLuhan popularized in his terse phrase "the medium is the message" (1964, p. 23). According to this rhetorical probe, cultures and individual mentalities are framed by the terminology of their media. A culture is a manuscript, print, and "total electric field" culture (1962, pp. 28–29); a man is a scribal, typographic, (1962, p. 90) or electronic man (1964/1968, p. 275).

While McLuhan can hold the claim to be "the first intellectual [...] to take the medium seriously" (Carey, 1998, sec.1, para.5), this designation does not extend to being the best as his theory has been subsequently extended and critiqued. On this front, Friedrich Kittler invoked his own 'McLuhanisms' when he asserted that "[m]edia determine our situation" (1999, p. xxxix) and that "it is we who adapt to the machine. The machine does not adapt to us" (Armitage, 2006, p. 36). Captured in this phrase is Kittler's disagreement with McLuhan. We should not be looking to humans at all to understand our culture. Our situation is not one where media are the extensions of man; it is the opposite.

An additional contention Kittler had was the temporal split that McLuhan asserted between print and electric culture. Until approximately 1900, authors were still writing their books as manuscripts and their thinking was done with pen and paper rather than hot metal type.

As such, knowledge was written as the continuous transition of the natural world into cultural symbols (1990, p. 194). It was with the invention of typewriters, gramophones, and film, (rather than print) that media presented “the subject with something to be deciphered,” and in doing so, “makes the subject what it is” (p. 196).

Some media historians have taken up McLuhan’s general premise by reversing the methodological equation. Instead of mining the imagination to understand the archive, they “carefully sift” and “mine archives to understand imagination” (Young, 2017, p. 21) and therefore examine the “conditions of knowledge and epistemic objects” (Ernst, 2012, p. 7). A significant example of this work is that of Elizabeth Eisenstein. Like McLuhan, she acknowledged that the “[b]asic changes in book format,” like the repeated alphabetical order in reference works “might well lead to changes in thought patterns” (2005, p. 71).

However, Eisenstein had clear reservations about taking McLuhan as a historian. His over-generalization of typographic man “glossed over multiple interactions that occurred under widely varying circumstances” (p. 102, 2005). Instead of a rupture between the use of manuscripts and print that McLuhan argued for, there was a gradual “communication shift” marked by various continuities between the two cultures (2005, p. xv). She discovered that the early printed books were largely reproductions of ancient manuscripts (p. 23); that these works began to circulate widely; which gave rise to the comparisons of inconsistencies within ancient facts (p. 53); which in turn, spurred readers to accumulate and circulate new empirical observations (p. 235). Eisenstein also made the case that the cognitive and social effects of print on readers came long after the effect it had on the editors, translators, writers, and printers. In being deeply involved in the operations of the medium, they were the first to adjust to and

amplify new ways of producing knowledge (p. 206). Media therefore had an unquestionable and radical impact on knowledge as it moved from being legitimized by ancient authority to empirical science. But it was not a schismatic process. As she eloquently put it, the “preservation of the old [...] was a prerequisite for a tradition of the new” (2005, p. 97).

Like Eisenstein’s critique that typographic man was in fact a mesh of borrowed and emerging media practices, Lisa Gitelman took issue with McLuhan’s monolithic category of “print culture” (Gitelman, 2014, p. 6). In *Paper Knowledge* (2014), she argued that the concept of “print culture” reduces print to a hermeneutical tool between readers and authors. Such a concept overlooks the legions of paper-based tools that are devices *used* for organizing thought and not *read* as a way to interpret meaning (p. 6) and the kinds of user subjectivities that they engender (p. 31). In line with this argument, she argued that documents are “material objects” (p. 2) that present a “kind of knowing that is all wrapped up with showing, and showing wrapped with knowing” (p. 1). Adding further distance from McLuhan, she argued that this knowing-showing function of the document “can never be disentangled from power—or, more properly, control,” that are a part of “the subjects and instruments of bureaucracy or of systematic knowledge generally” (p. 5). This is because a new tool, like a document, will not inherently and immediately redefine how people think. As she argued, “[n]ew tools become tenable only if the attendant social organization of labor changes in concert with the development of the tools” (p. 71). In direct opposition to Kittler’s argument, she emphasized that it is “humans, not tools, [who] come first” (p. 71).

Cornelia Vismann (2008) on the other hand adopted Kittler’s media-centric approach to human-technique relations. In her extensive historical analysis of legal files, she demonstrated how the social practices of law have been produced from its inscription, storage, and circulation.

This is because “[t]he law operates not in *mundo* but in the medium of literality; it believes only what is written” (pp. 56–57). She extended this argument by stating that one studies the history of media by examining “cultural techniques,” of “what media do, what they produce, and what kinds of actions they prompt” (2013, p. 83). One of the things media produce is the subject because the tool, she wrote, “determines the political act; and the operation itself produces the subject.” It is only then that this freshly-minted subject “will then claim mastery over both the tool and the action associated with it” (p. 84).

The posthumanist and literary scholar, Katherine Hayles, advocated for a middle position that combined these media theories in the argument that “we think through, with, and alongside media” (2012, p. 1). In her study of the telegraph operators and telegraph codes she described a process of “technogenesis,” 2012, p. 10), where new media coevolve with us as they work on us by physically rewiring our neural pathways, but thereafter we work with media as it is drawn into social practices that investigate the medium’s affordances (2012, p. 10). What was at stake for Hayles was that the first groups to work with new media — businesspeople and machine operators (p. 136) — decide which affordances are valuable and worth exploiting. Historically this has meant bringing new media in social practices that create hospitable conditions that make new media inseparable from capitalism (Hayles, 2012, p. 126).

All four media historians provide an invaluable framing of the relationship between humans and their media. While Eisenstein set out the terrain to be covered, the latter three have finessed the theoretical positions on whether humans work with, through media or are worked on by media. But Vismann and Gitelman also present two further concerns worth investigating. One similarity is that each pushed their analyses up against the edge of the present. Vismann’s suggested that the “history of files” is present in “digital hardware that remains unaware of its

historical dimension” (2008, p. 164). Similarly, Gitelman made the fascinating argument that the history of documents can be drawn into the recent history of Adobe’s ubiquitous document format, the PDF (2014, p. 18). Of interest is that they put analytical hooks into the media of the present, dragging them into an archeology of their variations.

The second concern is that each wrote about the relationship between media, power, subjectivities. However, even as these historians reached toward contemporary examples and questions about power, there exists theoretical and disciplinary gaps in doing so. If media history is to engage with utopia as a method, it must become uncomfortable close with the present and the imaginary future. Without concession, “[i]maginary media are machines that mediate impossible desires” (Kluitenberg, 2014, p. 100). This apt definition by Kluitenberg perfectly encapsulates some of the main threads of analysis that have emerged from examinations of how media and the imagination intersect. In their pure form of being “unrealized or impossible media machines,” Kluitenberg described that some media exist as discourse only (Kluitenberg, 2011, p. 53; p. 48). But imaginary media are also “actually existing machines” where “the imaginary is not so much in the machine itself as in its signification, in everything that is ascribed to these machines” (Kluitenberg, 2014, p. 101). This wavering between the actual and the imagined has been captured by the work of two cultural historians.

In Carolyn Marvin’s foundational work on electric light (1988), she expertly traced this under-determined quality as both a real and imagined phenomenon for electrical engineers and inventors (p. 21), for bridging science with magic (p. 56), and public displays of spectacle and delight (p. 152). Covering some of the similarly fantastic visions for the internet, Patrice Flichy (2007, p. 10) argued that broadly adopted technical conceptions move from utopia to ideology by forgetting the legions of utopian visions to legitimize the hegemony of a particular technical

imaginary. To summarize this connection between the material and the imaginary aspects of media, “new communications technologies have historically acted as the sites on which negotiations over—often competing—social values and utopian desires have been played out” (Herman, Hadlaw and Swiss, 2014, p. 4). As such, the early years of a new medium includes a messy history of imaginations that are later revoked from the social imaginary that simplified and legitimized an accepted notion of technological progress.

Both of these historians engage in what Park, Jankowski, and Jones (2011) have described as the challenge that histories of new media present; that “the new is also constructed with an eye on the future, or more correctly, an eye on what we think the future will be” (p. xii). As much as “new media” are temporally ambiguous, “[a] historical emphasis in the study of new media involves addressing media not as clearly defined objects, but as shifting practices, discourses, technical configurations, and cultures” (p. xiii). As the authors noted, when it comes to new media, the first step of the historian is to get “beyond the naïve celebration of novelty,” but by no means is this the end point (p. xvii). New media historians must “invigorate the study of media with ideas and theories that grapple with newness, difference, and change” (p. xvii).

The resulting studies of imaginary media inscribed a series of utopic and horrific eddies that intermingle with their associated machinery. Some continue to be powerful generators of meaning today while others produced divergent practices that come to us as strange and curious loose ends. Such an attention to the continuities, transformations, and ruptures within cultural history has been formative for archaeologies of imaginary media. As Parikka identified, this type of research considers the conditions that give rise to particular media imaginaries and how these imaginaries “condition the way we see actual technologies” (Parikka, 2012, p. 47). For

Kluitenberg, part of those conditions is encapsulated in the phantasmatic set of affordances “that has more to do with what is imagined as being shared” through communication (2008, p. 175).

But there are also other questions at stake. As Young recounted, research on imaginary media is concerned with “how desires and fears from earlier historical moments reappear in unexpected ways to complicate linear media histories” (Young, 2017, p. 26). This type of analysis is expertly articulated by John Durham Peters. He argued that the desires and social traditions of past media erupt and cycle back into the technological imaginaries of contemporary media, even after thousands of years of use and change. To illustrate this point, he provided a litany of examples where former meanings were archived in the actual material and mechanics of logistical media like clocks, calendars, and towers (Peters, 2013). New media, he argued, are actually never *new* as they “return us to old media” that are always caught amongst “time, space, and power” and their companions “recording, transmission, and logistics” (Peters, 2013, p. 42).

This attention to the material of media brings up an important question about method. In the literature reviewed in this section, there is a clear preference for using methods and theories associated with cultural studies and cultural history which lean heavily on Foucault (Parikka, 2012, p. 46; Kluitenberg, 2011, p. 50). However, there are limits to which Foucault can be followed in this regard. As Eric Kluitenberg argued, “Foucault’s aim was not to reveal an object” and his “insistence on discontinuity and rupture makes it difficult to account for processes of change and transformation” (Kluitenberg, 2008, 48). This character of Foucault’s approach means that it presents a significant limitation to addressing the material and historical properties of imaginary media. Likewise, Kluitenberg also argued that it would be inappropriate to conduct a Kittlerian hardware analysis (p. 21). Clearly for Kluitenberg, the analysis of imaginary media exists as an intersection between these analytical axis points. The first being the intersection

between temporal continuity and rupture while the second surveys the topology of meanings when they combine with materials.

To clarify how these intersections can be expressed, Kluitenberg provided several meditations on the implications of this form of study. First, he explained that the concerns about the way machines structure culture often overlook how cultural conventions “are built into the apparatus itself” (Kluitenberg, 2008, p. 16). In a later work, he clarified that the initial design of machines is not the only source of cultural change. Both designers and the public project their imaginations “onto actual media machines” and that it in these socially fluid situations that concerns about the “functions, effects, ramifications” about media come into being (Kluitenberg, 2011, p. 48; 2014, p. 101). Under this theoretical description, archaeologists of imaginary media therefore attend to the ways that imagination shapes media through the entire process by which they are interwoven into society.

There is another component of imaginary media that needs to be contended with and it relates directly with one of Levitas’s comments about critical sociologists; they were comfortable with “unmasking embedded assumptions” but not with engaging with the architectural mode of utopia themselves (p. 197). To ease this tension, Levitas reframed the architectural mode of utopia as “a form of critique, but it negates through the conjuring of alternatives that are also positive proposals” (p. 197). This of course “demands speculation, judgment and suspension of disbelief,” but it is a temporary suspension. Since the three modes are interwoven as a single method, this creativity is always followed “by the archaeological moment that interrogates the inconsistencies and silences of its architectural counterpart” (pp. 197–198). Taken in this light, she remarked that utopia as architecture is not a forecast nor a prediction. It is offered up as a

“provisional hypothesis,” a dialogue between sorrow and hope, as both “critique and reconstitution” (p. 198).

Similarly expressed, Kluitenberg was also aware of the limitations of a purely archaeological analysis; those that focus on a diagnosis of the present by examining the past. He argued that studies of imaginary media must also be invested in the “utopian potential for the media” which therefore inform a “crucial” and “frankly unavoidable” component of analysis (Kluitenberg, 2011, p. 55). In this sense, the excavation of imaginary qualities and their impact on the development of media is not the main purpose of analysis. Instead, he argued it is a means to reclaim the “utopian potential of communications media without stepping into the pitfalls of overly eager media imaginations, or the cynical political or economic agendas that may lie buried beneath the fertile soils of media speculation” (Kluitenberg, 2006, p. 9). In other words, Kluitenberg's form of media analysis operates within the gap between an archaeology of media and a media architecture of utopia.

As has been previously stated, Foucault provides little theoretical lift in this regard. In his place, Kluitenberg advocated that Lewis Mumford's view of technology is better equipped “to excavate the regularities within patterns of social, cultural and technological transformation; to identify points of rupture and the shifts of singularity that define our troubled and often traumatic interaction with technology” (Kluitenberg, 2008, p. 21). This evaluation of Mumford will be revisited again when design and technology become the focus.

Jussi Parikka has also considered how to couple critique and creativity together. In his examination of the benefits of matching archaeologies of imaginary media with design, Parikka opened up the possibility of an interface between “historical discourse and archival research with design practices that touch contemporary political issues” (2019, p. 227). With a penchant for

archival evidence, Parikka argued that an imaginary media infused design project “can provide radically new ways to think not only objects, but also relations that are not, exclusively, history in the narrative sense of the term. The specific future-oriented nature of speculative design can in this sense be expanded to a broader set of imaginaries and temporalities that are not attached to ‘future’ only.” (2019, p. 228). He argued that the archaeological feature of imaginary media can therefore be used to mobilize “new scales, new temporalities in which design takes a new temporal turn” (Parikka, 2019, p. 212) or “speculations with the past” (2019, p. 216).

Despite this optimistic connection, design does not come without theoretical baggage. The media archaeological attention to temporality purposefully offsets the comfortable position with Eurocentric institutions (Parikka, 2019, p. 219) and linear relationship that the field of design has with the future. For Parikka, archaeologies of imaginary media can challenge this perspective with an inbuilt “situated practice that is aware of geographies” (Parikka, 2019, p. 207). As such, Parikka’s argument was that the theoretical weaknesses that come with design can be attended to with the critical capacities of media archaeology.

What can be assessed from this overview of media archaeology, and imaginary media in particular, is that it is balanced upon a number of theoretical gimbals: notions of discourse which operate on meaning and materiality, the enfolding of the imaginary with the actual, as well as the triangulation of the past, present, and even the future. Given these characteristics, there is a clear alignment with the mode of utopian archaeology. Above these broad strokes, there are other theoretical contributions that media archeology offers to contribute to a specialized utopian methodology.

Vismann's attention to the political character of cultural techniques serves as invaluable concept for examining subjectivities that are both revealed and concealed by interfaces of knowledge. However, as Kluitenberg argued — and I agree with him — the Kittlerian approach cannot be used in isolation. On this front, I think that Hayles's balance of "technogenesis," can aid in Eric Kluitenberg's articulation of imaginary media. In both of these theorists' work, the intentions of designers and inventors cannot be waved away.

What is required then is a sensitivity, not a myopia, of the consequences of the material and design of media. On this front the utopian mode of architecture, which was largely metaphorical for Levitas, is taken by media archeology to be both imagined and actual. The joint analysis of media and design can excavate and recompose how political programs are embedded into utopian apparatuses.

This brings me to two concerns about mobilizing media archeology as a theoretical frame for analyzing the political design of encyclopedic media. The first is that while connected, media archeology does not provide clear examples for how one might do a design-informed discourse analysis. This can be explained by the lack of interaction between media archaeology and design institutions (Parikka, 2019 p. 212). The second issue is that while Parikka suggested that *some* work in media archeology is feminist (p. 220), it is not formalized as part of the core argument that media archaeologies make. This poses a particular opportunity.

If archaeologies of imaginary media are committed to utopia (as Parikka and Kluitenberg argued) then media archaeology must address the consequences of Foucault's resistance to not only the idea of utopia, but the normative ambiguity of his methods (Fraser, 1981, p. 284). The obvious place, considering Fraser's critiques and Levitas's feminist descriptions of utopia is to

not just support media archaeology with feminist theories, but to have it rooted in it. As Levitas recounted of Angelika Bammer's argument, "feminism itself is intrinsically utopian" (2013, p. 109). The concerns therefore point to the limits of media archaeology as means to develop a utopian analysis of encyclopedic knowledge. One must look to adjacent fields of inquiry like critical feminist theorists and feminist philosophers of technology that have concentrated on the political questions of meaning, materiality, and political organization.

Utopia and public discourses. As part of utopia as method, Levitas argued that analysis must include an examination of the inclusions and exclusions within utopian discourses. As she noted, this has been the long-term project of critical feminism in its "recognition of patriarchy as an unnatural state, and by the belief in and pursuit of an alternative" (p. 109), as well as a drive that finds purchase in thinking of "ourselves otherwise" (p. 177). But that is not to say that a feminist utopia is a *place*. Instead, according to Angelika Bammer, it is "a series of utopian moments within the shifting configurations of the possible" (Levitas, p. 109). It is a sequence of constant reflection and adjustment.

This processual feature of utopia is perhaps one of the reasons that numerous feminist political philosophers (Fraser, 1997; Mouffe, 2000) and designers (DiSalvo, 2012; La Dantec, 2013) have turned to — and reverently critiqued — Jürgen Habermas's ideals of the public sphere and democratic discourse. What was notable about Habermas's deployment of utopia was his move away from typical Marxist critiques about production, consumption and distribution. In its place he argued that "the conditions of late modernity made it possible to propose *only the processes* by which utopia might be negotiated rather than the structural features or content of utopia itself" (Levitas, 2013, p. 105, my emphasis). More specifically, Habermas was concerned

with “the conditions of non-coercive dialogue as the ideal speech situation, [...] exposing the way in which domination is exercised in debate and consultative processes” (Levitas, 2013, p. 105). Synthesized together, Habermas’s implied utopia is one where we put ourselves on the path of utopia by participating in democratic discourse.

Connecting explicitly to the Enlightenment tradition, Habermas outlined a number of ways that this process could lead to legitimate, objective, and rational forms of governance. The goal would be recognizable when it was expressed as a non-coercive consensus concerning “what was practically necessary in the interest of all” (Habermas, 1991, p. 83). Over the course of his academic career, he has expressed the conditions for how this consensus can be created and maintained. Chief among these principles is a commitment to creating objective knowledge through the process of “intersubjective understanding” (2008, p. 172) that occurs when encountering others. Additionally, this consensus must adhere to “publicity and inclusiveness,” “equal rights to engage in communication,” “exclusion of deception and illusion” and the “absence of coercion” (2008, p. 50; p. 82; 2003, p. 36). It is through this outline of the limits of consensus that Habermas provides the standards by which to assess the health or corruption of the public sphere.

What is interesting to note about Habermas’s theory of ideal knowledge is that it contradicts Bacon and Foucault’s theories. Instead of the collapse of knowledge with power, Habermas was emphatic that the two must be kept separate. It is on this point that Nancy Fraser (1997) critiqued the “dubious assumptions that underlie the liberal model” found within Habermas’s singular public sphere (p. 71). In particular, she took issue with the assumption that agreement can only be found when social status is bracketed “as if” people are social equals.

Fraser gave the example of how Habermas considered private issues in the public sphere to be inappropriate and any fragmentation of the sphere is seen as disharmonious (or deceptive) with its very purpose to form agreement (p. 76–77). As she summarized, subordinate groups find themselves “silenced, encouraged to keep their wants inchoate, and heard to say ‘yes’ when what they have said is ‘no’” (p. 64). This bracketing of social status further entrenches social inequalities as the shared experience that is assumed to give way to consensus is troubled by the fragmented state of a pluralist society. It is in this vein that she supplied the concept of “counterpublics” (p. 81). While the term is suggestive, Fraser’s counterpublics depended on a binary that is limited by the conceptual work “publics” are meant to achieve. As Chantal Mouffe (2006) pointed out, the purpose is to create “a multiplicity of public spaces, all of which are articulated differently” (p. 163). In order for such a multiplicity of publics to exist in democracy, Mouffe argued that they are coordinated and interrelated on the basis of agonism. Grounded on the notion of the adversary, this approach draws attention to the necessity of balancing hegemony and consensus with antagonistic conflict.

To reiterate, while Habermas saw the necessity to equalize the contaminating force of power through consensus, Mouffe understood that consensus was a powerful form of domination itself. Her attitude toward consensus forms a third position as it was “and will always be — the expression of a hegemony and the crystallization of power relations” (2000, p. 49). Denying this “moment of closure” is a denial of the ability of a people to form an identity as a “people” (2000, p. 113). However, she provided the important caveat that even though it is a closure, it will always be a temporary, contingent, and contestable one (p. 49). From Mouffe’s point of view, “[c]onsensus is indeed necessary but it must be accompanied by dissent” (2000, p. 113). If not, democracy will stall on the rhetoric of unity or difference.

However, Mouffe's theory has not been unassailable. Her level of detail concerning consensus (a necessary component of agonist democracy) pales in comparison to her attention given to difference. This imbalance has served as a wedge for criticisms on the nature and implementation of agonist discourse. In his defense of deliberative democracy, Andrew Knops (2007) argued that agonism is, contrary to Mouffe's assertion, compatible if not subsumed by deliberative political theory. He argued this by teasing out the implied forms of rational consensus within agonism. With this foundational reliance on rational consensus, Knops argued that agonism is best conceptualized as an effort to rehabilitate deliberative democracy (p. 118).

This reading of agonism has been supported by Dryzek and Niemeyer (2012) who argued that Mouffe's reliance on consensus may point to a deliberative meta-consensus of recognition and acceptance. Ed Wingenbach (2011) who similarly took issue with the ambiguity of consensus under agonism did so from an angle significantly different from the deliberative democrats. Positioning himself as an agonist, he argued that Mouffe's reluctance to address the norms of agonism limited its viability as a political theory. However, if agonism is to succeed it must "account for both the social practices and norms that express a democratic culture, and it should propose guidance for the design of formal political institutions" (p. 91).

Adhering to Mouffe's position, I argue that the deliberative focus on the ideal of consensus continues to sidestep the actually existing conditions of democracy. Knops's teleology of mutual understanding depends on disavowing the value of dissensus in and of itself. Although Dryzek and Niemeyer's approach is more reverent to Mouffe's position than Knops's, they too theorized dissensus as reducible to forms of consensus. As such, these criticisms and amendments do little to illuminate how sustained moments of incommensurability are integral to maintaining democratic pluralist societies and not merely obstacles for consensus to overcome.

Wingenbach on the contrary provided a careful investigation of consensus under agonism. While Mouffe was quick to draw the line between institutional politics and spaces of contestation (2007), Wingenbach's argument opened up the question of how long adversarial consensus can last, and can such agreement persist long enough to create institutions whose primary function is to facilitate the creation of spaces of contestation.

More recently, Katarzyna Jezierska (2019) provided an intervening space to consider institutional agonism. Relying on Fraser's reading of Habermas, Jezierska argued that deliberative politics have two contexts, one where strategic calculations are absent and in the other, consensus is absent (p. 2). It is here that she made an important intervention. In her rearticulation of this insight, she argued that the goal of deliberation is neither consensus nor decision-making, but "understanding" (p. 20). And importantly, consensus is just one outcome of understanding, one that can be just as equally replaced with dissensus (p. 21). However, a thoroughly deliberative process takes time, and some contexts require political decisions to be made quickly. It is here where the institutionalization of agonism comes into play. Jezierska argued that in situations where "time-efficiency" outweighs legitimacy, the "preferred institutional design" is "voting after deliberation" (p. 22). By making a clear distinction between procedures of democratic understanding and procedures of democratic decision-making, her argument has immediate consequences for an agonistic understanding of what it means to design spaces to facilitate democratic discourse. But this also becomes a question of what precisely is meant by "democratic discourse?"

First, Mouffe's agonist theory of democracy requires a very different understanding of discourse than Habermas's. His concept of discourse was defined as the social practice of argumentation that is constructed from language and speech acts (Habermas, 1979). In this view,

discourse is one kind of social practice among many others. Such a position allowed him to make the claim that, everyday speech, economic exchange, and the actions of governance are all social practices that are distinct and external to discourse.

This is not how Laclau and Mouffe's understood it. For them, discourse "encompasses not only language but all social phenomena" (Jørgensen and Phillips, 2002, p. 33), and so the logics of the economy, everyday speech, and institutional structures are also discursive. More specifically, a discourse "attempt[s] to fix webs of meaning through the constitution of nodal points," which "organise the discourse around a central privileged signifier or reference point" and "bind together a particular system of meanings" (Rear, 2013, p. 6). The basis of discourse for Mouffe was therefore not in argumentation and adherence to ideal presuppositions but found within struggles over meaning in all their forms.

Jørgensen and Phillips commented that this approach is akin to Foucault's notion of discursive formations, both of which describe the order of discourse that frames "different and potentially conflicting discourses that operate in the same terrain" (2002, p. 59). The political element emerges from the struggle over filling contested signifiers with meaning that are valuable to sustaining the identity of a group of people. However, while this is linguistically achieved, a group identity is also constituted by attaching these meanings to material objects and physical spaces (Jørgensen and Phillips, p. 35). It is on this ground that non-linguistic social practices and social objects become discursive.

Following this thread was Carl DiSalvo's theory of agonist design. In his approach, DiSalvo set up an ontology of democratically-focused design that rests on two categories. The first, "design for politics," is an approach to design that is "governed by the principle of consensus and the

associated concerns of access to information and procedures” (DiSalvo, 2010, p. 1). In many cases this means providing the means for facilitating rational debate or voting mechanisms. In line with Mouffe, he argued that consensus and rational deliberation are not the “default or required conditions and qualities of democracy” (p. 2). Again, aligning with Laclau and Mouffe, DiSalvo argued that hegemony is “an open and flexible discursive strategy. That is, hegemonic practices freely and dynamically bring together histories, ideas, and intentions from a diversity of perspectives into issue-oriented ideologies” (2012, p. 35). Viewed from this perspective, any design that increases the efficiency of these strategies will further entrench the status quo.

What is required is a type of design that is apt at doing the opposite, or as Mouffe described, is built to create agonistic or confrontational spaces (2000, p. 15) for the purpose of constructing “new subjectivities” that are necessary for a robust and vibrant democracy (2007, p. 5). This is the task that DiSalvo outlined for his second category of democratically focused-design — *political design*: to reveal, challenge, and re-articulate hegemony (DiSalvo, 2010, p. 1). Therefore, the role of democratic design is not to build electoral mechanisms but to create and enable “spaces of contest” (DiSalvo, 2010, p. 2). DiSalvo’s theory of adversarial design therefore connects directly to the cultivation of critical and democratic discourses for challenging power.

However, DiSalvo’s early work implied that political design exists *only* for the purpose of confrontation. This perspective is theoretically lopsided. There must be room for a kind of political design that concentrates power to facilitate an agonist we-making. It is from this angle that his work on participatory design with Christopher Le Dantec (2013) corrected this implication. Le Dantec’s usage — and the concept of participatory design in general — comes from John Dewey’s political theory of democracy. For context, Dewey’s famous book *The Public and its Problems* emerged from an anxiety that he shared with what journalist Walter

Lippmann's described in *The Phantom Public*, both being published in the 1920s. As Tony DeCesare summarized their joint concerns, "[t]he complexity of social, political, and economic life at the dawn of the twentieth century rendered the average citizen incapable of 'knowing' her complex environment in ways that would enable her to judge of and act in it intelligently" (2012, p. 108). Both saw the need for a "bridge" between this complex environment and the inability of an individual citizen to be sufficiently informed about that environment. What differed between the two thinkers was how they approached the "problem of knowledge" (p. 107).

For Lippmann, there was a troubling porousness between news and propaganda that shaped what counted as public opinion (p. 109). In consideration of this power, he argued that the public could not be responsible for its own governance as it would fall prey to these dominating forces. Instead, its proper role was to serve only as a "spectator" to political affairs (p. 109). The solution then, was for citizens to be connected to their environment, not through the public, but as "an independent, expert organization" that provided this information to the administrators of society (p. 109). In many ways, Lippmann's approach put explicit limits on the power of the people to shape their own society.

The philosopher John Dewey disagreed. He countered Lippman's proposition with two fundamental assertions — assertions that form Le Dantec's political use of design. The first was that a public was not "a single common mass of people," but a "plurality of publics," each composed of "a specific configuration of individuals bound by common cause in confronting shared issues" (Le Dantec, 2016, p. 15). This characteristic leads to their value for a democratic society that Dewey described in *Democracy and Education* (1916).

Ideally, such a society is one that "repudiates the principle of external authority" (Dewey, 1916, p. 101). But this also meant that another social formation would be responsible for

enacting a level of social control. Instead of domination or authority, he argued that a democracy must be built from communication and participation in articulating the common (p. 5); an activity that gives rise to a “voluntary disposition and interest” in society (p. 101). Therefore, instead of educating a small group of elites, Dewey argued that all citizens were capable of contributing knowledge on issues based on their own experiences. Therefore, “since democracy stands in principle for free interchange, for social continuity, it must develop a theory of knowledge which sees in knowledge the method by which one experience is made available in giving direction and meaning to another” (1916, p. 401). In other words: “[c]onsensus demands communication” (p. 6). So as a rebuttal to Lippmann’s argument, the crisis of democracy was that because of individuality, “intelligence is broken, inarticulate and faint,” but it could be solved when intelligence “possesses the local community as its medium” (DeCesare, 2010, p. 116).

With Dewey’s political theory of deliberative participation as a key component of a democratic society, some design practitioners have reflected on their role in the design process. Originally situated as a practice to improve end products (Le Dantec, 2016, p. 26), participatory design evolved into facilitating encounters between designers and users where they are able to “co-design [...] the artefacts, processes and environments that shape their lives” (Robertson and Simonsen, 2013, p. 2). Here, the goal is to enable “those who will use the technology to have a voice in its design, without needing to speak the language of professional technology design” (p. 2). This way, technologies important to society are not just designed by a few “experts,” but by the communities that make use of them.

However, the range of control over the process by different types of participants is a point debate encapsulated in shifts from “design-for-user” to “design-for-future-user,” (Le Dantec,

2016, p. 106) to designing *with* users and designing while being *informed by* users (Scaife, Rogers, Aldrich and Davies, 1997). In each, the power dynamics of the designer and user are in constant negotiation concerning the level of control each maintains during the stages of prototype, production, and use of design (Le Dantec, 2016, p. 107).

Returning to Le Dantec and DiSalvo's articulation of participatory design, they described the coalescing of a consensus in terms of the constitution of publics. Here, publics were identified by their unique "expression of issues" (2013, p. 245) that were configured by specific "attachments" (p. 258): social, material, and semiotic commitments and dependencies that shape a group's capacity for action (p. 259). As such, different publics are delineated by both their attention and resources for acting on a set of issues.

From this theoretical perspective, a public is not constituted (or designed) through the enabling of participation (p. 255), nor is such a design a response to an identifiable problem for a type of user. Issues are indeterminate, both in terms of their consequences and in terms of who they will affect. In contrast, the designing of a public is a kind of "infrastructuring" which "is the work of creating socio-technical resources that intentionally enable adoption and appropriation beyond the initial scope of the design, a process that might include participants not present during the initial design" (p. 247). The value of an attachments-based concept of publics is that it is sensitive to the unknowability of issues and the recognition that the material, social, and semiotic resources of the world cannot be bracketed off from discourse (as Habermas would have it). In other words, the context of other actors is specifically tied to the identity of the public. Different attachments therefore make different publics. Or, to put it in Haraway's epistemological terms, publics are situated.

Le Dantec and DiSalvo took Mouffe's discourse-centered vision of agonism and hitched it to concerns found within design studies. This new trajectory is suggestive, but it is also not enough. Le Dantec and DiSalvo's theorization leaves out the question of how different publics interact. Since a public is delimited by their attachments, what happens when conflicts over those attachments arise between adversarial publics? Is it possible that incommensurable conflicts arise when one public contests the right for the other to use a particular attachment? These are potential questions that are opened up by Le Dantec and DiSalvo's work, though the theorists do not offer a plan for answering them. A close reading of Mouffe's definition of publics as being both internally and externally adversarial, as tensions between we-making and them-making, can help to tease out these questions.

A common thread within utopian discourse has been the making of a universal "we," one that dreams of unifying humanity. Clear examples of this can be found within Francis Bacon's universal wisdom, H. G. Wells's dream of language acting as "an instrument of world unification" (Worth, p. 84, 2010), and now Habermas's concept of consensus within the public sphere. Critical feminist theorists have expressed that such assumptions of universality must be troubled by recognizing that unity and we-making can only attain their utopian character if difference and dissent are equally valued. As Mouffe rightly argued, the two cannot be separated; without one another, the political dissolves.

From the perspectives presented here, the contribution of examining utopia in terms of discourse and publics is largely in its connection to Levitas's mode of ontology. Critical feminism is directly tied to commitments to considering how discourses exclude and include subjectivities in the process of group formation and domination. The relationship between

imaginary media and critical feminist theory can therefore be seen as being equally beneficial. As archaeologists of imaginary media wish to avoid “the pitfalls of overly eager media imaginations” (Kluitenberg, 2006, p. 9), they would be wise to contest the desirability of an uncontested unification of humanity. In the reverse direction, feminist theories of discourse can benefit from media archeology by identifying publics through the cultural techniques and forms of mediation that are deployed in acts of consensus and dissensus.

Additionally, the architectural mode of utopia can be seen to be operating within Le Dantec and DiSalvo’s design-oriented views of agonism. For instance, the political design of discourse (say, of encyclopedic media) could proceed in two ways. One could create a space of discourse where “difference and dissensus are brought forward and the assumptions and actions that shape power relations and influence are revealed and challenged” (DiSalvo, 2010, p. 2). The second approach is from the participatory design perspective, where design is deployed as the infrastructure of a public. Such agonist designs draw from a set of attachments that are also used by a dominant collective but then work at either critically disarticulating these attachments (DiSalvo, 2012, p. 109), or re-articulating them to facilitate the sharing of resources for a new public, and as a consequence, provide the means to “imagine ourselves otherwise” and entails “remaining open to our vulnerability and jeopardy in encounters with others” (Levitas, p. 186, 2013).

In both cases, there is a clear architectural intent and neither reduces design to “design for politics.” Each is guided by the task of cultivating political subjectivities and not the maintenance of electoral mechanisms. But the question of mechanisms does raise a question. Are these attachments simply resources for public discourse? Does a utopian architecture merely *support* democratic discourse, or can utopian architecture be a democratic “discourse” unto

itself? Mouffe's broad concept of discourse suggests as much, and yet both Le Dantec and DiSalvo appear to reserve discourse as largely linguistic practices.

This was demonstrated when they argued that technology should be understood as a "catalyzing factor" or a constitutional prompt but not as "the culmination of a public's formation" (Le Dantec and DiSalvo, 2013, p. 258). Additionally, DiSalvo also argued that democratic confrontation exists "through all forms of social practice and material assemblages, including customs, laws, institutions, the built environment and designed products" though, "[*often* ... the spaces of contest are discursive" (DiSalvo, 2010, p. 2, my emphasis). The conditional word of *often* illuminates the ambiguity surrounding the concept of discourse. It infers that social practices and material assemblages are non-discursive. According to Laclau and Mouffe, Foucault, and media archeology, this is not the case. The ontological difference between a public and its attachments is misleading. Or to put another way, design cannot be understood as just an intermediary or instrument of either hegemonic or counter-hegemonic ideologies. The apparatus itself, how it is crafted, who constructed it, and how it is maintained are also articulations of discourse. The following section follows this trajectory to give further substance to Levitas's notion of utopian architecture by following the compass points Lewis Mumford put down nearly ninety years ago.

Utopia and craft machines. While Habermas and his critics envisioned publics as a component of utopia, Lewis Mumford took a different route. Utopias of all kinds, he once argued, have territories and politics that are shaped and maintained by their complimentary utopian machinery. Even when it seems it is not, every utopia is technological (Mumford, 1965, p. 283–284). This is because a technology (or "technic") is jointly composed of a technique *and* the

culture that surrounds and supports it. A similar perspective is found in the work of Ursula Franklin (1999), who argued that what counts as technology “includes activities as well as a body of knowledge, structures as well as the act of structuring” (Franklin, p. 5). In other words, culture and technologies cannot be separated as external and separate phenomenon as they are woven together in the texture of civilization (Mumford, 1955, p. 6).

It was this unique perspective of Mumford’s that Levitas celebrated for demonstrating how a “social imaginary affects human action, and new eutopias are necessary to helps us act in ways that overcome the momentum of existing institutions” (Levitas, p. 90). It is also on this twined vision of imagination and technology that Eric Kluitenberg advocated for a Mumford-inspired media archeology. This section follows that same premise but with a keen eye for how critical feminists, philosophers of technology, and designers have addressed these relationships. Importantly, the watchword for these scholars has been *craft*.

Franklin and Mumford use craft as the solution to industrial technologies. Andrew Feenberg (2002) understood it in terms of an emancipatory activity for the industrial workers. Anne Balsamo (2011) deployed it to argue for the need to craft and educate the technical imaginations of designers while Daniela Rosner (2018) made the case that craft itself can serve as a feminist corrective to the patriarchal dogmas of design. Despite these shifts in meaning, at the core of each inquiry is a two-part question: What imaginations do we craft with our machines? What machines should we craft with our imaginations?

According to Lewis Mumford (1955) and Ursula Franklin (1999) all civilizations have swayed between the structuring forces of two kinds of technology; they are either authoritarian / prescriptive or democratic / holistic. For Mumford, authoritarian technologies are understood as

centralized systems that coordinate “complex human machines composed of specialized, standardized, replaceable, interdependent parts” (1964a, p. 3). For Franklin, the issue was not that these technologies imposed authoritarian regimes, but that they reduced the agency of workers by eliminating “the occasions for decision-making and judgment in general and especially for the making of *principled* decisions” (emphasis original, 1999, p. 18).

The culprit in this situation, appropriately enough, was Francis Bacon (Mumford, 1955, pp. 45–46; 1964a, p. 6). Both in terms of politics and epistemology, the “danger to democracy,” Mumford wrote, is found in “the new methods and objectives of technics” that were set by Bacon’s goal of making “control over physical nature, ultimately control over man himself, the chief purpose of existence” (Mumford, 1964a, p. 6). Under this regime, Mumford argued that only knowledge that can be rendered by the logics and economics of automation are considered valuable (1964b, p. 263). Franklin supplemented this concern by arguing that scientific advancement led to its monopolization in the way we imagine and model our social reality (p. 31). The consequence, like Mumford’s assessments, has been the marginalization of “personal experience” (Franklin, 1999, p. 32) and “the fragmentation of knowledge and work” (p. 3).

The solution for both theorists was to return to the collective and holistic capacities inherent in democratic technics that operate “under the active direction of the craftsman” (1964a, p. 2; Franklin p. 12). Because technologies are supported by culture, craft technologies embody not only tradition and folklore, but “the cumulative time-seasoned values of both collective history and individual human experience” (p. 269). Franklin expanded this notion by stating that holistic technologies need to be employed for “[a]ny tasks that require caring, whether for people or nature” (p. 17).

To this point, Franklin and Mumford agreed on what is necessary for relations of power and knowledge within modern society to become more just and humane. Any concern for “maintaining democratic institutions [...] must include technology itself” (Mumford, 1964a, p. 7) and this required “expand[ing] our discourse and our social imagination” by making more participatory technologies (Franklin, p. 115). Franklin’s feminism also added further clarity to this argument. She was emphatic that holistic labour, the “knowledge of the total work process,” has been associated with women’s work (p. 103). Therefore, any substantive change to technology is one that requires women because their contribution “lies precisely in their potential to change the technostuctures by understanding, critiquing, and changing the very parameters that have kept women *away* from technology” (p. 104, emphasis original).

While I value the insights of these philosophers of technology, in particular their inclusion of democracy and knowledge as part of their theory, they thought that the solution to modern alienation was a return to completeness found in the control of pre-industrial craft. This is a problematic position. As Haraway argued, any narrative that finds its purchase in these terms is mythical and misleading. Knowledge is always partial, complete control is a godtrick, and the return is an impossible and undesirable journey. What is required is a utopian reconstruction, not a utopian return.

Andrew Feenberg made this point when he argued that the transformation of technology cannot be conceived of as a choice between craft and industry (2002, p. 141). Such an arrangement assumes “that industrial technology is irredeemable” and “concede[s] that the existing industrial system is the only possible one” (p. 141). This is an unacceptable proposition as there “is no reason of principle why one would have to retreat economically in order to

achieve ecological and democratic objectives” (p. 142). Instead, our concerns must be focused on “alternatives *within* industrialism” (Feenberg, 2002, p. 141, emphasis original) as a means to address its troubles.

Despite this distinction, the idea of control continued in Feenberg’s theory. He argued that industrial workers occupy a *tactical* position of operation where they have an autonomy that “works with the ‘play’ in the system to redefine and modify its forms, rhythms, and purposes.” Feenberg called this “reactive autonomy” a “margin of maneuver” (p. 84). Workers can therefore contest control over technical activities by eking out moments of self-understanding, tinkering, and practices of craft where movement is possible. Unquestionably Marxist in his solution, labourers are agents of change, but here it is because they “can transform technology through enlarging the margin of maneuver they already enjoy in the technical networks in which they are enrolled” (p. 174).

Through this framing, Feenberg argued that technology itself is a democratic contestation that is expressed through the material and embodied negotiation between humans and machines. The ability to contest the apparatus of power and knowledge, in this case, relied on identifying spaces where workers can exercise and expand their autonomy. There is, however, room to further finesse this thesis. Mumford argued that in order to increase human autonomy, the entire society has to be educated with a new technical imagination; Franklin argued that women need to be present to shape technologies; and for Feenberg it was industrial labourers.

Anne Balsamo has argued that there is a more obvious group of people that can be catalysts for machinic contestation. In her book, *Designing Culture* (2011), she argued that social innovation and cultural change can be spurred on by educating the technological imagination of those labourers that “work the scene of technological emergence” (p. 6) — the designers,

engineers, and software developers who produce and reproduce culture (2011, p. 10). Aligned with the previous views on technology, Balsamo argued that “cultural beliefs are materially reproduced, identities are established, and social relations are codified” within design and that culture is therefore “both a resource for, and an outcome of, the designing process” (p. 11). Unlike labourers who *respond* to and challenge their technical networks, designers have the added capacity to draw social and political concerns into the semiotic and technical networks they *create*. By changing the technical situation through anticipation (rather than reaction), designers push up against the edge of the possible.

Mads Folkmann (2013) has eloquently described this capacity with a philosophical approach to design imagination. In one sense, “design can seek out the 'not-yet-being,' “and explore the “unknown ground” as a matter of professional activity (p. 18). At the same time, Folkmann explained that “the possible has its limitation in the impossible, that is, the radical other side of the border of what can be enabled” (p. 18). Within design, the “possible and the impossible co-condition each other” (p. 18).

It is in this sense that design is uniquely positioned to engage with Levitas’s architectural mode of utopia. As Folkmann described, “it is exactly due to its ability to devise concrete proposals and solutions for something yet unknown thus bridging the gap between unknown and known, possibility and actuality that design is often seen as having a prerogative in comparison with disciplines that only describe characteristics of the world (e.g., sociology and humanities) without necessarily projecting anything new” (p. 19). The imagination — and in particular that of the designer — “can be seen as a mental structure that negotiates known and unknown” (p. 71).

Despite this opportunity, Balsamo argued, designers have too often demonstrated a limited “technological imagination” (2011, p. 7). While they are adept at “creating new kinds of technologies” they struggle with producing “new democratic cultural possibilities” (p. 7). This problem stems from the narrative of originality that surrounds design. Of course, anything that is innovative does not spring forth as completely novel. In order for designers to produce something that is comprehensible, they “draw on understandings that are already in circulation within the particular technocultures of users, consumers, and participants” (2011, p. 10). Nothing is novel without also being familiar. Balsamo argued that recognizing this means educating designers in the activity of “hermeneutic reverse engineering” which connects “interpretive theory with standard designing practices” (p. 14).

Under this hermeneutic analysis, what is being reverse engineered is not an object. It is the joint activities of “identifying the meanings and assumptions that already structure the scene of technological innovation” (p. 16). Balsamo continued this thought by saying that this process seeks to isolate “key signifying elements,” analyze those elements in the context of how they are used to develop a technology, and then to assess the possibility of maneuvering those elements towards different meanings (p. 16). She argued that part of this assessment is located in the overlapping moments between discourse and materiality “where the limits of each are constituted, tested, refined, expanded, and reified” (p. 16). This method appears, at least to me, to carry some of the connotations of media archaeology, Mouffe’s discursive analysis of nodal points, and DiSalvo and Le Dantec’s usage of attachments. Framed with this company, her approach to design follows the now familiar pattern of finding a way to connect materiality and meaning together.

Balsamo's contributions can be set alongside other calls to create socially-minded, if not outright critical, forms of design. As Francisco Laranjo argued, design has the unique capacity of "contributing to—and generating— new knowledge" especially in its use "as an investigative and emancipatory tool" (Mitrović and Šuran, 2016, p. 26) and therefore serves as a type of criticism. While some designers take a socialist approach to make their craft *critical* (Laranjo, 2017, p. 83), others have argued that being critical means shifting their social responsibility from "client-serving activity," to that of "authors" and artists who experiment with "claiming autonomy" and "legitimacy" (pp. 52–53). This activity therefore creates the conditions where designers engage with design "as an exercise of self-emancipation" (p. 189). However, Laranjo noted that such "critical autonomy" is subject to the political and economic constraints of "late capitalism" (p. 72); a blind spot that can be identified in the Balsamo's work when her interest in transformation did not discuss how the profitability of her central topic of "innovation" is embroiled in patriarchy, racism, and capitalism. Other design scholars have been more attuned to this issue.

The design practices of "critical design" and "speculative design," were originally intended "to question culture and social habits, rather than affirming market and consumer trends" (Mitrović and Šuran, 2016, p. 26). However, this form of design criticism was largely formalized within the limited venues of art exhibitions and the discourse of design communities of the global north (Mitrović and Šuran, 2016, p. 26). Cameron Tonkinwise highlighted critical design's racial blind spot when he argued that its future-oriented expressions "downplay the diversity of the present" and how their sometime dystopian speculations overlook how "people in other parts of the world are already living versions of those lifestyles" (Mitrović and Šuran,

2016, p. 25). Similar issues have been raised about the lack of conceptualizing critical design in terms of feminist intersectionality (Prado de O. Martins, 2014).

Matt Ward likewise worried that this practice continued to align with “narratives that allow for the colonisation of the future” and that critical and speculative design act as “the advertising arm of venture capital,” a perspective that existed “without the humility to understand the fragility and power of their future trajectories” (Mitrović and Šuran, 2016, p. 20). For Ward, this was critical design’s “innovation trap”; a trap that Balsamo found herself in when she rhetorically legitimized her thesis by asserting that the reproduction of technocultures — that design is so apt at — is “the real *business* of technological innovation” (2011, p. 5, emphasis mine). Johanna Drucker made similar comments about the trap of design. She argued that the design of interfaces should “push beyond the goals of ‘efficient’ and ‘transparent’ designs for the organization of behaviors and actions” (2014, p. 178). At the same time, she found issue with “activist” designs (2014, p. 177) that seek to direct interpretations toward a prescribed meaning — an activity that only differs in terms of client, rather than in politics.

What is needed are theories that are philosophically positioned to negotiate the problematic traps of design — especially if they are to engage with utopian means of reconstituting society. In this capacity, media archaeologies of interfaces and critical feminist science and technology studies (STS) interpretations of design are an invaluable resource. Instead of concentrating on capital “D” design, media archaeological analyses have often concentrated on the theoretically rich concept of the interface. For example, the core of Wendy Chun’s (2011) argument illustrated a symmetry between software and ideology that existed in the interface. For her, both act as an “imaginative seeing one kind of thing in terms of another thing [which] also involves hiding” (p.

56) or as thresholds of “what can be seen and not seen, can be known and not known” (2011, p. 2). By conducting a close reading of Vannevar Bush’s Memex machine and Douglas Englebart’s canonical “Mother of All Demos,” she concluded that the meaning of interface operations has been influenced by the “neoliberal quality of personal empowerment” (p. 82), a meaning that engendered a subjectivity caught between mastery and slavery (p. 31).

Like Chun — Alexander Galloway (2012) argued that software, ideology, and aesthetics are complementary interfaces. In fact, he pushed her argument further by suggesting that “software is ideology turned machinic” (Galloway, 2012, p. 69). In borrowing from McLuhan’s argument that “media are essentially nothing but formal containers housing other pieces of media” (p. 31), Galloway asserted that interfaces operate within the effect of these inter-medial connections. What resulted was an “agitation,” a “generative friction between different formats” (p. 31), an “indecision” (p. 41), and an effect that exists “as a general technique of mediation” (p. 54). This liminal property of interfaces therefore serves as a hermeneutical focal point where the silencing, obfuscating, and invisible / visible effects of ideologies open up to their opposites.

Lori Emerson likewise engaged with the visible / invisible qualities of interfaces. Drawing significantly from Chun and Galloway, she too defined the interface as “continually revealing [...] through concealing and concealing as it reveals” (2014, p. x). While she made the connection that there is a relationship between interfaces and ideology, she stepped back from Galloway’s provocation when she argued that the visibility / invisibility function can aptly be *taken up* for ideological purposes, but not that it is ideological in itself (p. xi).

Her concern was that corporations have dominated discourses surrounding interfaces in order to promote a singular and problematic vision of the user-interface (p. xi). By not only excavating how this corporate version of interfaces proliferated, Emerson also provided a

counter-history where the function of concealing / revealing was connected to a creative, “tinkering, and making” history of the interface. To this effect, her work not only diagnosed how a neoliberal vision of computing interfaces emerged, but that the past already holds “insurgent models for rearticulating what is possible today. Furthermore, that the interventions of the media analyst do not have to be critical, but they can also be “media poetics” (p. xiv). These last two points about the past and creativity not only provide a way for drawing media history into the present, they draw a straight line toward Levitas’s usage of imagination as a kind of utopian architecture.

Not unlike the interface theories of Galloway and Chun, Johana Drucker (2014) argued that an interface “is not a thing, but a zone of affordances organized to support and provoke activities and behaviors probabilistically, rather than mechanically” (pp. 157–158). But what marks Drucker’s project as fundamentally different from the others was that she put ideology in the background in favour of highlighting interfaces as epistemic devices. Described as a theory of graphesis, she theorized how to design and analyze interfaces that promoted probabilistic interpretations of knowledge.

To do so, she made the distinction “between visualizations that are representations of information already known and those that are knowledge generators capable of creating new information through their use” (2014, p. 65). On one end, a static bar-chart representing statistical information and on the other “are graphical forms that support combinatoric calculation” (p. 105). The value of the latter stems from their capacity for “provoking and sustaining processes that are in flux, unfinished, open-ended, complex, or probabilistic” (p. 106). In other words, a properly humanistic interface must support *and* exist as critical discourse; to be

“subject-oriented” rather than “user-centered” (pp. 148–149); and to call attention to the “madness” and the “constructedness of knowledge” (2014, p. 178).

More than just a providing an invaluable re-articulation of how interfaces and knowledge operate together, her entire book is an example of how Levitas’s three modes of utopia can come together. She began with a thorough and exhaustive archeology of visual knowledge. From there she provided ontological critiques of the subjectivity at the heart of contemporary interfaces — the instrumentalized user. And finally, she ended with a speculation about the future of humanist interfaces. The only thing missing in making Drucker’s theory of graphesis a symmetrical match with the method of utopia was making its humanist politics explicitly feminist.

Daniela Rosner’s recent work formidably fills this void. The problem, as she saw it, was that capitalism is nothing less than “design’s dominant paradigm” (2018, p. 23). Similar statements have been made before, as was the case with various versions of the “First Things First Manifesto” (Peters, 2014). However, these brief critiques concentrated on how design has been used as a cultural tool to produce desire for commodities. Rosner’s argument was not the same as this.

While Chun, Galloway, and Emerson argued about the political relationships between software and economy, Rosner made the case that the dominant paradigm of design *in general* is a particular set of subjectivities that are amenable to capitalism. In this sense, it designers operate within a dominant paradigm that interpellates subjectivities that are based on individualism, objectivism, universalism, and solutionism (pp. 13–14). This means that they “conceive of their target users as an aggregation of individuals rather than as a web of relationships” (pp. 12–13); legitimize their proposals by not “taint[ing] their work with their own

preferences or concerns” (p. 13); generalize their ideas by generalizing about their target users (p. 14); and often “direct their exercises toward predefined, often technical solutions” (p. 14). When designers practice design according to these paradigms, they create obstacles for recognizing how their work as cultural labourers is situated, specific, and influenced by the power dynamics that they are embedded within. This is true, she argued, of both critical and commercial designers.

Be that as it may, Rosner was sympathetic to the intention of critical designers. Work like DiSalvo’s made significant strides in highlighting the fact that design is a set of capacities, practices, and meanings that are always political. This is not the same as saying that design and advertising is *sometimes* consciously used to produce political propaganda. This was the position that Yochai Benkler, Robert Faris and Hal Roberts took when they took stock of the network effects of social media (2018, p. 29). It is also not the same as arguing that *some* user interfaces are designed with “dark patterns,” structures that are “carefully crafted to trick users into doing things they might not otherwise do” (Brignull, 2013).

Where design is concerned in both these cases, “dark patterns” are seen as manifesting activities outside of the norm when a target population has been “manipulated” (Benkler, Faris and Roberts p. 29) or a user has been “tricked” (Brignull, 2013). But if DiSalvo’s point holds true, these cases are not worrisome examples of designers exercising unwarranted power over users. Rather, they are making us aware of the political and economic logics that are already present and ubiquitous. This was the conclusion that Michael Dieter came to when he situated dark patterns as part of a history of attempts to steer humans toward resembling “a peculiar behavioural augmentation” that is “largely consistent with a wider logic of informational capitalism” (p. 175).

And this nod to capitalism is precisely the point that Rosner brings up about design in general, but also *critical design*. She identified that within DiSalvo's agonist designs there is the risk of reaffirming the dominant paradigms of design (Rosner, 2018, p. 38). As she argued, while they may serve to generate counter-hegemonic discourses or publics, they are limited in their ability "to shift the political and historical circumstance of design" (p. 39). What needs to change is not just the clients of design, but the way designers view themselves and their disposition toward design work as a craft.

In order to unsettle the assumptions of design's dominant paradigm, Rosner turned to Donna Haraway and Lucy Suchman's feminist theories of technoscience. This meant examining "the undervalued, feminized forms of craftwork underlying engineering [and design] innovations" (p. 4). But further to that point, she argued that what is not needed are more provocative probes or prototypes to defamiliarize design. As she warned, describing a design as "new or novel" is simply to make those designs legible to "modern systems of capitalism" (p. 125) which are sustained by commodities of the new.

Unequivocally, what we need are means to carefully and critically *refamiliarize* ourselves with the inheritances of craft. Rosner argued that comes in the form of fabulations, or "ways of storytelling that rework how things that we design come into being and what they do in the world" (p. 17). This kind of storytelling can be deployed to "deconstruct design methods to open different understandings of the past that reconfigure the present, creating new opportunities for a just future" (p. 17). Critical — read: design critique (p. 18) — fabulations have an added feature.

The idea of fabulation has been borrowed from the genre of the fable. In the tradition of literary theory, a fable operates as a type of persuasion, or as Stephen Daniel put it, a "fabling" which is a "consideration of both fable writing and fable reading" (1982, p. 168). This apathy

towards distinguishing between the activities of reading and writing is important because the very act of fabling creates a fold that envelopes both activities. As Daniel explained, fabling is “a process by which the reader is made to believe that he advises himself” (1982, p. 168). Because of this, the fable does not communicate through the transmission of information. The consequences of this epistemic maneuver is that it creates a different experience of knowledge. Citing Joseph Addison in a 1712 edition of *The Spectator*, with the fable “we are taught through Surprise” (1982, p. 168).

Guided by Haraway’s understanding of fables, Martha Kenney tacitly agreed with this statement when she wrote that “[f]ables gain their effectiveness not from the authority of realist conventions, but from the elegance and imagination of their constructions, as well their ability to address and to unite” (2013, p.17). She continued this thought by highlighting the types of operations that they are effective at enabling. For her, they operate with a “practical creativity” which has the capacity to make new relations,” precisely because “they are charismatic, they surprise and delight” (2013, p. 17). Typically, the practicality of fables is drawn from the fact that they are written to impart duty or to teach moral obligations. But Kenney made the assertion that feminist fables depart from this tradition because they are adept at “cultivating the capacity for response” (2019, p. 7) and “teaches its readers how to be responsible” (p. 5). What a feminist fable teaches is therefore not a sense of individual morality, but a collective responsibility.

It is within this understanding of fables that Rosner’s description of design resonates. She argued that these stories “draw attention to the contested nature of knowledge productions while caring for their repercussions” (2018, p. 17). This connection is significant. In contrast to the subjectivities of the four pillars of the dominant paradigm (individualism, objectivism,

universalism, solutionism), Rosner outlined tactics attached to the subjectivities of craft: alliances, recuperations, interferences, and extensions.

Respectively, these four tactics are used within design settings to assert the collectivity inherent to innovation and “working with” instead of for people (p. 80); “build a composite of relations” (p. 81), recognize narratives that are “absented, silenced, or forgotten” (p. 81), “disrupt a dominant design narrative that equalizes across differences, highlighting uneven conditions” (p. 82); and to push past the attraction of solutions and prototypes by seeking out “possibilities for maintenance, translation, and exchange” (p. 82). Of note is the easy alignment with these tactics and Levitas’s modes. For example, acts of recuperations and interferences are tactics for “revive stories enmeshed within a current design setting but suppressed by prevailing design narratives” and disturbing “a narrative that is privileged within a prevailing design culture, showing how it might work otherwise” (p. 87; p. 90). In both cases, Rosner’s critical fabulating is operating with the archaeological mode of utopia. Furthermore, Rosner did not conceive of the four pillars as “symmetrical predecessors” to these tactics, nor are the tactics viewed as replacements to the dominant paradigm. They contributed to a critical fabulation by highlighting the “frictions and resonances” between the “disembodied ideal” and the “lived experience” (p. 15). In other words, she describes design in the same terms as Levitas does of utopia: it is the surprising play between the universalism of the whole and the dependency inferred in the partial that requires our attention.

As she stated at the end of her introduction “[t]he point is not to present an alternative but, rather, to intervene in the stories we tell” about design (p. 21). This is clear in her alignment with Balsamo’s argument that “cultural meanings associated with technology are not only set in place or designed into artifacts but are continually remade over time” (p. 14). She also connected

this view of innovation as “cultural reproduction” with Donna Haraway’s practice of staying with the trouble, a slogan that Rosner described as a summon for “scholars to look beyond resolutions—seeking methods to live with and between contradictions and breakdowns” (p. 14). I hold to that slogan.

Of all the sections so far covered, the questions posed by philosophers of technology and designers are those that are most appropriate to the utopian mode of architecture. But they also serve as clear examples that it must be informed by the other two modes as well. Balsamo’s description of a hermeneutic reverse engineering, Emerson’s excavation of media poetics, Drucker’s socio-historical analysis of visual knowledge, and Rosner’s call to refamiliarize ourselves with the role of craftwork within design are all arguably forms of utopian archeology. Likewise, the refrain of re-imagining the subjectivity of designers and users / clients through feminist and critical lens is not only consistent with Drucker’s attention to the way interfaces enunciate subjectivities, but both critical fabulation and graphesis operate within the ontological mode of seeing ourselves otherwise. Rosner was explicit about this point when she wrote that design is “a means of making the world different from how it is now” (2018, p. 9).

It is within the context of this literature on design and technology that I choose to reorient the meaning of Levitas’s third mode of utopia. She called it architecture, but architecture is not really the right word, is it? Even Levitas had reservations about relying on its problematic associations with notions of commands and plans (2013, p. 214). She thought that perhaps one could substitute architecture with either “music” or “sculpture” where the artistic “sensitivity and response to the material at hand” is more in keeping with the emergent quality of the future (p. 214). Given the literature I have covered, I suggest that the word that was on the tip of her

tongue was *craft*, a word that is just as strongly aligned with the notion of method as it is with a sensitivity to the material.

By looking at power and knowledge in terms of craft, it has become clear that both the imaginations of workers and their embodied experience are important for analyzing how one might compose technology in ways that are just and democratic. But doing so — as Mumford, Franklin, Balsamo, Emerson, Drucker, Rosner, and Haraway pointed out — requires us to recompose our thoughts about what this means, both as abstract ideas and as situated labour practices. And Rosner’s critical fabulations best captures the tension between these two, especially her tactics which included both reviving suppressed stories as well as energizing collective decision making (2018, p. 86–87).

Beyond alignment, Feenberg, Balsamo, and Rosner have been seen to extend Levitas’s usage of method beyond the pursuit of “the good society” (Levitas, p. x). Each theorist has been clear that there is no worth in pursuing either a radical break, a total revolution, a complete return, or a definitive end point. They ask their readers to re-articulate what is at hand, find the spaces where meanings and materials are underdetermined, and be explicit and public about how designers and their creations are situated within cultures, politics, and societies that are troubling. The method is therefore not pure and planned ahead of time.

It is a maneuver, a labour, and a craft.

Time, Meaning, Craft

The synthetic advantage of Ruth Levitas's three modes of utopia can be seen in their ability to connect the divergent activities of feminist critique and reconstitution under one theoretical frame. However, Levitas did not attempt to theorize how her understanding of power and method connected to epistemological and technological concerns. This gap can be justifiably filled by Donna Haraway's broad body of work on situated knowledges, compostist technology, and the imagination required for "staying with the trouble." Joined together, they present a balanced framework for guiding the structure and trajectory of the literature review.

This distinctive literature drew on the fields of media archaeology, critical feminist political theory, and studies of technology and design as a means to theoretical support the method of utopia. Consequently, the mode of archaeology can be understood as a means to analyze the continuities and ruptures that emerge from the past, present, and future. Even more specifically, archaeologies of imaginary media broadened the notion of Levitas's discourse analysis. From this media-sensitive perspective, discourse is no longer constrained to the linguistic but includes both meanings and materials that coalesce around machines that mediate impossible desires — desires that can be forgotten, silenced, or recovered in contemporary media.

In this capacity, Drucker's theory of graphesis makes for an excellent methodological bridge. She not only excavated the ways that visual knowledge was generated from graphic interfaces. She approached the design of knowledge as a function of enunciating different subjectivities through those very same interfaces. In the same breath she passed from the archaeological to the ontological modes of analysis. However, while she concentrated on how

these conditions impacted the production of knowledge, she did not share the same attention toward the political.

This is where Mouffe's agonist interpretations of democracy can step in. Based on her discourse theory with Laclau, publics are rendered through contestations over meanings that contribute to the maintenance and transformation of we-making. To this point, the concepts of nodal points and articulation serve as guiding terms to understand "the political in its dimension of conflict / decision" (Mouffe, 2005, p. 2). This theory of discourse has been taken up within design to understand publics through their capacity to disarticulate and rearticulate semantic and material resources. Additionally, the benefit of the agonist-informed perspective offers the basis for troubling the assumption that utopia is a unified place. Instead, it asserts that a democratic society is enriched by antagonism between consensus and dissensus.

However, agonist theories of discourse have not explained how democratic contestation is theorized in terms of the technology and design itself, rather than simply as vehicles for hegemonic and counter-hegemonic intent. As such, the section on utopian craft not only met this need but added the necessary theoretical dimensions to fill out Levitas's architectural mode. As the theorists of technology (Mumford, Franklin, and Feenberg), software (Chun, Galloway, and Emerson) and design (Balsamo, Drucker, and Rosner) argued, if the intent is to shift political and social conditions that the design of technology creates, then the design of technology — which includes bodies of knowledge *and* knowing bodies — must come under the same scrutiny. For Rosner, this meant being sensitive to the marginalized inheritances within design — specifically, craft — and using it as a means to create intervening critical fabulations.

Composed together, this literature has formed a distinct shape. It is bounded on all sides by utopia and the concepts of situated knowledge and agonism are used as a means to trace a

feminist diagram from its curvature. The internal structure has been articulated through the theoretical bonds that exist between media archeology, feminist political theory, and design theory. Within this frame, Levitas's utopian method is the operative "staying with" in Haraway's slogan about what to do about trouble. As such, no one can design *a* utopia or *the* good society. The only option is to be committed adversaries — to align and dissent and decide — in the composing of our world. We do this by imagining ourselves otherwise: through time, through meaning, and through craft.

3. Methodology

Levitas established that utopia as method is composed of the co-constitutive activities of critiquing and composing utopian discourses. Despite this synthesis, her survey of critical sociologists indicated that most scholars and writers only engage with one or two of the three modes of archeology, ontology, and architecture. Within media archeology, feminist critical political theory, and design theory there has been an emerging discussion concerning the necessity to connect critical analysis with creativity. Drawing from these insights, I understand utopia as a method for theoretically connecting discourse analysis with discourse creation and synthesis. Based on this multi-faceted utopian approach to discourse, I have chosen to break down the analytical portion of my research into four separate case studies. Each of these studies approaches the subject matter from a different mode (archaeology or ontology) and from a different focus (knowledge or power). At the end of the dissertation, I engage with the architectural mode by synthesizing the conclusions from these case studies into a utopian architecture, reconnecting those aspects that I had previously treated as separate.

From a theoretical standpoint, I am mobilizing all three modes of utopia. But as I described in the literature review, Levitas's insights did not include step-by-step instructions for scholars to follow. As a consequence, I have pieced together a methodology from methods found within my theoretical framework of media archaeology, critical feminist political theory, and design. Put in more direct terms, I conduct four *case studies* using *multiperspectival discourse analyses* that are synthesized at the end as a *critical fabulation*. This of course needs a bit of explanation. I will walk through each of these methods and describe the details of how they are used in each chapter.

Case Studies

Ruth Levitas named her first mode of utopia “archaeology” and connected this to the scholarly activity of excavating the political dreams of past utopian expressions. While she did not explicitly describe how to proceed with this mode, I have turned to the literature that has adapted Michel Foucault’s method of archaeology to analyze discourse. One of the key aspects of Foucauldian and media archaeological discourse analyses are that they are heterogeneous. Franklin-Brown argued this point when she rationalized her eclectic choice of encyclopedic objects to study. For her, “[h]eterogeneity is better demonstrated through the explication of examples than through linear argumentation” (Franklin-Brown, 2012, p. 222). In a similar fashion, the many modes of utopia are clearly heterogeneous in their own right, dealing with quite different scales of time and modes of analysis. It is therefore theoretically consistent to examine different facets of encyclopedic media through the heterogeneity that different case studies of discourse can provide.

Case studies can be subdivided into those that are intrinsic (or critical) or instrumental (Stake, 1995, p. 242). For the purposes of my research, the intrinsic case study is the most appropriate of the two. This is because the analyst of a critical case is interested in the particularity of the case itself and its specific details (Stake, 1995, p. 242). This view of case studies means that I am not using each case study to build a grand theory of the genre of encyclopedias. Instead, the purpose is to highlight discursive expectations of encyclopedias, where these expectations come from, and then how these expectations play out politically in specific circumstances and situated contexts.

This understanding of case studies also follows the analytical modes of utopia. Each case study is chosen to examine the political design of encyclopedic media from a different mode

(archeology or ontology) and with a different focus (knowledge or power). I have therefore dedicated Chapters 4–7 to exploring the permutations of these modes and foci (see Figure 1). While this structure provides some clarity as to how each case study connects, there is an additional feature of utopia as a method that must be addressed.

The heterogeneity of encyclopedic media and the modes of ontology and archeology operate within different temporalities. The analysis therefore needs to be capable of attending to the past two millennia of works that have been identified as encyclopedias and the past twenty years that saw the rise of Wikipedia. Addressing these different time frames — let alone examining the respective conditions of knowledge and power within each — makes it necessary for different methods to be used. These methodological shifts also demand different analytical registers as well as different ways about speaking about encyclopedic media that are attuned to concerns that cannot be covered by one form of analysis.

It is on these grounds that I hang these different methods together under the flag of discourse theory. As described in the literature review, Laclau and Mouffe defined discourse as what “constitutes knowledge and reality [...], identities and social relations” (Jørgensen and Phillips, 2002, p. 51). This means that discourse applies to all social phenomenon and not just language. This broad meaning of discourse makes it amenable to examining the disparate connections between the impossible desires, social practices, and cultural techniques that are assembled together as encyclopedic media. Additionally, these features also make it compatible with the archaeological and ontological modes of utopia.

With this in mind, I have designed the dissertation as a whole to be a discourse analysis in the way that Laclau and Mouffe would understand it. This means by starting with an outline of the “field of discursivity” (Jørgensen and Phillips, p. 26). After establishing the limits of this

large field, the analysis examines how some of these meanings cluster together around a “nodal point” and then form “systems of meaning” or discourses (p. 35). This is achieved by examining the key signifiers (p. 50), subject positions (p. 41), and antagonistic relationships (p. 51) that make up individual discourses. The final step of analysis documents how the competing discourses over a nodal point produce “an order of discourse” (p. 148).

Figure 1

**Theoretical framework
applied to methodology**

	DISCOURSE CASE STUDIES		FABULATION
Utopia	Archeological Mode	Ontological Mode	Architectural Mode
Knowledge	Chapter 4 Genealogy of a field of discursivity	Chapter 6 Reverse engineering a system of meaning	Chapter 8 Critical Fabulation
Power	Chapter 5 Archeology of a nodal point	Chapter 7 Chronicle of an order of discourse	

Figure 1 displays how this joint theoretical framework of utopia and discourse theory organizes the chapters. The first thing to note about this organization is that it is temporally divided. Under the column of archeology are case studies that are broadly written in a historical register. For example, at the intersection of archeology and knowledge is Chapter 4 which is a case study of the discursive repertoire of meanings — the field of discursivity — concerning encyclopedic knowledge over the past two thousand years. The purpose of the genealogy is therefore to survey the field and the horizon of what counts as encyclopedic knowledge. Methodologically, it situates the subsequent analyses within the limits of a conceptual landscape.

So, while Chapter 4 explores the vast set of meanings attached to encyclopedic knowledge, Chapter 5 narrows the scope to just one feature within this landscape by examining a

“nodal point” where encyclopedic knowledge is explicated articulated with power. This case study examines discourses concerning the political concept of consensus and its encyclopedic articulation over the past two centuries. Where the genealogy of Chapter 4 covers the surfaces of encyclopedic knowledge, the archeology of Chapter 5 narrows in on a section of that surface to excavate its layers of discursive sediment.

Case studies under the column of ontology then shift to a different analytical register. Temporally speaking, these analyses also shift toward the present by concentrating largely on the past two decades of Wikipedia’s development. As such, Chapter 6 engages with this mode by reverse engineering Wikipedia’s “system of meanings” used to construct the Wikipedian technique of consensus. To do so, I break the technique down into the expressions that are embedded within its policy and interface. This process of examination allowed me to examine the precise ways that editors as knowing subjects were enunciated by Wikipedia’s apparatus. Chapter 7 then examines ontological power through a case study of how discourses of consensus affected women's ability to form a dissenting group called the Gender Gap Task Force. It is in this chapter that Laclau and Mouffe's discourse theory is used to chronicle the antagonism within Wikipedia’s “order of discourse” and demonstrate how the consensus-based practices contributed to maintaining Wikipedia’s gender gap.

Put together, Chapters 4–7 explicitly engage with Levitas’s archaeological and ontological modes of utopia by analyzing discourses concerning encyclopedic knowledge and power. However, she also described the third mode of utopian architecture as a means to balance critique with reconstitution. In this context, discourse analysis is not an appropriate method. As such, Chapter 8 is written according to the creative method described as critical fabulation (see section 3.3). Put together, the dissertation is composed through all three modes of utopia.

Multiperspectival Discourse Analysis

It is clear from Levitas's description of utopia as a method that it is a type of scholarship that goes beyond describing different utopian texts and visions. It seeks to provide course corrections. This is why discourse analysis is perfectly suited to a utopian framework. In their extensive review of discourse analysis, Marianne Jørgensen and Louise Phillips explained that the premise of discourse analysis is to "investigate and analyse power relations in society and to formulate normative perspectives" in order to articulate "the possibilities for social change" (Jørgensen and Phillips, 2002, p. 2). Not only does this method contain within it the seeds of utopia; it is also a method that has been deployed by a number of historians and media scholars to study encyclopedias. For example, discourse analysis has been used to understand medieval encyclopedism (Franklin-Brown, 2012), the politics of Wikipedia (Pentzold, 2006; Tkacz, 2014), the social cognition (Pentzold, 2009) and ideological structure (Lund, 2015) of Wikipedian activities, and the discursive relationship between Wikipedia and academia (Lindgren, 2014). A common thread to these discourse analyses is that they tend to use the terminology of discourse as a theoretical — rather than a methodological — structure. This is due in part to the ambiguities in Foucauldian terminology surrounding "discourse" and the different interpretations of this terminology: be it Laclau and Mouffe's discourse theory, Fairclough's critical discourse analysis, or the multitude of media archaeological interpretations of the term.

The first task of the discourse analyst, according to Jørgensen and Phillips (2002), is to assess the methodological strengths and weaknesses of each theoretical perspective on discourse in the context of each research project. The second task is to combine "different theories and methods, forming a multiperspectival research framework" that strengthens the analysis while

avoiding universalist assumptions about the knowledge being produced (Jørgensen and Phillips, 2002, p. 155; Rear, 2013). My approach to discourse analysis follows this advice by combining the operational language of Laclau and Mouffe, the temporality of Foucauldian analysis, the methodological practicality of critical discourse analysis with its reliance on content analysis, as well as the media-sensitivity of Johanna Drucker's frame analysis. However, as the different case studies are organized from different modes (archaeological or ontological) and different foci (knowledge or power), each of my four case studies takes on a different methodological mix in order to appropriately answer the questions being asked.

Foucauldian discourse analysis. Foucault's concepts of subjectivity, power, genealogy, and archeology are heavily infused in critical research using discourse analysis (Jørgensen and Phillips, 2002, p. 12, pp. 16–17; Rear, pp. 16–17). One of the key characteristics of Foucault's methods is a deep concern for communicating the temporal nature of discourse. As David Garland wrote of archaeology, it “digs down into the past, uncovering the discursive traces of distinct historical periods and re-assembling them, like so many distinct layers or strata, each one exhibiting its own structured pattern of statements, its own order of discourse” (2014, p. 369). In this sense, an archaeology can be considered to be the reconstruction of a rupture. It maps out the schisms with past and present discourses. But it also presents another opportunity. An archaeological analysis is free to study the eclectic material that emerges from discursive strata. The benefit is that the analyst is not restricted to examining the meaning of encyclopedias by just examining encyclopedias themselves. This is precisely the point that Mary Franklin-Brown (2012) made when she studied how medieval encyclopedism was informed and structured by adjacent literary genres.

A genealogy on the other hand is more concerned with continuity across time. As Garland explained, it “traces how contemporary practices and institutions emerged out of specific struggles, conflicts, alliances, and exercises of power” (Garland, 2014, p. 372). It is used to describe changing discursive relationships that occur over time, either in gaining influence or in losing it. A genealogy is therefore used to study a cultural phenomenon that appears to be contemporary, homogenous, and self-evident and then traces the branches of eclectic and contradictory discourses that were required for its making.

Given Levitas’s archaeological mode of utopia, both methods are well-suited to the task. However, Foucault’s “methods” have been critiqued for lacking obvious steps and sequences for analysts to follow. Gordon Waitt recounted the fact that when forced to address Foucauldian discourse methods, “handbooks for qualitative methods in the social sciences are hesitant to give formal guidelines” and regarded this form of analysis as a “craft skill” (2005, p.179). In line with this perception, scholars of encyclopedias who have used his methods, do so sparingly (Tkacz, 2014, pp. 38–39), or choose to “adapt” his methods rather than “apply” them (Franklin-Brown, 2012, p. 18). Despite this resistance to formalism, Waitt provided some general steps for doing Foucauldian discourse analysis.

The first step he described was to establish a set of initial key sources that are helpful, interesting, qualitatively rich, and provide counter discourses (2005, p. 178). The second activity was to recognize that this research process is an iterative process, “a continuing building process in which new sources to analyse are added as the research proceeds, rather than being collected during a single period of “data collection” (p. 177). This last point leads to the importance of “familiarization” and absorbing oneself in the texts being analyzed (p. 180). As these processes are happening, the researcher is suggested to “suspend pre-existing categories” while “coding”

key themes. These may emerge as the researcher takes note of different “effects of truth”; “inconsistencies” between texts; “silences;” and a focus on the details (p. 180). It is in these general terms of working with Foucault’s methods that I mobilized his approach to genealogy and archeology for Chapter 4 and Chapter 5.

Foucauldian discourse analysis for Chapter 4. The first step of my multiperspectival analysis takes the form of a genealogical discourse analysis within Chapter 4. This was achieved by conducting an iterative process of reading secondary academic sources in order to survey the definitions that historians, theorists, and researchers used to articulate encyclopedias. In alignment with Waitt’s guideline for a Foucauldian discourse analysis, I began by establishing a key set of twenty-three works of scholarship that provided different historical, theoretical, and literary contexts for understanding how I might answer the question of “What is an encyclopedia?” As I became familiar with their different perspectives, I suspended pre-existing categories and allowed these works to direct me to different articulations. During the first round of reading (November 2015 – January 2016) I arrived at four initial themes. In May of 2017, I began adding to the initial list by following citations in these works and performed searches using York University Library, Google Scholar, JSTOR, and Google during the period of May 5 to July 31, 2017.

According to Richard Rogers, this use of a search engine is a type of information “foraging” that renders “search as research” (Rogers, 2013, p. 99). This activity follows Waitt’s advice for discourse analysts where “[i]mportant leads are often found by consulting reference lists in texts published by researchers working on the same or similar research questions” (2005, p. 178). However, the epistemological value of this search activity is limited. As Rogers aptly described, “search engines [are] socio-epistemological machines” (Rogers, 2013, p. 97) that

afford particular kinds of authority in deciding what is and is not included in a search. This is a significant limitation to the genealogy as the accumulation of sources was shaped by how the search algorithms construed relevance, which includes artifacts that are ranked higher based on their capacity to increase consumer behaviours rather than serving my research needs (p. 100). Additionally, these results depended on what was made available either as digital artifacts, accessible through the libraries I had access to, or available in English — missing all those sources that did not fall into these three categories.

After foraging for new sources while refining my themes to reflect new and novel discoveries within these texts, I began another round of reading works between July and November 2017. After this round of adding sources, I was able to finalize the discursive themes that served to organize the genealogy: encyclopedists, the encyclopedic, encyclopedism, and encyclopedize. After the iterative process of close reading, coding, and further keyword searches, the total corpus of secondary sources was composed of 47 books, 48 articles, 22 chapters, and 8 websites and was conducted between November 2015 and September 2020.

Foucauldian discourse analysis for Chapter 5. At the end of the genealogy, I recounted the key signifiers that articulated different discourses concerning encyclopedic knowledge. One of these discourses articulated encyclopedic knowledge in terms of hegemony. Chapter 5 follows this thread but shifts to Foucault's method of archaeology in order to examine how this discourse emerged as a rupture within twentieth century imaginaries of encyclopedic knowledge. I began this analysis by reviewing the secondary sources used to compose the genealogy of encyclopedic knowledge. These were then combined with deliberative and agonist theories on the relationship between hegemony and consensus. Finally, I conducted close readings of the primary sources upon which the secondary studies were based. This eclectic corpus included the late nineteenth

and early twentieth century prefaces of the *Encyclopedia Britannica*, published lectures and books by H. G. Wells, philosophical journal articles written by Otto Neurath, theoretical and encyclopedic works by John Dewey, Paul Otlet's treatise on documentation, Friedrich Hayek's works on neoliberal epistemology, and policy pages from Wikipedia. Written together, this analysis described how the concept of consensus in the twentieth century functioned as a rupture in the genealogy of encyclopedic knowledge.

Critical discourse analysis (CDA). Under a multiperspectival discourse analysis, the analyst must pull from the best of different methods in order to support the type of research questions being asked. In Chapters 4 and 5, Foucault's methods proved to do just that: their sensitivity to continuity, rupture, and heterogeneity served well as a methodological foundation for the archaeological mode of utopia. However, under the ontological mode of utopia, the questions shift toward analyzing how certain subjectivities are included and excluded from contemporary utopian programmes. This pivot in focus also required a similar shift in method for Chapter 6 and 7 where I considered critical discourse analysis to be an appropriate methodological base.

According to Jørgensen and Phillips, critical discourse analysis aims "to shed light on the linguistic-discursive dimension of social and cultural phenomena and processes of change in late modernity" (p. 61). This is achieved by triangulating the three different levels of analysis: discursive practice, text, and social practice. For Fairclough, a discursive practice is narrowly understood by analyzing "how the text is produced and how it is consumed" (p. 81). In the context of the analysis of the political design of encyclopedic media, this requirement of CDA was fulfilled during the genealogical analysis, though from a media archaeological perspective. Once this discursive practice is described, CDA analysts are required to bridge the gap between

“how texts selective draw from linguistic systems” and how texts also draw upon society and history (Fairclough, 1995, p. 188). Fairclough argued that CDA operates within these two complementary analytical activities of textual analysis: linguistic analysis and intertextual analysis (p. 188). For purposes that will be shortly explained, I repurposed this complementary division so that a content analysis and network text analysis represent the textual aspect of CDA while a frame analysis addresses CDA’s attention to intertextuality. I will explain the differences between these two complementary sets of methods and how they have been applied.

CDA and Content Analysis. Content analysis is a method for identifying “patterns, themes, biases, and meanings” within a body of material by identifying specific linguistic or visual features within a sample, categorizing the data collected from this sample according to a coding scheme, and counting the results (Berg, 2007, pp. 247–248, 250). It is closely related to Fairclough’s description of linguistic analysis which analyzes the phonology, grammar, vocabulary or semantics of a text but can also be extended to features beyond the sentence (1995, p. 188). In the terminology of content analysis, these features are manifest content — “content that is physically present and countable” (Berg, p. 252) — and can serve as a basis for the unit of analysis (p. 254). Within CDA, the purpose of linguistic textual analysis is to provide a “solid backing for the claims that [analysts] make concerning the texts and can document how they have reached the results of the analysis” (Jørgensen and Phillips, p. 146). This is why Hardy, Harley, and Phillips have argued that it is a suitable and compatible method to aid discourse analysis, although this comes “at the expense of positivist objectives” (2004, p. 20). Instead of pursuing “reliability and validity,” a content analysis as part of discourse analysis is used “to focus on the interpretive accuracy and reflexive examination” (p. 20). Due to this usage, the positivist requirement for inter-coder reliability within a content analysis (Lombard, Snyder-

Duch, J, and Bracken, 2002) does not need to be adhered to when it is adapted for discourse analysis (Jørgensen and Phillips, p. 136). To this point, a discourse analyst using content analysis may analyze the text by coding it according to theoretical and emergent “themes” (Jørgensen and Phillips, p. 124) rather than a coding scheme aimed at reliability.

The process of conducting a content analysis takes on the following steps (Berg, 2007, p. 250; p. 254). First, the analyst must “formulate research questions” that will guide the analysis (McMillan, 2000, p. 83). Second, the analyst establishes explicit “criteria of selection” for choosing samples so as to provide a level of reliability and validation of findings (Berg, 2007, p. 250). Sally McMillan described this as the “sampling” step of analysis which includes establishing a “sampling frame,” a “sample selection method,” and a “sample size” (p. 83; p. 85). Some of the methods that she described involved sampling based on population (or analyzing all instances within a sampling frame) or a “traditional sampling method,” or probabilistic sampling which involves random sampling (choosing instances based on a “a table of random numbers”) or systematic sampling (choosing “every nth item on the list”) (p. 91). Data are collected from these samples and then processed based on a unit of analysis. This revised data is then given a first pass to establish an ad hoc coding scheme. Subsequent passes are used to refine this scheme to the point where the categories “reflect all relevant aspects of the messages and retain, as much as possible, the exact wording used in statements” (Berg, 2007, p. 250) The categorized data is then sorted to “isolate meaningful patterns” which are subsequently generalized within the context of the research (p. 250). Under the rubric of discourse analysis, these “[c]ategories emerge from the data. However, existing empirical research and theoretical work provide ideas

for what to look for and the research question provides an initial simple frame” (Hardy, Harley, and Phillips, 2004, p. 21).

One of the benefits of content analysis is that it is possible to illuminate features “in the texts that would go unnoticed in an ordinary reading” (Jørgensen and Phillips, p. 146). Secondly, content analysis is often assisted by using text analysis software. In writing about such machine and machine-assisted forms of reading, Katherine Hayles described that it was useful for “analyzing corpora too vast to be read by a single person” (Hayles, 2012, p. 72). Hayles sees this as part of the “literary scholar’s toolkit” where texts are analyzed according to word frequency and collocation to answer questions about meaning and culture (p. 78).

CDA and Network Text Analysis. Within this same toolkit, digital humanists have used machine-assisted forms of reading to visualize the network of relationships between words — a “network text analysis.” This method of analysis is based on the “observation that after one has encoded semantic links among concepts, one can proceed to construct networks of semantically linked concepts. When concepts are depicted as conceptual networks, one is afforded more information than the frequency at which specific concepts are linked in each block of text; one is also able to characterize concepts and/or linkages according to their position within the network” (Poppings, 2000, p. 97). Roel Poppings explained that this form of analysis proceeds with two steps of encoding a text as a network: the first “specify the concepts that are to be linked within networks” and the second is to assign “relations between pairs of concepts” (p. 98). The words chosen for analysis are based on the purpose of the analysis so that the shape of the network is constrained by a “network grammar” that is theoretically grounded and supported by “relevancy rules” for which words are included for analysis (p. 106).

Poppings goes on to describes four classes associated with relations of nodes: directionality, strength (or frequency), sign (positive or negative), and meaning (the content) (p. 99–101). In preparing a text for this form of analysis, the selected portions of the text need to be translated into a graphing language where each sentence is reconstructed as a set of nodes with edges between them. Popping suggests the NET approach (p. 101), but there are other formats now available such as the “dot” language (Gasner, Koutsofios and North, 2015) which is a language I am familiar with and was used in my analysis. Once the graph is prepared and visualized using network software such as Gephi (Bastian, Heymann and Jacomy, 2009), the “investigator can compare individual concepts, pairs of concepts, and relations between concepts across networks” (Poppings, p. 106). These can also be analyzed alongside the adjacency, betweenness, distance, and influence of a network (p. 107).

One critique raised against network text analysis is that “assumes that word association analysis represents the meaning inherent in texts” (Lindgren, 2016, p. 345). Simon Lindgren used discourse theory to correct this presumption by creating a method that is apt “at integrating relational as well as interpretive sensibilities in the analysis of large amounts of text” (p. 349). The alignment between these two forms of analysis rests on the Laclau and Mouffe’s terminology. Lindgren recognized that when discourse is considered to be composed of “nodal points” and “chains of equivalency,” network analysis can be used “to perform analyses of discursive relations” (2016, p. 348-349). My deployment of discourse theory and network text analysis follows this same premise.

Content and Network Text Analysis methods for Chapter 6. Chapter 6 describes a discourse analysis that reverse-engineers Wikipedian subjectivity by examining the systems of meanings (discourses) that are attached to Wikipedian consensus. It begins by using Laclau and

Mouffe’s discourse theory, to establish an “initial simple frame” for the content analysis (Hardy, Harley, and Phillips, 2004, p. 21) and a “network grammar” for the network text analysis (Poppings, 2000, p. 106). As such, I defined a discourse as a system of meaning composed of key signifiers, subject roles, and antagonistic elements with other discourses. These antagonisms are then understood to revolve around the contested meanings of the discursive nodal point, consensus. Content and network text analyses were serially deployed to identify each of these elements in order to ground an accurate interpretation of the order of discourse.

The first step in identifying the different discourses at work, it was necessary to identify the constituent parts of each discourse and how they interacted with one another. For this, two sets of samples were chosen to represent the variety of meanings that were articulated on the Wikipedia:Consensus policy. The first collection sampled all comments made to the consensus policy talk page, and the second sampled all versions of the consensus policy. This sampling frame of constraining analysis to just the development and documentation of the Consensus policy itself excluded texts that debated the meaning of consensus outside of the policy.

The first sample selection method was a collection of all comments made to the `wiki/Wikipedia_talk:Consensus` page and stored on its respective archive pages. The corpus included every post archived since the first version to the time of the analysis (July 11, 2004 to January 8, 2019). Each archive page was saved as an HTML file and then converted to a total of 5MB of Markdown-formatted plaintext. The total number of comments collected was 6,526. However, due to the unstructured nature of these comments, the corpus was further refined by filtering for “definitional phrases.” These were operationalized as phrases that included the word “consensus” followed by the verb-of-being “is” using the text concordance tool AntConc

(Antony, 2012). This constraint provided a further systematic sampling of the text so that the data was directly relevant to the research question.

After I created delimited text files of the results and cleaned the data of erroneous hits, I analyzed the refined corpus to answer the questions: What were the signifiers used to define consensus and which ones were most frequently used (Figure 3)? Which of these signifiers were subject roles (Figure 4)? Which signifiers were contested (Figure 5)? How did these respective signifiers, roles, and contested elements cluster together (Figure 6)? And finally, did these clusters represent different discourses (Figure 7) that were antagonistic with one another (Figures 8 and 9)?

Figures 4 and 5 used a frequency analysis of words that were used in concordance with both “is consensus” and “is not consensus.” Figures 3 and 6 used a concordance analysis of relationships between words in definitional phrases. Each phrase was recomposed as a network graph using the graph description language “dot” and then analyzed using Gephi’s data visualization algorithms which were used for network text analysis. In order to describe these analyses, I adapted Poppings’s classes of network relations: strength, sign, and meaning (2000, p. 99-101). Figure 3 represented all words used to signify the definition of consensus whereas Figure 6 only included definitional phrases that included the key signifiers, subject roles, and contested elements. After these analyses were completed, discourses were identified when clusters of words contained all three identifiers of discourse (Figure 7). The order of discourse of the talk page was then interpreted as a function of the magnitude and interrelationship of each discourse.

The second sample selection method was a systematic sampling of the 2,564 versions of the wiki/Wikipedia:Consensus policy page, starting with the first version on July 11, 2004 and ended with most recent version at the time of collection (January 22, 2019). Due to the minor changes between each of the versions, systematic samples were taken at every 250th version. This produced a sample size of 10 versions. Each of the sampled versions was saved as an HTML file and its extraneous markup was removed. Because each word contributed to the official meaning of the consensus policy, the unit of analysis was *words*. After an initial pass of coding these words based on the discourse from the talk page, additional passes were conducted to finesse and exhaust the ability of the categories to describe the data. Words, categories, and the date of the version were collected as tab delimited data and used to answer the following questions: What were the key signifiers for each discursive theme (Figure 9)? What were the dominant subject roles used within the policy and how did they change over time (Figure 10)? And what was the order and magnitude of discursive themes over the course of the policy (Figure 11 and Figure 12)? These questions were answered by counting the frequency of words plotted in time.

CDA and Frame Analysis. One of the strengths of CDA is its capacity to connect linguistic features to social practices. This is achieved by complementing a linguistic analysis with an intertextual analysis: a type of analysis that studies how “texts selectively draw upon [...] particular configurations of conventionalized practices [...] which are available to text producers and interpreters in particular social circumstances” (Fairclough, 1995, p. 188). This form of analysis draws “attention to the dependence of texts upon society and history in the form of the resources made available within the order of discourse” (p. 188) by “bridging the gap between texts and contexts” (p. 189).

However, the privilege that linguistic theory receives in CDA becomes an obstacle because it treats non-textual media as if they were “texts” (Jørgensen and Phillips, 2002, p. 61). This has been the case for a number of discourse analyses of encyclopedias. It has required rendering the formal features of encyclopedias (tables of contents, layout, ornaments, etc.) precisely in these terms (Doody, 2010, p. 92, Franklin-Brown, 2012, p. 73; Schopflin, 2014, p. 303). In these cases, scholars have relied on Gérard Genette’s (1997) literary concept of “paratext;” it is a concept that makes room for cultural material that support a text but are themselves not the “primary” text themselves. Some scholars have noted this issue by analyzing visual discourse in terms of language (Kress and van Leeuwen, 2006; Manovich, 2002; 2013). However, both of these approaches inherit assumptions from structuralist theories of aesthetics and have limited application within a media archaeological approach to discourse analysis.

What is required from a media archaeological standpoint is a method of intertextual analysis that does not reduce all discourse to texts or language. Enter the concept of the frame. When describing how analysts can bridge texts with contexts, Fairclough offered that the concept of the “frame” could be used (p. 212), a concept that runs parallel to Johanna Drucker’s (2014) approach to analyzing visual knowledge. She argued that “[u]nlike language, which has a grammar, or mathematics, which operates on explicit protocols, visual images are not governed by principles in which a finite set of components is combined in accord with stable, fixed, and finite rules” (2014 p. 24). She continued that instead of a language it is the “visual forms of knowledge production” that are studied (2014, p. 10). From this perspective she developed “a descriptive critical language” (2014, p. 10) for analyzing visual knowledge. She noted that where many scholars have identified “relations of what are traditionally considered text and paratext,” researchers can alternatively deploy the concept of the frame (p. 157).

Like other discourse analyses (Fairclough, 1995, p. 75), Drucker argued that this analysis is useful for “[f]illing in the details of ideological and hegemonic cues” that are abstractly processed through the liminal structures of “commerce, entertainment, information, work, [or] communication” (p. 156). But it can also do more than this. Concepts, knowledge, and information are visually represented — framed — by the design of interfaces in ways that “extend, intensify, connect, embed, juxtapose, or otherwise modify another frame and perception” (Drucker, 2014, p. 157). Analytically this means distinguishing between knowledge representations, knowledge generators, and different parameters of visual forms (p. 65). Theoretically, discourse analysis aligns with the analysis of frames which are “structuring regimes” that “position us within the order of the discourse” (p. 177). Just as Fairclough saw the necessity of complementing a linguistic analysis with an intertextual analysis, the second section of Chapter 6 bridges “texts with contexts” through this design / media archaeological approach to frame analysis.

Frame Analysis methods for Chapter 6. After the content analysis of the consensus policy, I conducted a frame analysis of Wikipedia’s interface and its relationship to consensus. I began with a preliminary wireframe of the desktop version of the website which has better access to editing activities than the mobile version (Robson, 2018). This wireframe served as point of departure to establish criteria for selection for a sample of frames that included words described within the consensus policy. This was assessed by comparing the list of consensus policy signifiers to an audit of Wikipedia’s HTML and CSS structure (Figure 13 and Figure 15). From this comparison I identified six visual frames that had been articulated as part of consensus: Article, Project/Policy, Talk, Visual Editor, Source Editor, and History.

A purposive sample of these frames was chosen by collecting from twenty instances that best represented the products of Wikipedian consensus: Wikipedia's policies and featured articles (Figure 16). This sample of twenty pages and their respective talk, history, and edit pages were then audited for visual features. After assessing which features were most common, I created composite wireframes. This first included creating a spreadsheet of all the elements I saw and associated them with their CSS or HTML identifiers. The structure of each frame was then downloaded as an SVG file using Wirify and then recomposed using vector-editing software (Figures 18–20).

One of the benefits that Jørgensen and Phillips ascribed to content analysis was that it illuminated features “in the texts that would go unnoticed in an ordinary reading” (p. 146). The same is true of frame analysis. By replicating the design of the different interface frames, I was drawn into the details of their construction. This act of analyzing the material structure of Wikipedia's interface was worked into the second portion of the frame analysis.

Drucker argued that an analysis of visual knowledge should include explanations of “different forms of visualization:” graphical format, content type, disciplinary origins, structure of meaning, intellectual purpose (2014, p. 65–66). She also argued that visual knowledge includes the enunciation of specific subjectivities. Each of these features were then operationalized as parameters (Figure 17) to interpret the meanings embedded in the visual features of each frame. After explaining how each of these parameters operated together, I described how they produced and reinforced different meanings of consensus. As a final step, the analysis of both the symbolic and material codes of Wikipedian consensus were compared and interpreted as an order of discourse that cultivated an ontology of knowing subjectivities.

CDA and Laclau and Mouffe’s discourse theory. As stated at the beginning of this chapter, I used Laclau and Mouffe’s discourse theory to weave the archaeological and ontological modes of utopia together. This was achieved by operationalizing the theoretical concepts of fields of discursivity, nodal points, systems of meaning, discursive antagonisms, and orders of discourse. Each of the three case studies described so far concentrated on different aspects of this process so as to describe the contemporary order of discourse concerning encyclopedic media. Chapter 4 began with the linguistic unit of the root “encyclop-” and described the field of discursivity that emerges from the meanings articulated by its suffixes -ia, -ist, -ic, -ism, and -ize. Following this genealogy was a description of four dominant discourses that have structured the discursive field of encyclopedic knowledge. Chapter 5 shifted the focus to the nodal point of “consensus” and its twin “hegemony.” The analysis explored the political imaginary and subject positions that this encyclopedic discourse articulated over the past century, ending with its role in the construction of Wikipedia’s imaginary affordance.

Chapter 6 marked a shift in temporality, and with it, a shift in how Laclau and Mouffe’s terms were operationalized. In this chapter, the nodal point of consensus was analyzed by examining antagonistic discourses at play on Wikipedia’s policy page, talk page, and within its interface. This included identifying different subject roles and key signifiers for each one, and then describing how the discourses are ordered. And finally in Chapter 7, I expanded my usage of Laclau and Mouffe by taking advantage of a primary aspect of their theory: to analyze group formations, identity, antagonisms, and hegemony (Jørgensen and Phillips, p. 50). However, in order to do this, I still relied heavily on other discourse analysis methods. This is because Laclau and Mouffe provided limited details as to how an analysis should actually proceed beyond operationalizing theoretical terms (p. 49; p. 54).

Laclau and Mouffe's discourse analysis methods for Chapter 7. My analysis of Wikipedia's Gender Gap Task Force (GGTF) began by situating this group within the political and epistemic context of Wikipedia's gender gap. I then used the discourses of consensus from Chapter 6 as a theoretical filter to analyze the manifest data of their discursive activities. These analyses were iterative in nature as each pass of the GGTF pages resulted in analyzing different phenomenon associated with consensus.

The first analysis collected the number of bytes of data the task force produced. The criteria of selection were all pages that were named by GGTF: the project page, talk page, talk page archive, as well as a series of templates. Each page's history was collected in a text file and then reduced to only data about the month, year, and the number of bytes for each version. The increases and decreases in bytes per month were operationalized as differing levels of "activity" for the beginning of the GGTF (May 2013) to the time of analysis (May 2019) (Figure 21).

Based on this analysis, I conducted a close reading of the task force's talk page in order to understand the spikes and troughs of activity. The corpus was collected by downloading the HTML files for all thirteen archives of the talk page (starting in May 2013) plus the (then) current talk page of May 2019. A total of 443 discussion threads were collected and analyzed. These threads were then examined for recurrent themes that explained the differing levels of activity (Figure 21). The talk page threads were then further examined by three further analyses. The first unit of analysis was *thread topic* which included the thread heading and the first comment below it. This feature was operationalized as a discursive articulation of the type of topics that were meaningful for the task force. The content of these posts were then coded for whether or not they articulated the meaning of the gender gap task force and how it was articulated (Figures 24 and 25).

The second unit of analysis was *enclosures of consensus* as defined in Chapter 6: talk page archives, closing discussions, and notice boxes. Archiving was analyzed by collecting the bytes subtracted from the talk page archive as recorded on its history page. This data was saved as a plain text file and reduced to username, date, bytes, and edit summary (Figure 26). Instances of closed discussions were collected from the talk page based on the associated wikitext codes (Figure 27). Noticeboxes were collected by sampling every 500th version to the talk page of the 4,779 separate versions and recording what was at the top of the page (Figures 28 and 29).

The third unit of analysis was *policy shortcuts* as defined in Chapter 6. I began by using the program AntConc and the query “WP:*” to analyze each of the archives that had been converted to plaintext. The results were saved as a tab-delimited text file and false returns were cleaned from the data. After collecting these shortcuts, they were categorized based on which of the five pillars of encyclopedia they were intended to support and then plotted according to the frequency of their usage (Figure 30). As described in Chapter 6, the project or article space was also an important frame for articulating consensus. Based on this, I conducted a frame analysis of the GGTF’s project pages. Starting with the first edit made on May 7, 2013, I collected a sample of eleven evenly distributed versions.

Each of these content and frame analyses were then mobilized as components of a narrated account of the process of group formation and antagonistic encounters with hegemony. However, not all of the information required for understanding the discourses of the task force was present within the GGTF itself. As such, I conducted a hyper reading (an intertextual analysis in Fairclough’s terms) of the task force. This included following links within comments as well as “search queries (as in a Google search), filtering by keywords, skimming, hyperlinking, ‘pecking’ [and] juxtaposing” (Hayles, 2012, p. 61). The hyper reading of secondary

sources was considered exhausted when descriptions of the GGTF started to repeat the same information. I then composed these different analyses together as a chronicle of Wikipedian orders of discourse that limited the capacity of Wikipedian women to build a space of dissent.

Critical Fabulation

As has been outlined from the beginning, utopia as a method includes not just critical analysis, but also architectural and creative work. I argued that it is in this mode that design practices form an important connection. However, the answer to how to mobilize design to bridge this divide between analytical and synthetic research has been elusive. This ambiguity has led to a litany of non-commercial design practices: critical design (Dunne and Raby, 2001), hermeneutic reverse engineering (Balsamo, 2011), adversarial design (DiSalvo, 2012), participatory design (Le Dantec and DiSalvo, 2013), feminist speculative design (Prado de O Martins, 2014), design fictions (Malpass, 2016; Blythe, 2017), and critical fabulation inspired by Donna Haraway (Rosner, 2018). Of these theories of design and their associated practices, I agree most with Rosner's perspective because she clearly articulated about the danger of capitalism and the need for feminist intervention. Additionally, I am sympathetic to Rosner's mistrust of prototypes, provocative objects, and futurist narratives that are the "deliverables" of these other design frameworks.

As a consequence, this final component of my research is directed toward Haraway's speculative feminism and Rosner's critical fabulation. But the hitch of this direction is that while the theoretical worth of these compositions has been well argued, their status as a method has not been clearly stated — though there are some clues to follow. With Haraway's *Staying with the Trouble* (2016), she ended the book "with a story, a speculative fabulation" as a means of

“[p]roposing a relay into uncertain futures” (Haraway, 2016, p. 134). She explained that it was just one part of a larger “genre fiction” that is delineated as much by its content — the proposal of “near futures, possible futures, and implausible but real nows” — as by its status as “a model, a work and play object, for composing collective projects” (p. 136). Daniela Rosner’s approach differed by her intent to re-situate design knowledge. Where once she “saw an engineering culture set up to dismantle and devalue craft-based traditions of visual communication,” she began to see “a lineage of practice necessitating fabulatory critique” (2018, p. 128). But of course, there is no end point to such an activity. As she argued, critical fabulation is “an incomplete and limited instrument of study, always evolving and never finished” (p. 123). So, the fabulation and speculation of encyclopedic knowledge that I outline here will be just as uncertain and just as unfinished.

Critical Fabulation methods for Chapter 8. If the point is to refamiliarize and reconstitute the imaginaries attached to encyclopedic knowledge, then the final component of utopian research attempted to do so through the composition of fable. Encyclopedias already come with their own set of fables: Ramon Llull’s *Libre de plasent visio* (Franklin-Brown, 2012, p. 34), Jorge Luis Borges’s *Labyrinths* (2007), and Stanisław Lem’s *Verstrand’s Extelopedia* (1984), and Italo Calvino’s “The Spiral” (2009) are fine examples. Drawing from the premises of these works and the theoretical positions of Haraway and Rosner, I use the conclusion to compose a fable about an agonist encyclopedist, one that is as much situated in the genealogical inheritances and discourse analyses of this research, as it is an opening to different and uncertain kinds of encyclopedic subjects.

4. The Circles: A Genealogy of Encyclopedic Knowledge

This chapter traces the field of discursivity that is used to give meaning to the concept of encyclopedic knowledge. Theoretically, it operates within the archaeological mode of utopia (Levitas, 2013, p. 153) and imaginary media (Kluitenberg, 2011) as it sets out to excavate a genealogy of the wide and varied meanings that are articulated by the cognates of encyclopedias: encyclopedists, the encyclopedic, encyclopedism, and encyclopedize. As Judith Hawley argued, the idea that an encyclopedia as a “reference work that contains information on all branches of knowledge” does not capture the breadth of historical meaning attached to this concept (Hawley, 2006, p. 219). This is especially the case when— as the chapter will demonstrate — encyclopedias have existed as epic narratives, fables, poetry, philosophies, lectures, schools, institutions, and communities.

This variety of form is also complicated by the variety of different views on what constitutes knowledge and how to encircle it. For example, some encyclopedists like Vincent of Beauvais attempted to contain all knowledge by making it subordinated to religious scripture (Franklin-Brown, 2012, p. 61). Others saw the whole of knowledge as a cosmological ledger of natural phenomenon in space and time, a position articulated by Francis Bacon and inspired the creation of Chambers *Cyclopedia* (Yeo, 2001, p. xiv). Pliny the Elder imagined all knowledge to be contained within, and at the limits of, an empire and its cultures (Murphy, 2004, p. 15). Others like Gottfried Wilhelm Leibniz believed that all knowledge is reducible to a universal alphabet that could function as a table or a grid by which to navigate the known and the unknown (McRae, 1956, p. 39–42).

In each case, what counts as the summary of “all knowledge” is radically different and not obviously compatible with one another. But, as will be seen, rarely do these imaginations exist on their own. It is far more usual that they are inherited together, though with differing emphasis as they are enlisted to cultivate particular knowing subjects. Likewise, as these different knowledges systems come into contact with one another, this chapter describes how many encyclopedists have also recognized the contradictions and paradoxes posed by attempting a composition of these systems. In light of these variants, I conclude the chapter by explaining why it is necessary to analytically describe encyclopedias as *encyclopedic media*: a type of media that enlist epistemic imaginaries, techniques, and social practices to pursue the impossible desire of encircling all knowledge.

As is entailed in the method of utopia, the purpose of identifying how these inheritances emerge from this vast field of discursivity can be used to critique contemporary utopian encyclopedic dreams and to imagine them — and ourselves — otherwise. In this capacity, the genealogical analysis will serve as a basis to refamiliarize the encyclopedic imaginations that exist today and provide a grounded approach to critique Wikipedia’s utopian politics. In particular, they not only provide the means for assessing how Wikipedia exists as an encyclopedia. They offer a fuller understanding of how encyclopedias, as devices for interfacing the known and the unknown, become embroiled in unresolvable troubles. To this point, these epistemological conditions require our attention and our care. It is from this perspective that the later chapters explain how Wikipedia’s epistemic imagination, techniques, and social practices for encircling knowledge has cultivated the gender gap.

Notes on method. Talking of genealogy as a method immediately puts us in the company of Foucault. However, when it comes to using Foucault to study encyclopedias, the trend has been to mobilize his theories sparingly (Tkacz, 2014, pp. 38–39; Doody, 2010, p. 88; König and Whitmarsh, 2007, pp. 6–7), with one scholar noting that researchers are wise to *adapt* Foucault rather than *apply* him (Franklin-Brown, 2012, p. 18).

Such an adaption may be in following Foucault’s “exploitation of a most eclectic group of source texts” as an invaluable means to study the heterogeneous textual practices (2012, p. 20). Likewise, researchers who apply Foucauldian discourse tend to adapt his theory of “discourses as relatively rule-bound sets of statements which impose limits on what gives meaning” but differ by assuming “a more conflictual picture in which different discourses exist side by side or struggle for the right to define truth” (Jørgensen and Phillips, 2002, p. 13).

Pragmatically, I adapted Foucault in similar ways, by using an eclectic set of sources to draw out the heterogeneous concept of encyclopedic knowledge. However, given the temporal scope (nearly 2000 years), this ambitious task required some limitations. If one was to rely purely on encyclopedias as sources, two issues arise. The first is that studying works as disparate in language, physical accessibility, cultural context as Pliny’s Latin *Naturalis Historia*, Diderot and D’Alembert’s French *Encyclopédie*, Al-Nuwayrī’s Arabic *Nihāyat al-arab fī funūn al-adab*, or Chinese *Leishu*, would require an expertise unavailable to me. As a consequence, I limited the eclecticism of my sources to the authority of scholars and historians, who interpret the meaning of these works in English.

These secondary sources raise another issue. The study of encyclopedias and the conclusions that scholars have arrived at are not neutral and self-evident accounts. Their disciplinary and biographical backgrounds — as historians of ideas or literature, semiotic

theoreticians, feminist historians, media scholars, or computer scientists — raise completely different questions. As a result, even if they are studying the same “encyclopedia,” their interpretations can be so radically different that they are, in effect, describing different cultural objects. For example, Trevor Murphy (2004, p. 13) stated that Pliny’s *Natural History* was “the first surviving encyclopedia” while Aude Doody (2010) explained throughout the length of her book how the text at the center of Murphy’s analysis was not an encyclopedia at all.

This situation is precisely why a Foucauldian study is necessary. The history of encyclopedic knowledge is not a straight and uncomplicated line. It folds back on itself, often with acts of redefinition following on the heels of new encyclopedias that offer opportunities to make new meanings and diverging paths from the old canon. In this sense, a genealogy is an appropriate method to deal with this situation. As David Garland wrote of the method, it was designed to have the capacity to diagnose current conflicts through the analysis of “troublesome associations and lineages” or an “erratic and discontinuous process” (2014, p. 372). However, some media archaeologists have argued that Foucault’s overall concentration on heterogeneity and rupture could be methodologically finessed. This is where Siegfried Zielinski’s concept of variantology comes into play.

On one hand, variantology activates Foucault’s concept of heterotopia as it seeks to analyze “phenomena that are diametrically opposed [...] congregate beneath a provisional roof” (Zielinski and Wagnermaier, 2005, p. 8). Like a genealogy, this method is designed to discover “fractures or turning points in historical master plans that provide useful ideas for navigating the labyrinth of what is currently firmly established” (Zielinski, 2006, p. 7). However, these phenomena are not held together by a common space (as heterotopias are). Instead, they are bound by the common irritation they create with their *logos*: they rubbed up against the

intentions of those who invented their name and temporarily coalesced on the basis of this irritation. It is under this understanding that media archaeologists — like Lori Emerson (2014, p. xiii), Jussi Parikka (2019), and Erik Kluitenberg (2011, p. 53) — have advocated for the study *variants*.

Since Zielinski's articulation of the term, Parikka has recently expanded Kluitenberg's interpretation of the method. Instead of a focus on just technical variations that suggest forgotten trajectories, Parikka explained that a variantology of imaginary media “can address theological discourses, aliens and the dead, to things untrue and yet so impactful for any account of cultural history” (Parikka, 2019, p. 206). This latter interpretation will prove to be invaluable in studying encyclopedic knowledge since a number of the “encyclopedias” that I cover have never actually existed. It is in this sense that variantology serves my analysis best. However, as perhaps is more common with that method, this analysis is not deeply investigating a singular variant or even a cluster of variants. It is trying to map out, to the best that one can, the breadth of articulations attached to encyclopedic knowledge. It is much more general in scope. As a compromise between the two methods, the best description of this chapter is a genealogy of encyclopedic variants. It investigates the canon of encyclopedias as much as it uncovers the not-encyclopedias and the unreal encyclopedias that pepper the historical record.

While media archeology provides the orientation to analyze encyclopedic knowledge, it does not provide enough instruction about how to proceed in organizing a genealogical analysis. It is here that Jørgensen and Phillips's argument for a multiperspectival discourse analysis proves useful (2002, p. 4). So too does George Waitt's general guidelines for conducting a Foucauldian discourse analysis include establishing a set of key resources (2005, p. 178); recognizing that the

process of accumulating additional texts is an iterative process (p. 177) as one become familiar with the texts being analyzed (p. 180); and that the researcher should to “suspend pre-existing categories” while “coding” key themes — which may include identifying “silences,” “inconsistencies,” while paying attention to the details (p. 180).

During the first round of reading (November 2015 – January 2016) I arrived at four initial themes: the evolution of encyclopedic phenomenon; forms of encyclopedias; encyclopedic desire; and the biographies of encyclopedists. Because this initial set of sources did not exhaust meanings of encyclopedias, I embarked on a second round between May and July 2017 where I followed citations, searched for new sources, and adjusting my themes as I read these texts.

During this period, I identified some conceptual inconsistencies in the meanings scholars used to describe encyclopedias. For example, Robert Darnton described the *Encyclopédie* in terms of a form of compilation and philosophy (1979, p. 7); Robert Fowler (1997) understood pre-modern encyclopedias as encyclopedic texts; the literary scholar Hilary Clark (1992) studied encyclopedic discourse; and Bernard Ribémont (1997) — along with most of these examples — also argued that encyclopedias belong to a genre. However, these authors did not define what constitutes a genre and their descriptions of the genre of encyclopedias was inconsistent. It was at this point that I turned to literary scholar Tzvetan Todorov for clarity.

In his article “The Origins of Genre?” (Todorov and Berrong, 1976) he describes four perspectives of genre that were congruent with the different meanings I had encountered. Following this connection, I reorganized my sources according to themes of genre as a class of text, a history of texts, a class of discourse, and a history of discourse. This was followed by another round of accumulating additional sources between July and November 2017. However, this scheme did not satisfactorily capture the meanings I had encountered.

It was at this point I returned to the method of multiperspectival discourse analysis for assistance. Two insights were drawn from this moment. The first was that I was working with the concept of the *encyclopedia* in the way that Laclau and Mouffe's describe a discursive "nodal point" — "the privileged signs around which a discourse is organized" (Jørgensen and Phillips, 2002, p. 28). And the second was that I could engage with this nodal point by following the critical discourse analysis method of using linguistic features as a starting place for analysis (Jørgensen and Phillips, 2002, p. 146).

This connected to the fact that the content of my themes appeared to revolve around suffixes to the root of the word "encycloped-." After researching the etymology of the suffix "-ist" I found that it historically finds company with suffixes like "-ic," "-ism," and "-ize" (Dressman, 1985, p. 238; p. 242). As a result, I situated my analysis around the nodal point — the word *encyclopedia* — and its related suffixes: encycloped-ists, encycloped-ic, encycloped-ism, and the obscure term encycloped-ize (*Blackwood's Edinburgh Magazine*, 1824). Following this insight, I reorganized my analysis around these themes and ordered the sections according to what I interpreted as the most common articulations of encyclopedic knowledge to the least. By following these antagonistic variants that seek to control the meaning of "encycloped-" a host of familiar and unusual inheritances were excavated to understand how encyclopedic knowledge manifests as imaginary media with impossible desires. The result was a map of a field of discursivity surrounding this nodal point.

Suffixes as variants of the encirclement of knowledge. The question "what is an encyclopedia?" has been asked many times (van Doren, 1962, p. 23; Fowler, 1996, p. 8; Lih, 2009, p. 14; Schopflin, 2014), and has resulted in many answers. O'Sullivan's chapter — titled

by that very question — is particularly revealing in this regard. Within the first two pages, he defined encyclopedias as a “circle of learning”, “a literary work”, “a particularly mobile genre,” a “compulsion,” “a special discourse aiming in some way for comprehension,” “a general education,” a “work of reference,” a “project”, and a text that “speculates on its own processes of discovery and arrangement or on the nature of knowledge itself” (2011, p. 34). The complexity over the term does not stop there. He continued with a litany of Western philosophers and intellectuals (Francis Bacon, Gottfried Leibniz, G. W. F. Hegel, Immanuel Kant, Vannevar Bush, Umberto Eco, Jacques Derrida, and Michel Foucault) and authors of fiction (James Joyce and Jorge Luis Borges), each of which were regarded as “engaged in encyclopedic pursuit” (p. 34). And one cannot forget the canon of encyclopedias and encyclopedists that dot his list: Pliny the Elder, Vincent de Beauvais, Chambers’s *Cyclopedia*, Diderot and d’Alembert’s *Encyclopédie*, the *Encyclopedia Britannica*, and finally Wikipedia.

O’Sullivan’s chapter did little to answer his own ontological question — and perhaps that was the point. The meaning of “encyclopedia” is a slippery — and as Aude Doody accurately put it — a rather “mobile” concept (2010, p. 6). But such ambiguity should not be an obstacle to understanding how this mix of ideas, individuals, and texts spanning two thousand years form a genealogical connection of dominant themes and digressive variations. One solution has been to contextualize these works as part of a lexicon.

When defining the meaning of encyclopedias, it is unavoidable to connect them to the etymology of *enkuklios paideia*. Usual translations of the Greek phrase describe it as a circle (*enkuklios*) of learning (*paideia*) (Burke, 2000, p. 93; Jacob, Treves and Gage, 1997, p. 3; Yeo, 1991, p. 24), “circle of subjects” (Fowler, 1997, p. 6), “cycle of knowledge” (Ribémont, 1997, p. 53), and sometimes a general, rounded, or liberal education (Katz, 1998, p. 20; Doody, 2009, p.

4; Stecchini, 1962, p.3; Yeo, 2007, p. 48; Stover, 1962, p. 36; Sullivan, 1990, p. 317).

Importantly, the collapse from two Greek words to the singular word was the result of a scribe mistakenly leaving out a single and all-important word space (König and Woolf, 2013, p. 1).

The dates surrounding this event remain nebulous. Franklin-Brown placed the mistake in a 1470 edition of Quintillian (2012, p. 8), Harris-McCoy noted the word appearing in a letter between Franciscus Puccius and Politanus in 1490 (2008, p. 11), and citing Henri Marrou, it has also been located in the sixteenth century (Doody, 2010, p. 45). Regardless of the specific date, the effect was the same. The mistake led readers to believe that instead of an abstract idea, the ancient Greeks had a genre of “large-scale, comprehensive compilation” (Franklin-Brown, 2012, p. 2). The self-description of texts as encyclopedias therefore did not begin until the sixteenth century when authors used variants of the word in their titles (Yeo, 2001, p. 6; Harris-McCoy, 2008, p. 12).

In recent years, there has been an influx of rearticulating the meaning of encyclopedias by changing the root, as is famously the case with Wikipedia, but also seen in other wiki-based encyclopedias with different principles for creating content (Uncyclopedia, Conservatopedia, Everipedia, Wookieepedia). Relatedly, the nationalist (*Encyclopedia Britannica*, *Encyclopedia Canadiana*, etc.) and subject-specific encyclopedias (*Encyclopedia of Life*; *The Sage encyclopedia of qualitative research methods*, etc.) follow their own naming conventions. Despite these nominal differences, these names are evidence of these works self-identifying as encyclopedias.

This is not the case when the prefix and root are articulated with endings other than “-ia.” The *Oxford English Dictionary* (“encyclopaedia | encyclopedia,” 2019) noted that the suffixes of encycloped- arrived as two clusters over the seventeenth and nineteenth centuries: encyclopæd-

ian (1621); encyclopæd-ical (1651); encycloped-ist (1651); encycloped-ic (1815-25); encyclopæd-ial (1818); encycloped-ize (1824); encycloped-ism (1833); encycloped-ian (1834); and encyclopæd-iacal (1836). There exist other obscurities, like the 1796 usage of “Encycloped-ology” (Horner, 1993, p. 83), or “encycloped-istic” (Ferris, 2004, p. 4). Whatever these concepts are, they are not synonyms for the object of the encyclopedia.

This collection of suffixes finds familiar ground with other nouns that have been articulated with an “-ist” suffix, with “-ist,” “-ism,” and “-ize” often forming a semantic “troika” (Dressman, 1985, p. 238). In addition to these three, “-ist” is also neighbored by suffixes like “-ic,” “-istic,” and “-ology” (p. 242) — all of which have been connected to encycloped-. Michael Dressman explained that the semantic relationship between these suffixes are a historical artifact. During the period of roughly 1500–1650, “-ist took hold in English” (p. 239) and then European scientific revolution and Enlightenment “spurred on the English acquisition of -ist words” (p. 240). The reason, given by Bernard Groom, was due to the utility of -ism and -ist in translating “abstract theory into political practice,” a task that was embedded in the character of the French Revolution (p. 240).

Unsurprisingly, the historical reflections of the workers, philosophy, and characteristic that underpinned the French *Encyclopédie*, happened contemporaneous with this uptick in suffixes. While these terms existed before its publication, the *Encyclopédie* served as a discursive moment that splintered the meaning of encyclopedia into a host of connected, yet different meanings. Over time, “encyclopedia” and its trail of suffixes have since moved forward and backward in time, re-inscribing the meaning of the word in distinctly different ways, ways that give rise to variant concepts of an imaginary medium. Using the language of discourse analysis, “encycloped-” is the nodal point of the discourse and the diverging suffixes are

competing articulators of its meaning. This arrangement is the organizing principle of the chapter as I cover the conceptual ground marked off by the noun *encyclopedia*, the agent noun *encyclopedist*, the adjective *encyclopedic*, the noun of action or the philosophical system *encyclopedism*, and the transitive verb *encyclopedize*.

Encyclopedias: A Class of Texts

Overwhelmingly, the most common way for historians and literary scholars to deal with the ontological status of encyclopedias is to either describe them as part of a genre (Fowler, 1997; Ribémont, 1997; Doody, 2010, p. 6; Jacob, Treves and Gage, 1997, p. 63; Frye, 2006, p. 332) — or to deny the analytical worth of genre in analyzing them (König and Woolf, 2013, p. 1; Ercolino, 2014, p. 37). Regardless of position, the concept of genre itself is often taken for granted and its meaning is left ambiguous.

To work at this semantic knot, it is instructive to turn to Tzvetan Todorov's literary analysis on the origins of genres. In asking "[w]hat exactly is a genre?" Todorov outlined four ways that genre has typically been understood. The first approach relies on an abstract analysis of texts that is derived from the Aristotelian view that "genres are classes of texts" (1976, p. 161). The second approach considers a group of texts in terms of being historically understood as a class, and therefore is studied empirically. The third articulation understands genres as classes of discourses where the "identity of the genre is entirely determined by that of the speech act," (p. 168). And finally, the fourth combines the notion of an abstract set of "discursive properties" that are historically codified so as to "exist as an institution" and function to produce "'horizons of expectation' for readers, and as 'models of writing' for authors" (p. 163).

Taken as a whole, I consider Todorov's argument to be distilled into four components. The first two posit that genre has been classically described in terms of a *class of texts* or a *history of texts as a class*. With the influence of the linguistic turn in literary theory, he acknowledged that the value of a third position implicates genre as a *class of discourse*. However, he added that a coherent genre theory must combine abstract and empirical analyses to observe how genre exists as the codification of discursive properties, or a *history and codification of discourses*. Because of the ambiguity of how scholars of encyclopedias tend to use the word genre, I will use this analytical language in its place.

Ideal texts. When a scholar works from a concept of genre that is bound to a *class of texts*, there is a narrow set of questions that they can address: What was the first text of this class? How is one class of texts recognizable as different from another? What unifies a category of texts? What are the fundamental differences between texts? These questions underlie the historical work of Robert Fowler and Bernard Ribémont.

Robert Fowler (1997) used the differences between two words of the phrase *enkyklios paideia* as a system to categorize encyclopedias. Texts that draw meaning from *paideia* — like those of Varro (116–27 BCE), Cato's (95–46 BCE), and Celsus (14 BCE–50 CE) — concentrate on the circle of *subjects*. In such cases, he argued that the encyclopedias can be understood as “selective and propaedeutic,” (p. 7) or “elementary [...] preparing you for something else” (p. 16). In contrast were medieval encyclopedias that focused on “a true understanding of God” or “the interpretation of literary texts” during the Renaissance (p. 16) which drew their meaning first from *enkyklios*, or encirclement.

For Fowler, the curious example of Pliny the Elder's (23–79 CE) *Historia Naturalis* is set apart from this tradition. As Doody summarized Fowler's position, Pliny did not focus on "the various artes—including rhetoric, grammar, and medicine" (Doody, 2009, p. 3). Instead, his work favoured the accumulation of information concerning natural history over a coherent system that guides the presentation of data (Doody, p. 8). Pliny's pride in this accumulation was present in his preface: "I have packed 20,000 things worth knowing from 100 important authors into 36 volumes, drawing on my reading of about 200 volumes, most of them seldom touched by scholars because of their obscure subject matter" (2010, p. 19). Here the circle is not directed towards a meaning of truth, but of an exhaustive total. It is from these differences that Fowler argued all encyclopedias can be described through the fourfold combinations of texts that are comprehensive or propaedeutic and those that are descriptive or normative (pp. 8–9).

Unlike Fowler's etymological frame, the historian Bernard Ribémont argued that if a class of texts (he used the term "encyclopedism") "truly exists, then it corresponds to a model: if this model can be applied to a corpus of texts, then this corpus is in fact composed of encyclopaedias" (p. 53). As a result, the class of texts emerges as a "confrontation" between an actual text that served as the model and the texts that imitated, and therefore diverged, from that model (p. 53). Recounting encyclopedists's own words, Ribémont related how these authors were cognizant of their connection to the model established by Isidore of Seville's *Etymologiae* (p. 54). The sheen of a genre emerged through common descriptions that pointed toward a "brief compendium" (p. 59); with moralist aims (p. 56); ordered by both the "order of the book," and "the explicitly expressed purpose of educating and of edifying, in which the encyclopedists of the thirteenth century joins his distant ancestor in the desire to educate the *vir bonus* [good man]" (pp. 60–61).

What Fowler and Ribémont both illustrated was an approach to encyclopedias that asked the question of whether a text is or not an encyclopedia based on “a quasi-Aristotelian method” (Ribémont, 1997, p. 47). Their answers contrasted in that Ribémont understood texts as models in themselves and Fowler used the texts as ciphers to ideal types. Perhaps in the constrained period of medieval encyclopedias, something of this argument can be salvaged. But what sort of conclusions can one arrive at based on Fowler’s transhistorical categories that extend across two millennia? Historians of the last decade have been skeptical.

Aude Doody asks, “how much does the Paul Scaliger’s *Encyclopaedia, seu orbis terrarum* have in common either with the Wikipedia or with the nationalistic encyclopedias of the nineteenth and twentieth centuries?” (2009, p. 5). Elias Muhanna similarly inquired, “what essential elements define the encyclopaedia *qua* analytic category? Is there a set of parameters that can encompass texts as chronologically, linguistically, structurally, and materially disparate as Isidore’s *Etymologiae*, Wang Qi’s *Sancai tuhui*, al-Nuwayrī’s *Nihāyat al-arab fī funūn al-adab*” (Muhanna, 2013, p. 345)? On these broad temporal and cultural scales, assumptions of ideal texts (both transhistorical or actual) are challenged by the “inadequacy of a generic [*class of texts*] approach” to the study of encyclopedias (König and Woolf, 2013, p. 1). Likewise, Mary Franklin-Brown argued that there is little analytical worth in establishing Aristotelian taxonomies of the genre (2012, p. 10).

The problems of a *class of texts* is further exacerbated by the fact that the compound etymology of encyclopedia was a mistake. This is not a minor issue. It upsets the very notion of an uncomplicated and linear trajectory reaching back to ancient Greece. As König and Woolf argued, “[t]hat lack of terminological consistency makes it all the more difficult to posit a

uniform, cross-cultural notion of an encyclopaedic genre” (p. 2). In other words, describing encyclopedias as belonging to a two-thousand-year long class of texts historically misreads the complex usage of the word and runs into the dangers, as Doody put it, “of constructing a teleological narrative which views past ideas in terms of an evolution towards modern fulfilment” (2010, p. 13).

Produced texts. In response to these inadequacies of a class of texts, König and Woolf offered the alternative terminology of an “encycopedic spectrum” of “shared encyclopaedic markers” to be used “to different degrees and for very different purposes” (2013, p. 1). In the same collected edition of König and Woolf, Elias Muhanna argued that describing the large-scale compendia of the Mamluk period in Egypt and the Levant (1250–1517) as “encyclopedias” has nothing to do with asserting a literary genre. He used the term as “an analytic category of compositional features,” to examine the conditions contributing to a boom in “strategies for documenting and classifying” (p. 343) associated with an intellectual shift from the court to “educational and administrative institutions” (p. 352). In this study, the term “encyclopedia” acts as inarticulate stand-in for a particular “mode of textual production” (Muhanna, 2013, pp. 346–347).

Loveland and Reagle (2013) likewise used the terminology of modes of production to aid in connecting texts across time and space. With a keen eye on Wikipedia, they were exasperated with how it had been decoupled from “centuries of history” (p. 1295). But this did not mean that scholars should begin applying periodization schemes, since such activities tend to smooth “over the complexities of the past” (p. 1296). In their place, the two authors offered “three modes of encyclopedic production in which subsequent stages do not necessarily obviate preceding ones” (p. 1295). Their approach not only denied the assumption of a linear development of a class of

texts but also recognized that one genre is interwoven with others (p. 1295). As illustrated by their comparative analysis, they demonstrated how Wikipedia's alleged novelty of amateur contributors was in fact continuous with the history of encyclopedias (pp. 1305–1306). Other scholars have similarly denounced the idea of an “encyclopedic genre” in favour of an “encyclopedic mode” (Eroclini, 2014, p. 39) or a spectrum of encyclopedic “tensions” that can be used to assess the production choices authors make (Harris-McCoy, 2008, p. 48).

The use of a category. While genre theory has obvious limitations in studying encyclopedic knowledge, it is a genealogical inheritance that is difficult to ignore. Even scholars, who raised questions against it, found that some form of category is analytically useful for describing similarities that cut across time. Such a task was essential for Loveland and Reagle to counter claims that position Wikipedia's alleged novelties as evidence of its inevitability. In this capacity, the usage of an analytical category can be useful for excavating assumptions about encyclopedic knowledge and aligns with the media archaeological commitment to dispel teleological narratives of unfettered progress.

However, as the following sections illustrate, encyclopedic knowledge is not always conveyed by encyclopedias. Unfortunately, it becomes obvious that concentrating on modes of production only serves to reinforce the notion that encyclopedic knowledge is bound to the products of a genre. The primacy of encyclopedias is itself one of the assumptions that need to be excavated. The way around this is to examine the genealogical variants implicated in the words encyclopedist, encyclopedic, encyclopedism, and encyclopedize. It is only after examining these suffixes that one can synthesize a set of appropriate categories that can analyze what it means to cultivate a people with encyclopedic knowledge and — in keeping with the method of utopia — compose alternative trajectories.

Encyclopedists: A History of Authored Texts

Loveland and Reagle's theoretical maneuver around the thorny issue of genre is an example of a different means to articulating encyclopedic knowledge. Instead of asking which category a text belongs to and how that category is defined, some scholars have focused on the agents of encyclopedias: the authors and the readers of these texts. Such an approach aligns with Richard Rorty's description of intellectual history which is a set "of descriptions of what the intellectuals were up to at a given time, and of their interaction with the rest of society" (Rorty, 1984, p. 68).

This section of the genealogy reviews a number of studies that are dedicated to this task. I begin with two studies of the *Encyclopédie* by John Lough (1971) and Frank Kafker (1996). Likewise, Gillian Thomas's (1992) recounting of the biographies of female contributors of the *Eleventh Edition* of the *Encyclopedia Britannica* brings questions of gender and society to the foreground. The formidable chronicle of the *Encyclopedia Britannica* by Herman Kogan (1958) illustrated how enterprising individuals overcame economic crises that threatened the publication. And finally, when it comes to Wikipedia, questions of authorship are reconstituted into questions of authority, like that of community-based coordination (Viégas, Wattenberg and Kushal, 2004; Bryant, Forte and Bruckman, 2005; Reagle, 2010) or discursive play (Leitch, 2014; Lund 2017).

With an increasing attention to audiences in scholarship, readers have also been articulated as important agents in defining encyclopedic knowledge. Seth Rudy (2014) examined the notion of the ideal encyclopedic reader while Ulrike Spree (2014) conducted a comparative analysis of the contributions made by historical and contemporary readers of encyclopedias. These kinds of studies illustrate that whether the focus is on authors or readers, encyclopedic

knowledge speak volumes about the socio-cultural attitudes toward the encirclement of knowledge.

Enlightened authors. With an eye to understand the intellectual milieu that led up to the French Revolution, John Lough (1971) carefully reconstructed how Diderot and d'Alembert authored the *Encyclopédie* (1751–1772). Drawing from the *Encyclopédie*'s array of articles, personal correspondence of the editors, and commentaries in contemporary books and pamphlets, Lough provided insight into the purposes set out for the encyclopedia by these two historical figures.

In terms of reference, the editors rationalized that by relying on a team of specialists (p. 63) they were able to report on the current state of the arts, technology, and science (p. 61). But the pair had other purposes in mind as well. Diderot and d'Alembert wrote extensively against the state and church within “out-of-the-way articles,” subversive cross-references, and editorial comments that contested some of the orthodox claims of its contributors (pp. 134–135). This combination of dual roles was a reflection of Diderot and d'Alembert's intent to make an encyclopedia that would hasten the progress of the Enlightenment (p. 92), and to exist as both a “work of reference” and a “machine de guerre” (p. 61).

Lough's documentation of how the *Encyclopédie* was *authored* by Diderot and d'Alembert constructs the image that its contribution to French culture rests primarily on their shoulders. To this point, he argued that little could be garnered from a sociological study of the other 140 contributors (p. 56). By concentrating on just the two editors, Lough articulated a rather stable and largely coherent expression of the Enlightenment.

In direct opposition to Lough's conclusions, Kafker analyzed the collective biography of those 140 and found that the backgrounds and experiences of the contributors created “a great

compendium of knowledge filled with contradictions, a melange of ideas, some progressive and some conservative,” (1996, p. xiii). While he admitted the obvious, that they were well educated (p. 6) and came from “socially respectable” families, they were not always from well-connected families (p. 6). This diversity of personal geographies, history, religious and political views, education and careers, correspondences, and personal and economic relationships led to the *Encyclopédie*’s uneven and inconsistent contents (p. 43).

In one sense, the reason for such diversity was a condition of the ambitious size of the *Encyclopédie*. Diderot and d'Alembert “searched for collaborators, especially experts in particular subjects, whenever they could find them” for over ten years (p. 37). Then after several authors left the enterprise due to political and religious pressure, Diderot struggled to find new editors to complete the work, and he “looked wherever he could” to find them (p. 40). In the end, the recruitment of authors had less to do with ensuring a consistent ideological perspective as it was a matter of navigating the political and economic obstacles of producing a multi-volume encyclopedia in production for over twenty years.

Another contributing factor of the *Encyclopédie*’s unevenness was its workflow. For contributors in other countries, correspondence on articles was slow due to the mail system. In contrast, the intellectual social networks that frequented Paris’s salon (p. 25) supported the enlistment of a variety of local recruits. But more pragmatically, the unevenness can be seen as a function of “individuals working independently and not in teams” (pp. 32–33). This autonomy brought other inconsistencies. For example, “its reformist messages were diluted by conservative articles, some intentionally inserted to satisfy the established powers, but others to provide different points of view or simply to complete the work” (p. 43). Kafker argued that understanding the *Encyclopédie* as a political document therefore required acknowledging how

these pressures affected not only what was included, but also what was left out (p. 116). The conclusion that one comes to at the end of his study is that the *Encyclopédie* certainly stood as a document of the Enlightenment. However, the politics and social consequences are much more measured, contradictory, and complex than have been typically envisioned.

Corporate workers. The same can be said of the *Encyclopedia Britannica*. Gillian Thomas (1992) recounted that of the 1500 signed contributors of the *Eleventh Edition* (1910–11), only thirty-five of them were women (p. 18). She explained that during this period, the *Britannica* was experiencing a dramatic shift away from the “amateur scholar” — who was usually a male ranking employee of the Church — and toward university-trained specialists (p. 41) and celebrity novelists (p. 28). These qualities were used to market the *Britannica* as the storehouse of current scientific expertise and contemporary culture. However, Thomas presented the major theme of her book, that this change “offered both an opportunity and a further obstacle for women” (p. 41).

As women were increasingly accepted within higher education, they had an increasing chance to be contributors of the encyclopedia. However, gaining such a place of authority was fraught with resistance — both from men who saw the academy as their property (p. 53) and from women who supported the anti-suffrage movement (p. 63). Some of these authors became contributors through collaborations with their husbands or fathers where their efforts were seen as merely “helping learning” and not scholarly work of their own merit (p. 30). This social friction meant that only those women with upper class advantages could secure a place in the production process as expert contributors (p. 110; p.123).

But the work of making an encyclopedia is not just in contributing articles. Thomas's collective biography gave invaluable insight into the "invisible female staff who were solely responsible for the indexing as well as for writing most of the unsigned entries" (p. 4). Long past the time of Diderot and d'Alembert, indexing was now associated with the "mechanical" nature of gendered clerical work rather than the "intellectual" (pp. 21–22). To the contrary, these women "would have to exercise critical discrimination and make qualitative distinctions" (p. 25), conduct research, write anonymous articles (p. 20), and were responsible for "final fact-checking" (p. 25).

Thomas noted that there was no information about the education concerning this staff. But there is information about Janet Hogarth, the supervisor of the index for the *Eleventh Edition* of the *Britannica*. Hogarth was educated at Oxford and worked as a clerk at a number of prestigious institutions (p. 22–23) before being asked to "take over the *Britannica* index in 1909" (p. 23). Thomas described Hogarth's experience as a clerk as "an example of the new phenomenon of women's work in the commercial and bureaucratic world" at the turn of the twentieth century (p. 22). As she noted, the fifty years between 1861 to 1911 saw a "four-hundred-fold" increase in women clerical workers.

Hogarth served several roles during her time at the *Britannica*. One was as a supervisor to the staff of women who were indexing the encyclopedia. Another was to act as "office confidante" and "listener" to the editor Hugh Chisholm (p. 24). But her main role was "to undertake a radical reorganization of the indexing procedure" and to keep the staff from striking at the increased pressure to finish the encyclopedia on time (p. 26). Despite the assertion made in the *Britannica*'s introduction, the contributors were not just "men of action, men of learning" but also the named and unnamed women whose intellectual efforts, like Janet Hogarth's, who

fundamentally increased the lauded quality of the *Britannica*'s encyclopedic knowledge through their attention and intellect.

Despite the incredible contributions made by these workers, it is more often that the history of the *Britannica* is drawn from the actions of its principal editors, institutions, and public-facing workforce. Starting with Andrew Bell, Colin Macfarquhar, and William Smellie in 1768, Herman Kogan (1958) developed a linear narrative of how the *Britannica* was maintained by a series of editors and publishers up to 1957. His deep attention for the financial and marketing details of the *Britannica* provided substance to how this intellectual project was conditioned by a burgeoning consumer culture. For the *Tenth Edition* (1902–03), Horace Hooper (once a traveling book salesman) presented a plan to the *Times* of London to support a reprint of the *Ninth Edition*. In light of an increasingly educated public hungry for reading material, Kogan described how “Hooper was certain that what was selling soaps and oatmeal and pills could sell the *Encyclopaedia Britannica*” (p. 74). With his American-styled advertising (p. 77), Hooper rebuked that selling a reprint would be a success and announced: “We'll create a public that will want it” (p. 5).

The *Britannica* created this public in a variety of ways, but most significantly by partnering with authoritative institutions. For example, in 1898 it joined the *Times* which “upset tradition and precedent” (p. 6) and then realigned itself with academia with its 1910 contract with Cambridge University (p. 156). This same period also saw the United States increase in its global influence. In response to pirated copies allowed by relaxed American copyright laws, the *Britannica* set up a Chicago office in 1903 “to provide a legal bridgehead for combating irksome copyright thieves in the Middle West” (p. 108). The centrality of the Chicago office also provided convenient connections to other businesses, in particular Sears, Roebuck, and Company

which would later carry the *Britannica* as one of its catalogue items (p. 196). This arrangement solidified that the *Britannica*'s success was dependent on the profit driven goals of its sales workers. Here, it is business acumen rather than epistemic rigour that marked the *Britannica*'s success.

The public imagination about what counts as an encyclopedia has long been tied up in the form of the printed editions of the *Encyclopedia Britannica* (Yeo, 2001, p. 170; Schopflin, 2014, p. 501; Haider and Sundin, 2014, p. 8). However, Wikipedia's status as a non-profit organization with free content provided a different perspective. Though, this idea of the encyclopedia as a gift was not itself new. For one, in creating the *Encyclopédie*, Diderot "quarried the *Cyclopedia*" and "lifted directly" articles from Chambers's work (Yeo, 2001, p. 126). In some ways, Diderot expected this same action to be taken with his work as well. As the historian Jeff Loveland noted, "Diderot declared that anyone was welcome to reuse the illustrations in the *Encyclopédie*," an act that Loveland saw as "foreshadowing the open source movement and Wikipedia" (2013, p. 1299). Despite this example, the *Encyclopédie* and the *Britannica* were economically and legally produced as market-based commodities, whereas Wikipedia is not.

For lawyer and political activist Lawrence Lessig, Wikipedia demonstrates what it means to be part of a the "sharing economy," or a type of exchange "where access to culture is regulated not by price, but by a complex set of social relations" (Lessig, 2008, p. 162). He went on to clarify that "[t]hese social relations are not simple" and not based on price (p. 145). In his mind, Wikipedia exists as a paradigmatic example of this kind of economy because its "contributors are motivated not by money" (p. 162). Instead, they are motivated to produce free culture in the same way that programmers have produced free software (Lessig, 2008, p. 162).

To this fact, Wikipedia (and its volunteers) exists as just one part of a larger organization dedicated to these principles of freedom. The Wikimedia Foundation, a nonprofit organization was established by Jimmy Wales in 2003 and “operated as a fundraising tool to sustain the infrastructure” and as well as the legal owner of “both the infrastructure and trademark” to ensure Wikipedia could function (Morell, 2011, p. 329). While the foundation started with volunteers, by 2007 it had hired 40 employees and required a substantial operating budget (p. 331). It is this sense that Wikipedia is part of a hybrid model of cultural production because “the traditional organization model providing infrastructure is also Wikipedia’s interface to the external world, and it allows the Wikipedia community to operate with other traditional entities, such as legal systems” (p. 333).

Despite the fact that Wikipedia is notable for being economically supported by a nonprofit organization, its presence on the web also owes much to profit-based corporations. In describing the difference between commercial and sharing economies, Lessig described entities that took advantage of “hybrid economies” that are built “upon both the sharing and commercial economies” (Lessig, 2008, p.177). He argued that it would be this kind of organization that would “dominate the architecture for commerce on the Web” (2008, p.162). However, he warned that commercial economies are “tuned” to exploit the values that sharing economies produce (p. 178). Eight years earlier, Tizana Terranova argued the same point when she wrote that “since 1994, the Internet is always and simultaneously a gift economy and an advanced capitalist economy. The mistake [...] is to mistake this coexistence for a benign, unproblematic equivalence. (2000, p. 51).

One way to look at this kind of situation is to examine the relationship Wikipedia has with Google. On one hand, Google has been demonstrated to put links to Wikipedia articles in

the “first position” of the results of a user’s query (Lewandowski and Spree, 2011, p. 124.) With the goal of hopefully converting every reader in a “coauthor” of Wikipedia (Matei and Britt, 2017, p. 51), this situation has potentially helped to increase the number of readers. However, Google’s also has a history of exploiting this synergistic relationship. One way it achieved this was by mining the encyclopedia’s freely available content for its own search engine tags (Langlois and Elmer, 2009, p. 775). As well, Google uses Wikipedia content to “power some of its lower-level artificial intelligence systems,” aid with its rank search, and has redesigned Wikipedian content as “knowledge cards” that it presents at the top of its results (McMahon, Johnson and Hecht, 2017, p. 2). As these features serve “the information needs of [Google] searchers,” they do so at the expense of Wikipedia (p. 2).

Because searchers stop at Google rather than being redirected Wikipedia, there is a greater chance that casual readers of that content do not become Wikipedian editors. Google also exploited Wikipedian content when it chose “to offload its misinformation problem” onto Wikipedians (Matsakis, 2018, para.4) because they have “worked out norms and processes for neutralizing controversial content and contentious topics, a quality that aids Google’s search engine value” (Van Dijck, 2013, ch. 7.4, para. 6). As a result, Wikipedians continue to be the imbricated workers of a networked system of information commodities that exploit their free labour (Firer-Blaess and Fuchs 2014, p. 96).

Collaborative communities. By the arguments made by these scholars, the reason why Google often ranked Wikipedia at the top of searches, as well as being a donor of millions of dollars to the Wikimedia Foundation — is that it directly benefits from the free content and social processes of production that Wikipedians create. As one British journalist remarked after Google

donated \$2 million dollars to the foundation in 2010, it was “not a grant, it’s an investment in making sure it can keep dominating search” (Van Dijck, 2013, ch. 7.4, para. 8). As one study concluded after experimenting with limiting Google’s use of Wikipedia “Google becomes a worse search engine for many queries when it cannot surface Wikipedia content” (McMahon, Johnson and Hecht, 2017, p. 1). Just as the *Britannica* ensured its success by teaming up with influential corporations of its time, Wikipedia’s top-ranking foothold within the internet owes much its favourable relationship with Google. Understanding what makes Wikipedia useful to Google requires, to a degree, an examination the project’s predominant individuals.

As Andrew Lih’s book suggested (2009), the technical and organizational originality of Larry Sanger and Jimmy Wales are crucial in this regard. In continuation of the language of authorship, the communication scholar Joseph Reagle (2010) reconstituted the activities of Wales, Wikipedia’s “benevolent dictator” (p. 117), as that of an “authorial leader” (p. 122) who supplied the “founding vision [...] collaborative norms, [...] and latent power” (p. 122). This is evident in the way that Wales “influence[s] the direction of a community’s culture” (p. 118). But a biography on Wales can only go so far in describing the modular, incremental, semi-anonymous, and mass levels of participation see on the website (Reagle, 2010, p. 171). For these characteristics, one must examine “the norms guiding Wikipedia collaboration” and how they contribute to the community’s own sense of experience (p. 11).

First of all, Wikipedia stands out amongst the background of its genealogical ancestors for its unprecedented commitment to inclusion. As Reagle correctly pointed out, “with Wikipedia almost ‘anyone’ can edit, something not even conceived of—or perhaps even approved of—by the earliest visionaries” (Reagle, 2010, p. 152). This aspect — supported by the open participation of the volunteer community — was what Wales understood as the defining

feature of the project (p. 87). The consequence of this focus is that encyclopedic readers and encyclopedic editors exist as part of a spectrum rather than part of incommensurable binary. Under this perspective, every user is a potential “coauthor” to the encyclopedia (Matei and Britt, 2017, p. 51).

To assist in this conversion from user to Wikipedian, Wikipedia appeals to both active and passive forms of conversion. Over the past decade, The Wikimedia Foundation actively engaged in outreach and grant programs to attract new users to editing the encyclopedia. This included the Wikipedia Public Policy Initiative which worked with universities to engage students by increasing “the quantity and quality of Wikipedia’s public policy-related articles” (Lampe, Obar, Ozkaya, Zube and Velasquez, 2011, p. 403); and the Art+Feminism series of edit-a-thons that served “to close the gender gap in both content and participation on Wikipedia” (Evans, Mabey, and Mandiberg, 2015, p. 201). But for the most part, the process of conversion from user to Wikipedian is through appeals to the desires of altruism, enjoyment-seeking, and a sense of belonging that have long been associated with opensource projects (Hars and Ou, 2002). Because each edit is seen as an incremental improvement and is recorded for prosperity, users are often motivated by a pragmatic altruism — a belief “in the effect of their actions on others, even if they admit a selfish interest” (Prasarnphanich & Wagner, 2009, p. 36). This selfishness is facilitated because each contribution offers the possibility of “self-fulfillment” through “personal achievement or personal satisfaction” (p. 39) or simply “enjoyment” (Xu and Li, 2015, p. 283). That is to say, the immediate rewards of editing are a sense of pride and joy that come from the act of contribution.

This is made possible because Wikipedia does not have a rigid delineation of membership. Instead, Wikipedia operates through the principle of legitimate peripheral

participation where “new entrants will not be expected to perform at the same level of competency as incumbents but be given enough time and support to learn the requisite skills” (O’Neil, 2009, p. 25). However, the sustainability of the encyclopedia rests on the community’s ability to socialize new editors (Morgan and Halfaker, 2018, p. 1) since Wikipedia is actually only written by a small percentage of active members (Matei and Britt, 2017, p. 1). When new users register, they may be invited by a host of the “The Teahouse,” a space where “where guests can post personal profiles to introduce themselves to the Wikipedia community and view the profiles of other guests and hosts” (p. 3). This is important since volunteers are also motivated by the sense of belonging and reputation they gain from the community through acts of reciprocity (Prasarnphanich & Wagner, 2009, p. 39).

In this capacity, Wikipedia reflects José Van Dijck’s explanation that social media platforms provide the means to perform “self-expression” and “self-promotion” (2013, p. 200). One place these performances can be made is within the “Contributions” section that is allocated to each user. This space lists every edit a user has made and are “useful for seeing how other users have contributed” (“Help:User contributions,” 2020). As Paul de Laat explained, these records play an important role in building a reputation “as trustworthy Wikipedians” who have produced long-lasting edits (de Laat, 2014, p. 7). In this way, each edit is an intentional and strategic performance of the self in the community.

Another space of the self is the user page. These spaces are specifically designed to allow users to include “something about oneself,” like the article topics a user has edited or “personal writings suitable within the Wikipedia community” (“Wikipedia:User pages,” 2020). This space also includes its own talk page that is intended to send direct (but publicly accessible) messages to other Wikipedians. The content of these pages can display the user’s various commitments

and contributions that they strategically display to construct their Wikipedian identity, which may include “Service Awards” that are automatically awarded when users reach a milestone for the number of edits made to Wikipedia (Ashton, 2011).

However, unlike most social media profiles, Wikipedia user pages neither function as “a personal homepage” nor do they belong to the user (“Wikipedia:User pages,” 2020). Instead, “[t]hey are part of Wikipedia, and exist to make collaboration among editors easier” (“Wikipedia:User pages,” 2020). While this lack of ownership means that other users can add content to one another’s pages, users are allowed to remove or archive this content. One acceptable practice of editing another user’s page is “to reward Wikipedia contributors for hard work and due diligence by awarding them a barnstar” (Ashton, 2011). In the shape of a star that is adorned with colours and images related to the type of work being recognized, these images have become “enmeshed with the Wikipedia community” (Ashton, 2011). Importantly, both the recipient’s hard work and the generosity of the awarder is recorded, thus adding to the reputation of both. This is the same logic that applies to the interface feature that allows users to click on edits and “thank” a contributor (“Help:Notifications/Thanks,” 2020).

Despite the capacity for anonymous and aggregated contributions, these features facilitate the performance of identities and the maintenance of social relationships. However, as Wikipedians pour hours into maintaining the site and are rewarded for high quality contributions, they may also develop a sense of territoriality and ownership (Thom-Santelli, Coseley and Gay, 2009), engage in edit-wars which are “extreme cases of disagreement over the contents of an article” and result in “particular editors reverting the work of other editors” (Sumi et. al., 2011, p. 1); or come into contact with vandalism where users have deleted the content of an entire page or

added ill-intended content, code, or templates (Damas and Mochetti, 2019, p. 1). This can lead to “defensive behaviors [that] may run the risk of deterring new community member participation” (Thom-Santelli, Coseley and Gay, p. 1481).

The conflicts that arise from encyclopedic collaboration are not limited to those between new users and experienced editors. Social friction emerges simply as a consequence of different kinds of people (with different experiences and knowledges) coming into contact with one another as they collaborate. One means to alleviating this friction has been the requirement that the Wikipedian community adhere to the “five pillars” of the project: “(1) 'Wikipedia is an online encyclopedia'; (2) 'Wikipedia is written from a neutral point of view'; (3) 'Wikipedia is free content that anyone can edit, use, modify, and distribute'; (4) 'Editors should interact with each other in a respectful and civil manner'; and (5) 'Wikipedia does not have firm rules'” (Tkacz, 2014, p. 100). Spawned from these pillars is the Wikipedian “policy environment” that “encodes and explains norms” (Beschastnikh, Kriplean and McDonald, 2008, p. 27). Some of these norms act as behavioural guidelines, such as the Wikipedian concept of “good faith”: “assume the best, act with patience, act with civility, and try to maintain a sense of humor” (Reagle, 2010, p.60).

As such, the policies and guidelines operate as “boundary objects” that both enable and constrain editorial and social activity (Butler, Joyce and Pike, 2008, p. 1102). But they are not prescribed. Policies and guidelines are understood to be documents that normalize and codify already existing practices (Butler, Joyce and Pike, 2008, p. 1103). This demonstrates that not only are Wikipedia’s articles incrementally produced, so too are its social policies as the community is constantly engaged with the “evolving, competing, and self-propagating” nature of policy development (p. 1104). These formalized aspects of the encyclopedia provide a

framework to generate a cohesive community with members accountable to the norms of the community.

Epistemologically, Thomas Leitch (2014) asserted that it is Wikipedia's capacity to "play" with authority within these norms that marks its approach as dramatically different from other encyclopedias. He argued that Wikipedians, who continuously participate in its knowledge production, do not just learn facts and information, but they become aware of the tenuous nature of knowledge. This is because the entire site is animated by the play of competing authorities, like those found between the policies of neutral point of view, verifiability, and no original research. He made the case that each of these policies is internally an unresolvable paradox which exist "not because of Wikipedia's susceptibility to logical errors, but because of the paradoxical nature of authority itself" (p. 38). The consequences of this epistemological condition are worth noting. Wikipedians have cultivated a rather unique position on authority: they perform acts of "discounting," they neither "accept it unquestioningly" nor do they "ignore it completely," they recognize that authority itself "is constantly in play" (p. 131). In this context, Wikipedians exemplify a particular character of encyclopedists that does not rest on the production of explicit knowledge, but on the collaborative and ludic activities required of epistemic uncertainty.

For Leitch, this is precisely the type of orientation that a liberal education attempts to cultivate in students, because "whenever liberal education succeeds, it is because it teaches its students to play responsibly with authority: to recognize and negotiate between conflicting authorities, to accept authority while still discounting it, and ultimately to stake claims to the authority they deserve while recognizing that many competitors deserve it as well" (p. 133). It is on these grounds that Leitch argued that "[t]eachers who want their students to examine the

nature of authority itself more critically can take them further by enlisting Wikipedia as a teaching tool” (p. 85).

Active readers. As the previous section indicated, Wikipedia was explicitly designed to upset the traditional boundaries between encyclopedic authors and readers. But Wikipedia was not the first to have an ambiguous understanding of how both authors and readers are active in the production of encyclopedias. For one, the scope and character of that content is often constrained by a rhetorical commitment to readers; readers who have changed over time. As the technological, social, and political conditions of producing encyclopedias transforms, so too did the type and number of people who were intended to be educated by these works. In describing medieval examples, Ribémont acknowledged that the encyclopedic reader is part of the didactic construction of the genre (1997, p. 50) This is confirmed by historians and encyclopedists who explained how each encyclopedia is written with certain readers in mind, such as Christians (Ribémont, 1997), civil servants and women (Zurndorfer 2013, p. 512, p. 526), and curious average men (van Doren, 1962, p. 26).

This didactic element is likewise evident when Andy Merrill (2013) argued that interpreting an encyclopedia requires knowledge of the contemporary reading culture. In the case of Isidore of Seville, his *Etymologiae* was written so as to work with the practical memory of readers familiar with medieval literature (p. 321). Isidore’s seventh century work seemingly “impenetrable” to the modern reader is due to our cultural unfamiliarity to such reading practices (p. 323). In more direct terms, such readers were “clerics, masters of letters, philosophers and ‘literate men’” (Keen, 2013, p. 278). But this medieval readership began to expand. In writing *De proprietatibus rerum* (1240), Bartholomew the Englishman set out to produce an

“encyclopaedia for laity” (p. 295), an intent that manifested in the commission of translations of the work by non-clerics and non-professionals (p. 294). Here, the intent to write for a particular kind of reader was positively reciprocated by the requests of new kinds of readers.

These readers were also imagined by encyclopedists as being capable of absorbing all the information held between the covers and have a command over the knowledge of their culture. The polymaths and polyhistorians of the 1600s are exemplars of this type of reader who “wanted to cover every base on the intellectual field” (Grafton, 1985, p. 37). But since the production of books was steadily increasing, this presumption that a person could know “the structure and relations of all disciplines, the titles and contents of all books, the character traits and oddities of all significant earlier scholars” was becoming clearly unrealistic (p. 37). In light of this, the poet Samuel Taylor Coleridge’s *Encyclopaedia Metropolitana* (1817) attempted to reverse this situation by publishing an encyclopedia that was less of a work of reference, and more of “a structured course of education” composed of a comprehensive system, or a “continuous discourse” (Hawley, 2006, pp. 219–220). This was in direct opposition to the fragmented way that knowledge was handled in the *Encyclopédie* (Hawley, 2006, p. 225). Despite this attempt, “the notion of an individual effectively commanding such a sweep of knowledge was no longer imaginable” (Yeo, 2001, p. 282). As Richard Yeo stated, “[n]o longer was this circle a path of instruction in the subjects of a liberal education.” Instead, it had become “an abstract field of knowledge that could not be grasped by any individual mind” (Yeo, 2001, p. 60).

In these formulations, the relationship between author and reader tended to be understood as a one-directional channel of information. Of course, the rhetorical promise of Wikipedia was set to challenge this. As a pioneer in describing participatory culture, Henry Jenkins described how Wikipedia users complicated the binary of author/reader by engaging in collective

intelligence, judgment, networking, and negotiating activities (Jenkins, 2007). But the ability of readers to contribute to encyclopedias was in fact, not new. For example, the late nineteenth century *Meyers Konversationslexikon* was designed with a supplement, which the editors wrote responses to readers's "letters to the editor" (Spree, 2014, p. 575). Through a qualitative content analysis, Ulrike Spree explained that readers of both Wikipedia and the German encyclopedia communicated with editors for similar reasons. Importantly, she noted that recurrent communications occurred for "reassurance about the purpose and function of an encyclopedia as well as negotiating what content should be included and excluded" (p. 581). She concluded that "[n]ot just since the rise of Wikipedia in the 21st century, readers have been shaping encyclopedias either by their critical remarks or their questions regarding 'the organization' of the work" (p. 584).

Similar to Spree, Seth Rudy (2014) illustrated how readers have historically used different feedback systems to shape their own experience of encyclopedias. He recounted how "women were absolutely crucial to [...] the *Britannica*'s pre-digital version of user-generated feedback and content production" (p. 513). From 1936 to the early 1990s, consumers of the full set of the *Britannica* could receive "a typed, cross-referenced, and bound report on a subject of their choosing" (p. 513). Under Virginia Stenberg, the *Britannica Library Research Service* "employed over seventy college-educated women charged with visiting libraries and research institutions across the country in order to answer the queries submitted" (pp. 513–514). Labeled as "answer girls", they interacted with public inquiries and produced reports which "helped the editors determine what subjects needed additional coverage in the encyclopedia proper" (pp. 513–514).

Encyclopedic readers are also active in the sense that they incorporate the encyclopedia into their lives in ways that are not purely utilitarian. This was demonstrated to be the case when Jutta Haider and Olof Sundin (2014) examined the public response to *Britannica*'s announcement in 2012 that they had stopped printing editions of the encyclopedia. By analyzing reader comments on news articles reporting this event, the researchers found that readers described this situation as the death of a friend (p. 4) or that the encyclopedia had served as a material reminder of family history (p. 5). The researchers noted that the “*Encyclopaedia Britannica* in print was not just an external memory resource to be used for accessing information; it has also a symbolic value” (p. 7) and is “tied up with cultural and personal identities” (p. 8). In this way, readers actively created emotional and social functions that exceeded purely information-related needs.

The expanded role of the encyclopedist. By articulating encyclopedic knowledge as questions aimed at understanding encyclopedists, these historians and scholars did the work of explaining how each encyclopedia is historically situated and dispelled the myth of a succession of new substitutions. The questions of what sort of purposes should an encyclopedia manifest and who should it be designed for have never been settled. At the same time, recent developments in reception studies challenged the articulation of the “encyclopedist” as “author.” The agents of encyclopedias have been indexers, editors, secretarial staff, managers, administrators, salespeople, answer girls, contributors, readers, users, and programmers. None of these subject roles are passive in the making of encyclopedias. Furthermore, while authorial intentions are important to understanding the meaning of encyclopedic knowledge, they should not be over-determined in their agency. As with institutional and corporate partnerships — like *The Times*,

Cambridge University, Sears and Roebuck, or Google — the intentions of encyclopedists may be rerouted toward alternative or contradictory purposes.

Simultaneously, as these encyclopedists were responsible for making encyclopedias, the encyclopedias *made* the encyclopedists. Their identities as corporate workers, as *philosophes*, and as readers, were shaped by their encounters with — and through — these cultural objects. Therefore, the labour of making and interpreting an encyclopedia is also a process of being cultivated by it, of augmenting one identity with that of an encyclopedist. The question then is not, “What does the encyclopedist know?” What each of these individuals will know will be radically different dependent on their individual experiences. The real question is, “How does the encyclopedist experience knowledge in a way that is different from other subject roles?” The answer to this question requires a shift in focus toward the semantic variant of the *encyclopedic*.

Encyclopedic: A Class of Discourse

The previous two sections described how the root “encycloped-” has been articulated as a meaningful class of texts or a history of encyclopedists. But the meaning of “encycloped-” exceeds literary descriptions of genres, authors, and readers. There exists cultural phenomenon that are not necessarily encyclopedias, but they are *encyclopedic*. This variant of “encycloped-” challenges expectations traditionally associated with a genre by asserting that the meaning of such knowledge is characterized as a class of discourse concerning ideas and experiences. On this ground, it will be seen that the key signifiers of *the encyclopedic* are poetics, aesthetics, and philosophy.

A general poetics. Poetics, according to Todorov, are composed of two opposing — but complementary — attitudes toward the study of literary texts. The first “sees the literary text itself as a sufficient object of knowledge” and the second “considers each individual text as the manifestation of an abstract structure” (Todorov, 1981, p. 3). Poetics, he wrote, “breaks down the symmetry” between the two — between an “interpretation” and a “science.” Northrop Frye’s structuralist anatomy of encyclopedic literature aligned with Todorov’s description. The epics of this form of literature, Frye argued, are the aggregated compositions of episodic oracles, prophecies, and parables (pp. 52–53). As a result, the act of composing epics is the vocation of the poet whose social function was to communicate “a total body of vision” through symbolism that “imitates the thought of a human mind which is at the circumference and not at the centre of its reality” (p. 110). This poetic description of an encyclopedic literature shifted the focus from the canon of encyclopedias, and toward the poetics found in the Bible and Dante’s *Commedia* as much as in “the works of Joyce and Proust” (p. 332).

Citing Frye, Hilary Clark (1992) confirmed the totalizing symbolism of the encyclopedic but added that the “encyclopedic play of language as desire gives rise to a new optimism, a sense of new possibilities for recreating, not merely reflecting, the world” (1992, pp. 95–96). However, Clark connected Frye’s description of “writing as a process pressing against limits” with Foucauldian concerns for an ideological writing that “excludes while including” (pp. 96–97).

The experience of these limits is a defining feature of the encyclopedic writer’s activities. As they seek “to totalize and eternalize knowledge,” the authors discover their work being “shadowed by incompleteness and obsolescence” (p. 97). This inherent impossibility acts as the guiding allure. She argued that the encyclopedic becomes a description of discourse itself, as it “both comprehends and exceeds other discourses; its work is continuous with our normal

intellectual operations yet exceeds them in the turn of self-figuration” (p. 108). This excess existed as the default state of knowledge, “a disheveled heap of fragments and odd facts” that eludes comprehension on its own terms (p. 99).

Key to Clark’s acute assessment of encyclopedic discourse was that it was identifiable in its desire for completion while being always confronted with an anxiety concerning its impossibility — a point confirmed by other scholars (Harris-McCoy, 2008, p. 9; Salor, 2014, p. 170). As a tangent to Clark’s focus on the encyclopedic anxiety, Stefano Ercolino elaborated on the apocalypse latent in the “encyclopedic mode” of maximalist novels (2014, p. xiii). He explained that within James Joyce’s *Ulysses* is “an encyclopedism that offers itself as the last bulwark against the apocalypse; an immense *archive* able to preserve knowledge from possible catastrophes and to allow for the reconstruction of the world after a hypothetical cataclysm” (p. 29, emphasis original). The encyclopedic mode of literature can then be defined as an “aesthetic and cognitive attitude” (p. 39) that exists as a set of swerves: between totality (truth) and totalization (the impossibility of truth); between openness and closure (p. 31); between utopia and annihilation (p. 29).

The semiotician and literary theorist Umberto Eco (2014) made similar arguments, although he framed the paradox as belonging to culture as a whole. He explained that serving in the background of all cultures is the “Maximal Encyclopedia.” It is a virtual object that “cannot be consulted in its entirety because it represents the sum total of everything that was ever thought or said” (p. 70). It includes all of “materially identifiable interpretants” (read: media) that have ever existed. Because it includes all discourse, the content of this encyclopedia is not truth, but the totality of human enunciation (p. 71) and is therefore “unattainable” (p. 72). Dialectically opposed to this totality is the Median Encyclopedia, an object that holds the “contents of a given

culture” (p. 73) and is always under “a continual process of rewriting and selecting information” (p. 87). Echoing Clark’s Foucauldian argument, Eco argued that encyclopedias do not just amass knowledge. They also forget and cancel it (p. 85).

An aesthetic diagram. The aesthetic articulation of encyclopedic discourse shares some similarities with poetics but differs in its expression. As Jacques Rancière provided a particularly useful definition of aesthetic as “a specific regime for identifying and reflecting on the arts: a mode of articulation between ways of doing and making, their corresponding forms of visibility, and possible ways of thinking about their relationships” (2006, p. 10). The property of aesthetic reflection is present in the “meta-encyclopedic” commentary about itself (Eco, 2014, p. 2), its “self-transforming discourse” (Clark, p. 99), and the expression of how “a culture reflects on itself, its memory, and its outer limits” (Jacob, Treves, and Gage, 1997, p. 1).

To these points, the cultural value of the encyclopedic is not simply the practical ability to present knowledge to readers. It is a type of discourse which is recognized for its focus on understanding how the act of organizing knowledge becomes the path to new philosophical knowledge (Clark, p. 98–99; Wood, 1977, p. 715). It is in this meaning of the world *reflection* that “the primacy of sight” becomes recognizable “as the source of encyclopedic order” (Ferris, 2003, p. 1261). Here, the proliferation of encyclopedic images (Harris-McCoy, p. 51; Kemp, 2014; Bender and Marrinan, 2010, p. 26) and visions (Yeo, 2001) come into play.

In fact, this is how Mortimer Adler, editor to the *Fifteenth Edition* of the *Britannica* introduces the “Branches of Knowledge” as “knowledge about knowledge” (Adler, 1997, p. 475). He explained that “[w]e not only seek to know whatever can be known, but we also, reflexively, turn our knowing back upon itself when we pay attention to how we know what we

know, the various ways in which we know, and the divisions or branches of our knowledge” (p. 475). In this sense, Adler asserted that philosophy is “a meta-level of reflection upon knowledge” (Wood, 1977, p. 715) which is an interesting point of agreement with G. W. F. Hegel who said that “[p]hilosophy is the encyclopedia of the philosophical science” (Macovski, 2009, p. 197).

Considering the etymological roots of the word encyclopedia, Clark saw the circle as the primary aesthetic figure of encyclopedic discourse. Not only was it nominal present in the word *enkyklios paideia*, it has continued as a “‘powerful metaphor’ because it is ‘a figure in which no point on the circumference is a beginning, none is a middle, none is an end... one can go across the circle from any point to any other’” (Clark, p. 101). But the circle has not been the only aesthetic figure of encyclopedic knowledge. As demonstrated in medieval encyclopedias, the mirror-image and the book were both used to reflect and read the underlying structure of the world and the unchanging presence of God (Clark, p. 99; Ribémont, 1996, p. 60; Burke, 2000, p. 94).

While the book and mirror assumed a static symmetry, the dynamic notion of the “‘Great Tree’ of encyclopedic cultural memory” (Clark, p. 100) represented a balance of growth and stability. As found in the plans of Chambers, Diderot, and d’Alembert, the tree of knowledge was centralized in the “unchanging human faculties” of Francis Bacon’s epistemological tripartite of reason, memory, and imagination (Clark, p. 100). Akin to the tree is its Enlightenment cousin, the map — a concept that Diderot described as allowing one “to see with a glance of the eye the objects of his speculations, and the operations he can perform on these objects” (Ferris, 2003, p. 1261). But the tree as a map is a figure that must be pruned “to cancel the information judged to be in excess” (Eco, 2014, p. 84). If not, Eco warned, we quickly become drawn into the “Vertigo of the Labyrinth” (p. 94).

There is a final figure used to order the chaotic total into a sensible and knowable form: the human mind and its network. Relying on the concept of reflection that existed between the book and nature, Daniel Brewer (1979) explained that the *Encyclopédie* adopted the relationship found between the book and nature to that of language and the mind. The editors proposed that there was a “relation of mimetic identity between mind and language, between mental order and textual structure” (Brewer, 1979, p. 5). In other words, the mind is the location of all knowledge and the goal is to reproduce its processes through language. Clark argued that this same logic of representing the image of knowledge in the twentieth century has been attached to artificial intelligence, cognitive science, and post-structural philosophy (Clark, p. 102).

This catalog of visual tropes connects as much with “the vocabulary of encyclopedic discourse, referring to parts and wholes, subordination, division, order, method, circles and dependence” (Hawley, 2006, p. 233) as it does with the significance of diagrams in the experience of encyclopedic knowledge. As Bender and Marrinan described it, encyclopedic images encouraged new kinds of operations for producing knowledge and “set new standards for the cognitive activity of readers” (2010, p. 12). Such diagrams communicate an orientation of “knowledge to an internal world that is largely self-referential, although actuated by external phenomena” (p. 81). This oscillation between the limitations of the encyclopedia itself and the world it represents produces the “Utopian experience of a synoptic vision of total knowledge” and the promise that in “a single, all-encompassing glance, the knower sees and comprehends the entire cosmos in spite of the limitations of time and space on human awareness” (Harris-McCoy, p. 116–117; p. 50). The predominance of diagrams in communicating encyclopedic knowledge also points to an important distinction. The encyclopedic is not limited to the compilation of knowledge. It is the sensitivity and cultivation of an experience of totality and its limits.

A philosophical conversation. As the poetic and aesthetic descriptions suggested, the concept of the encyclopedic is rife with philosophical connotations. In fact, the concept of the encyclopedia has drawn the attention of some of Western philosophy's most notable characters, a century before the famous encyclopedias of the eighteenth century were first published. On this account, Robert McRae served as an appropriate guide when he placed René Descartes, Francis Bacon, and Gottfried Leibniz in discussion with one another about their positions on the "universal wisdom" that lies "behind the ideal of encyclopaedia" and as an expression of the order of things (p. 39).

Unlike Bacon's reliance on unity existing through nature and rested on practicality (see Chapter 2), Descartes based his universal wisdom on the interconnections made within the mind (p. 34) and "the capacity to form a sound judgment" (p. 39) rather than a practical knowledge of the arts (p. 34) or history (p. 41). The Cartesian order is therefore not governed by nature, but by the logic of relations imposed by "our understanding's awareness of them" (p. 38). Leibniz's position on universal wisdom differed from these two predecessors in that he provided the unique vision for a "demonstrative encyclopedia." He valued the historical accumulation and organization of knowledge from the arts and sciences as it led to the preservation of civilization (p. 39–40) by existing as a barrier to insurmountable disorder (p. 42). But the means to do this would be achieved through calculation (p. 43) or a catalogue of operations on the "alphabet of human thoughts" (p. 46). In this capacity, the encyclopedic unification of the sciences "would indicate at once where the gaps in human knowledge existed, and in what directions work remained to be done" (p. 42).

The historian David Ferris carried this conversation forward into eighteenth century. This time taken up in d'Alembert's attempt to reconcile Kant's transcendentalism with Locke's empiricism in the structure of the *Encyclopédie* (2003, p. 1260). While one of the encyclopedia's purposes was to record transcendental truths, it required acknowledging that such truths were arrived at through a historical process. This epistemological incompatibility raised the anxiety that the project would become nothing more than a record of knowledge at the time of the Enlightenment rather than the storehouse of truth for generations to come (Ferris, 2004, p. 2).

The subsequent failure of the *Encyclopédie* in being timeless was seen in a different light by the Jena Romantic philosophers. They argued that the *Encyclopédie* was incomplete *because* it assumed the existence of a foundation in the first place (2004, p. 3). Friedrich Schlegel derided the *Encyclopédie* for being merely an “‘aggregation’ of materials” (Behler, 1993, p. 284) while Novalis's own “encyclopedisitic” project, *Das Allgemeine Brouillon* (1798), was a set of notes that were “deliberately fragmentary” (p. 4). Likewise, he suspended “firm reference points” and principally operated “in a peculiar state of oscillation, of hovering” that was the privileged domain on the poet who had “special access to the structure of the world” (Behler, 1993, p. 7).

This material expression was coherent with his epistemological position that knowledge existed through the “recognition of its difference to other sciences” and ceded to no underlying principle (Ferris, 2004, pp. 2–3). For him, his encyclopedia only “becomes complete by the continual adoption of incompleteness as its central doctrine” (p. 5). Totality comes, not from meaning ever-present, but through the anticipation and desire for “the possibility of every encyclopedia, both future and past” (p. 2).

G.W.F Hegel continued the German disparagement of the French into the nineteenth century. Because of its empiricism, he regarded the *Encyclopédie* as merely “an aggregation of

knowledge that has arisen empirically in a more or less accidental fashion” (Behler, p. 285). Returning to Kant, who “saw the task of an encyclopaedia as ‘designating a science’s position in the horizon of all knowledge’” (p. 284), Hegel understood that philosophy was “essentially encyclopedic, since the true can only exist as totality” (Macovski, 2009, p. 197), which makes it the “fundamental science” containing “the principles of all other sciences within itself” (Behler, p. 7). A “true encyclopedia” was therefore a “doctrine of education” and explained the truth of those principles as a pure form of thinking. Hegel manifested this position in 1817 with his own *Encyclopedia of the Philosophical Sciences*, a lecture-turned-book that presented all the subjects “as part of a totalizing, connected sweep of knowledge” where “discrete disciplines cohere within a single circle” (Macovski, 2009, p. 192). In Hegel’s encyclopedia, its contents never moved “beyond the horizon of philosophy” (Behler, p. 284–285).

The Jena Romantics and Hegel were not alone in their critiques of the *Encyclopédie*. Judith Hawley (2006) argued that the encyclopedic discourse of the poet Samuel Taylor Coleridge and the educational reformer Hannah More were likewise dissatisfied with the *Encyclopédie* interpretation of encyclopedic knowledge. Summarizing Coleridge’s position, Hawley argued he believed that “Alphabetical order is not really order: it does not impart an understanding of the interrelatedness of the sciences or the structure of knowledge on a more profound level. So an alphabetical encyclopedia was a contradiction in terms” (p. 228). In other words, he had a deep concern about the relationship between the form and the epistemological conditions it created.

His solution was to restore the meaning of *paideia*, “a rounded education, preparatory to something else” a characteristic missing from the view of “the encyclopedia as a work of general reference” (p. 219). In response, he designed the *Encyclopaedia Metropolitana* (1817) to be “a

structured course of education, and one with religious aims” (p. 220) by writing knowledge as “continuous discourse” (p. 225). For this purpose, he used the format of the *treatise* (Loveland, 2006, p. 78) which can also be understood as a “system” of “ordered presentations of knowledge” (Loveland, 2006, p. 66). The goal then was to avoid the pitfalls of “a work of reference to be dipped into at random” (Hawley, 2006, p. 230).

Hannah More also wrote treatises “aimed at restoring social order” but she “put them in practice in schools aimed at both rich and poor” and for women (Hawley, 2006, p. 233). Hawley argued that More understood that the encyclopedia could therefore exist not just as a book, but in the curricular architecture of a school. In this form, it would “reinforce and reinvigorate the social order by means of literacy, religious and moral instruction, and the prescription of dress and behaviour, even diet and ritual” (Hawley, 2006, p. 236). By this thinking, both More and Coleridge can be seen as responding to “contradictory forces” that push and pull with the concepts of unity and division (p. 237). “They were alike,” she wrote “in thinking that the *Encyclopédie* was fragmentary and irreligious and that these things were dangerous to the spiritual life of the individual and to the order of the state” (p. 237).

The heat of this philosophical conversation continued to burn brightly into the early twentieth century. In the context of the Vienna Circle, Otto Neurath envisioned a new kind of encyclopedia. Like his predecessors, he joined the philosophical chorus that knowledge was “an instrument of emancipation” (Carthwright and Uebel, 1996, p. 43). However, he took on a radically new direction when he argued that the unity of the sciences had “no metaphysics, no epistemology and no philosophy” (Cartwright and Uebel, 1996, p. 40). Science was to be based on a “plurality of systems” (Haller, 1996, p. 33) that only required orchestration by way of a “Universal Jargon”, rather than a universal order (Neurath, 1946, p. 500; p. 502). His attempt at

achieving this universality came in the two volumes of the *International Encyclopedia of Unified Science* published during the mid-twentieth century (p. 497).

At the end of the twentieth century and with the birth of the World Wide Web, Pierre Lévy provided a similar track in discussing encyclopedias and universal wisdom, replacing them with the notion of the semantic sphere and collective intelligence. Like Neurath's concern for the communication between sciences and the creation of a Universal Jargon, Lévy argued that the development of a computable "metalanguage" could provide the means to "encoding the universe of concepts so as to produce a model that is usable in scientific practice" (2011, p. 252). This would allow the human sciences to "talk to one another" (p. 121) and amplify humanity's collective intelligence (1997). In this regard, Lévy was dedicated to the "the realization of Leibniz's dream" which he argued was now theoretically possible (2011, p. 252).

However, he argued that the concept of the "encyclopedia" did not fit the task because it was defined by the circle and the "form of the totality of knowledge in the commodity space" (1997, pp. 215–216). In contrast, he suggested that a new cognitive device could be called the "cosmopedia" which would be principled by "non-separation" and therefore reflect the true character of knowledge which is "a large patchwork quilt in which each point can be folded over on any other" (pp. 216–217). He later added a third dimension to the figure and called it "the semantic sphere," a figure enrobed in the metalanguage's coordinate system and "capable of reflecting human collective intelligence by using the storage and calculation power of the digital medium" (2011, p. 275). Like other philosophers of the encyclopedic, the necessity to instantiate the ideas they develop continued with Lévy as he has published the theory of the metalanguage (2011), its basic dictionary (IEMLdev, 2016), and rules (Lévy, 2019). Our "rendezvous with the

over-language” that he foretold of in the 1990s (1997, p. xxviii, emphasis original) would seem to be just on the horizon.

The experience of the encyclopedic. The shift from encyclopedias to the encyclopedic has been a dramatic one. No longer have I been describing texts in their specificity, but in their ability to produce an experience of knowledge that pushes at the limits of comprehension. The suffix of -ic articulated an epistemological swerve between the possible and the impossible; hope and frustration; of conservation and annihilation. The encyclopedic is also a diagrammatic and reflective aesthetic that holds these oppositions together all at once. It is no less than the embodied and cognitive experience of our epistemological threshold with the unknown.

Hilary Clark summarized this experience when she wrote that encyclopedic discourse “is precisely that which aims at limits beyond our normal knowledge capacities; yet its knowledge processes are always already our own. It is both beyond us and of us” (p. 108). Unlike the previous suffixes, the subject role that is responsible for communicating this experience is not the encyclopedist as productive compiler, but the encyclopedist as poet and philosopher. This shift in subject role also means that their products are not the typical encyclopedias that are expected of the genre. They are logics, lectures, dictionaries, fragmented poetry, and monumental narratives.

There is one final note about the encyclopedic left to reconcile. The circle of learning has been understood as a form of education that communicates the core beliefs, values, and understandings of the world. Many philosophers have used this affordance to not just *represent* a culture, but to usher in a wholly new one. Starting with Bacon’s scientists of the *New Atlantis*, Diderot and d’Alembert’s intent to create enlightened citizens, and continuing with Lévy’s strong

people of collective intelligence (1997, p. 88), the experience of encyclopedic knowledge does not just change individuals. It produces *a people*.

This was precisely the point of two renowned thinkers about the relationship between democratic societies and education. John Dewey argued that “[s]ince education is a social process and there are many kinds of societies” every educational construction — for example, an encyclopedia — “implies a *particular* social ideal” (Dewey, 1916, p. 115). Likewise, H. G. Wells asserted that “[e]ducation must have an objective and that objective must be the ideal of a community,” a point that he used to pitch his idea of a new encyclopedia (Wells, 1938, pp. 137–138).

We can see this same intent occurring today with Wikipedia. But what is new is that instead of this education being enacted on the readers of the encyclopedia, it is an education of the contributors themselves. This is confirmed by the fact that habitual contributors take on the identity of a “Wikipedian,” a subjectivity educated in a specific set of epistemic beliefs, values, and practices that make them recognizable as a member of a community (Pentzold, 2011, p. 713). As a result, questions concerning the encyclopedic very quickly become questions concerning the social, but also the political. The following section follows this thread by exploring the political conditions that connect encyclopedias to the construction and maintenance of *a people*. In line with the suffixes that I have been following so far, it means covering how encyclopedias represent a translation of “abstract theory into political practice” (Dressman, p. 240).

Encyclopedism: An Institution of Discourse

Where “encyclopedias” were textual products, and “encyclopedists” were their agents, the variant of the “encyclopedic” described knowledge as an aesthetic and philosophical experience of the threshold between the known and the unknown. The suffix -ism, differs from these other articulations in that it brings with it a set of fruitful connotations that historians have exploited to understand the relationships between epistemological order and the ordering of the political. Historically, the *Oxford English Dictionary* records the usage of “encyclopedism” as early as 1833 in Thomas Carlyle’s article on Diderot (“encyclopaedism | encyclopedism,” 2019). In the *Foreign Quarterly Review*, he wrote that Diderot had the ability to admit “almost all things which the circle of Existence could offer him; in which sense, this exaggerated laudation, of Encyclopedism” (1852, p. 415). The suffix “-ism” was used in this case to describe Diderot’s desire and capacity to look at the world in a universal way. Such a meaning also falls in line with phrases like “Leibniz’s encyclopedism” (Selcer, 2007, p. 27), “Henry Bate’s Encyclopaedism” (Guldentops, 1997) or “Wells’s encyclopedism,” which has been described as being based on the encyclopedism Comenius (Muddiman, 1998, p. 90; p.93).

While these usages are attached to individuals, other historians have expanded its meaning to include something broader. Robert Darnton understood the word to describe “a compilation of information” that merged “a manifesto of philosophie” (1979, p. 7). Aude Doody similarly described encyclopedism as “the philosophical impulse towards complete knowledge and the production of an encyclopedic book” (2010, p. 4). Richard Yeo provided his own variation on this theme but added a third dimension. He defined encyclopedism as a “heuristic device” to provide continuity between schemes of collection and classification, summary knowledge inscribed in volumes, and — different from Darnton — “the classical Greek and

Roman notion of a circle of learning” (2005, p. 669). Trevor Murphy echoed the distinction that encyclopedism is a term to remind us of the “continuity between Pliny and ourselves” (2004 p.12). But Murphy also made an important analytical addition. In studying encyclopedism rather than encyclopedias, he argued that historians can shift their focus away from the “filters of more restrictive literary genres” (p. 8) and open themselves up to the possibility of engaging with a political and “cultural artefact” (p. 1). Since the time of Murphy’s writing, other scholars have followed this shift away from literary theory (Yeo, 2001, p. xii; Doody, 2010, p. 14; Franklin-Brown, 2012, pp. 19–20).

This shifting meaning of encyclopedism aligns with Todorov’s preferred understanding of genre as a history of discourse that is studied by examining how particular discursive properties are encoded into institutions, and in turn how this discourse is shaped by society (1976, p. 163). In this context, historians have deployed the term to designate how encyclopedic texts are shaped by historically-situated military, political, commercial (Murphy, 2004, p. 15; Yeo, 2001), and intellectual regimes (Franklin-Brown, 2012).

Dovetailing these historical considerations has been the rebuttal against a singular and teleological encyclopedism. Doody wrote that “Modern encyclopedism has always been in flux, changing from one concretisation to another” (2012, p. 6). Franklin-Brown was even more certain. First, there is no “transhistorical continuity of encyclopedism nor a rebirth of scholastic encyclopedism in the postmodern” as each historical set of encyclopedic textual practices are immanently situated (p. 4). This acknowledgment has spawned a plurality of encyclopedisms such as those that emerge from antiquity (p. 46), scholasticism, an “encyclopedism of the present day” (p. 7); and stylistic variants like “symbolic encyclopedism” which presents nature itself *as a text* written by God (pp. 53–54). Likewise, König and Woolf attested to the necessity of such a

diverse cast that included an enlightenment encyclopedism “distinguished in part by its novelty” of print-based storage (p. 3), “Arabic encyclopedism [...] influenced by the Greco-Roman tradition” (p. 6), “internet encyclopaedism” (p. 17), as well as a history of encyclopedism “littered with abandoned works, or works dreamed about but not even begun” (p. 8).

Epistemes and encyclopedias. The figurehead of this revised attention to encyclopedisms (plural), rather than encyclopedias, is of course Michel Foucault. In his divisive *The Order of Things* (2005), Foucault began his analysis of encyclopedias with a laugh as he read Jorge Luis Borges’s incongruous Chinese Encyclopedia. As he skimmed over the seemingly arbitrary menagerie of animals, he felt as if different systems of thought were coming into contact with one another in the same space (p. xvi). But in a moment of reflection, Foucault recognized that this incongruity was inherent in our own systems of knowledge. He could not but help himself from asking the question: what kind of civilization would need this kind of order? “On what ‘table’, according to what grid of identities, similitudes, analogies, have we become accustomed to sort out so many different and similar things?” (2005, p. xxi).

Based on his analysis of the epistemes of the sixteenth and seventeenth centuries, Foucault came to a number of provocative conclusions about encyclopedias. In the first period, he explained that what counted as knowledge came specifically from “addition” and “the infinite accumulation” of all things that resembled one another. He argued that this “form of the encyclopaedic project” was based on this reconstitution of the universe “by the way in which words are linked together and arranged in space” (p. 42). This he argued, was the reason for “those immense columns of compilation” (p. 34).

In the Classical period, the instruments of knowledge changed. With the emergence of permutation and diagrams of genesis came the new field of knowledge that was structured by — and justified through — the arbitrary systems created from “probability, analysis, and combination” (p. 69). The knowledge produced through these methods shifted from “composite and limited universality” toward the new idea of an “absolute Encyclopedia” (p. 95) which manifested as “alphabetical encyclopaedias”; “pasigraphies” that systematized all languages; “polyvalent lexicons, which establish synonymies between a greater or lesser number of languages”; and “rational encyclopaedias, which claim to ‘exhibit as far as is possible the order and concatenation of human learning’” (p. 95). What mattered for Foucault was that in each case, what counted as knowledge was dependent on “the intermediary of language” (p. 95) rather than timeless truth. As a consequence, knowledge was always a question of the power to make truth, rather than being external to it. Encyclopedias were caught up in this process and needed to be understood as active agents in constructing truth.

Imperial encyclopedisms. Since Foucault’s challenge to the neutrality of encyclopedias, historians began asking more direct questions about the relationship between knowledge and power. An early example of this approach is found in Trevor Murphy’s argument that the *Natural History* was not so much the work of Pliny the Elder as it was the work of the Roman Empire. He argued that the existence of the work was indebted to “the command of vast intellectual territories, and, [...] required also the ambitions and the far-reaching mental horizons attendant on administering an empire” (p. 195). Furthermore, not only did Roman power “already organized the world for it” (p. 50), Pliny’s *Natural History* was itself “a filter through which new information passed to become part of the collective intellectual property of the

Roman empire” (p. 15). This is not an abstract point. Pliny’s nephew recalled how the *Natural History* was composed: Pliny “dictated to a slave on his right hand at the same time as he listened to a slave reading on his left” (p. 9). Based on this anecdote, it is possible to consider that the “first” encyclopedia was not even *written* by its author. Instead, Pliny’s authorship of knowledge can be understood as a function of the Roman Empire, both in its colonization of bodies of knowledge and the control of bodies themselves.

Previous scholars have noted Pliny’s unusual mix of fact and fantasy. Murphy explained that this inconsistency is made clear through the eyes of the Roman Empire. The fantastic functioned as a means to “circumscribe a defining limit, a decorum of the imagination” that processed foreign information flowing in from the empire’s edge (p. 19). This imperial flow, despite the differences in power, also moved in the opposite direction. As Rome expanded its reach and dissolved geopolitical boundaries, this extension threatened to erase valuable knowledge, both Roman and conquered (p. 71). Pliny’s digressive collection, Murphy explained, was a manifestation of the cultural anxiety of the decay of Roman knowledge (p. 73).

Echoing Murphy’s analysis, König and Woolf asserted that encyclopedias are often “made possible by empires” as they “can bring an influx of new discoveries, which lead to a desire to reassess and reorder the sum of human knowledge” (König and Woolf, 2013, p. 11). As a consequence of this connection, the “acquisition of territory and acquisition of knowledge” are both activities that “have been characteristic of imperial cultures” (2013, p. 29). Despite this shared property, each empire expresses a unique encyclopedism that emerges from the “thick context” of each empire (p. 29). On one front, “knowledge is commissioned, impelled, commanded, by or in competition with the authoritarian edicts of empire” and on another it is “isolated, lemmatised, structured, ranked” (p. 38). These differences can be seen by comparing

how authority is addressed in the Roman and British encyclopedias (2013, p. 5), Mamluk encyclopedias (Muhanna, 2013), or the fifteen hundred years of changing purposes attached to the Chinese *Leishu* (Zurndorfer, 2013).

If encyclopedias and empires go hand in hand, then the empire of note is the British Empire. Richard Yeo argued that the early eighteenth century British scientific dictionaries — Harris’s *Lexicon Technicum* and Chambers’s *Cyclopedia* — were not representations of the Enlightenment in its infancy. They were responsible for translating the legacy of encyclopedic inquiry *into* the Enlightenment (p. 279). While Yeo expanded on the commercial and intellectual facets of this transition, his articulations on the relationship between early British encyclopedias and their empire are perhaps the most salient.

First of all, encyclopedists knew their place in the order of authority. Bacon’s *Advancement of Learning* was dedicated to James I; Chambers’s *Cyclopedia* saw his encyclopedia as part of George II “intellectual territory”; and Harris’s *Lexicon Technicum* was dedicated to the prince of Denmark (p. 233). Chambers’s royal appeal included the argument that “‘enlarging of our Knowledge’ as a way to express political power” (p. 234). But more than just deference, Chambers’s knowledge was dependent on expansion of the King’s empire. As Yeo explained, the voyages of James Cook “gathered knowledge of an empire, taking it back to the centre, where it was codified, eventually finding its way into the most recent edition of the *Cyclopaedia*” (p. 236). After the publication of the *Britannica*, the flow of knowledge reversed, as the *Britannica* itself was “seen as a carrier of British values to the colonies” (p. 1).

Political imaginations. The tension between knowledge and power was also present in the sobering analyses by Dave Muddiman (1998) and Boyd Rayward (1994; 1999). They lamented

that the early twentieth century intellectuals — Paul Otlet, Vannevar Bush, and H. G. Wells — had been recast as teleological forefathers of both hypertext and the internet (Rayward, 1999, p. 558; 1994, p. 236; Muddiman, 1998, p. 87). In part, Rayward identified that this argument attempted to solidify the connection between Well’s vision of a “World Brain” and contemporary beliefs that “an ‘actual’ global mind” was emerging (1999, p. 558). To counter the looseness of this narrative, the historians explained how the encyclopedism of Wells, Otlet, and Bush were “inescapably determined by a social milieu and intellectual traditions” much different than those of the 1990s (Rayward, 1994, p. 246).

At the core of these encyclopedic visions of the early twentieth century was a commitment to centralized authority. With a nearly audible exasperation, Wells wrote that the *Britannica’s Fourteenth Edition* had become “a reflection of the fragmenting and degenerating world order of the 1930s and failed to provide any guiding principles or synthesis” (Muddiman, p. 96). In response, he envisioned a project that would revive “an Enlightenment tradition” based on the “‘distillation’ of human knowledge” through expert authority (Muddiman, 1998, p. 96). What Wells sought — as Rayward also argued — was not a miscellany, but a critical and cosmopolitan presentation, “a concentration, clarification and a synthesis.” With hope, Wells asserted that an “organic encyclopedism” was already emerging from the joint developments in documentation, bibliography, and microfilm (Rayward, 1999, p. 563).

Like Wells, the documentalist Paul Otlet understood the material and intellectual infrastructure of knowledge to be the domain of expert cosmopolitan institutions. However, his *Mundaneum* differed in that he sought to reduce all literature to “facts, interpretation of facts, statistics, and sources,” and the transformation of all media into a set of categorically organized index cards (Rayward, 1994, p. 237). The intention behind this project was to extend scientific

and scholarly activities that “pass from the known to the unknown, to make use of the work of all who have preceded them as they push scientific investigation further forward, avoiding unwitting repetition and loss of precious time” (1990, p. 27). Similar ideas of organization emerged in Vannevar Bush’s fiction of the Memex machine, but instead of index cards, the machine’s usage of microfilm would spawn “wholly new forms of encyclopedia” (Rayward, 1994, p. 236).

In both Otlet and Bush, there is an argument to be made that they “anticipated” the kinds of functionality attached to hypertext (1994, p. 236). And yet, their political imaginations mark their technologies as dramatically different. While the 1990s views of hypertext were organized by “commerce, leisure, and education,” Bush’s concerns were “drawn exclusively from scholarly activity” (Punday, 2015, p. 2). Likewise, both Wells and Otlet were adamant that the technical functioning of their apparatuses were reliant on institutional and expert knowledge, with Wells’s being specifically maintained by “a scientifically planned welfare state and world government run by experts” (Muddiman, p. 98).

Undoubtedly, Wells would express fascination with our technological capacities. However, as Muddiman speculated, “he would equally have cared little for its individualism, cultural relativism and lack of respect for professionals and experts,” and “apparent anarchy” (p. 98). Muddiman’s observations of the 1990s internet hint towards the conclusions made by Nathaniel Tkacz analysis of Wikipedia’s politics. He excavated the epistemological and political assumptions that support Wikipedia’s commitment to open access, opensource software, and broad (but still limited) read-write privileges for registered and anonymous users. As Tkacz rightfully argued, Wikipedia’s politics are attempts to solve the epistemic problem of closure, a key concern of neoliberal political theory (Tkacz, 2015, p. 178).

The problem of closure was articulated when two philosophers argued against the planned economy and authoritarian character of Soviet Russia. For Karl Popper, “claims to know the truth of what is best for all and for all time results in closed, totalitarian rule” (Tkacz, 2014, p. 178). In the context of antagonisms with mid-twentieth century communism, Popper argued that a planned and centralized economy could only lead to totalitarianism and reductions in individual freedom. The solution, according to Friedrich Hayek, was to allow individuals to use knowledge to decide what is best for themselves. This knowledge was then aggregated within capitalist markets that avoided totalitarianism by existing as “sites for the active production of freedom” (p. 178). Capitalism was therefore championed as an “open society” where individuals are the primary sociological unit and competition (the free market) is the basis of their interaction (p. 20). When Wikipedia developed responses to authority, hierarchy, and centralization, it drew from “the eighty-odd years of neoliberal techniques and epistemologies” to experiment with how individuals could solve the problem of closure (Tkacz, 2014, pp. 179–180).

In this sense, Wikipedian “collaboration” existed as a reconfiguration of the neoliberal vision of “a market with no losers” that maximizes “the freedom of individuals.” However, Tkacz made the point that “Wikipedia does not emerge primarily from a set of specifically neoliberal “epistemic commitments,” but rather from the same “epistemic problem” (of closure) for which neoliberalism is one (flawed) solution.” The Wikipedian practices of collectivity and the limits put on individuals marks the encyclopedia as “both critique and extension of neoliberalism at the same time” (Tkacz, 2014, pp. 179–180). Unlike Murphy’s assessment that Pliny’s encyclopedia was thoroughly an imperial product, Tkacz made the case that contesting

politics can exist within the same encyclopedia. The political issue is therefore of recognizing what those differences are.

An expression of ideology. Encyclopedism has so far been described as a term that exist at the intersection of *philosophe* and the compilation of knowledge in a book. In the context of the research of subsequent scholars, the first of these two elements might be more accurately described as political ideology. To this point, all encyclopedic texts are expressions of the political systems that make it possible to amass data, information, and knowledge in the first place. This might appear as a deference to the authority of a ruling Roman emperor (Murphy, p. 208) the colonial power of a British king (Yeo, 2001 p. 222; Franklin-Brown, p. 95), a cosmopolitan world state (Muddiman, 1998, p. 98), or the neoliberal imaginations of the open society (Tkacz, 2014, p. 33). As a consequence, encyclopedisms emerge as varied structures of thought concerning what the political purpose of an encyclopedia is for and how that political structure provides the means and authority to compile knowledge.

But following Darnton, there is the other side of the coin. What makes an encyclopedia is not just the idealized political purposes knowledge answers to, but the physical inscription and circulation of encyclopedic knowledge. To alleviate some of the analytical ambiguity between the two meanings, the following section introduces one last variant on the root of “encyclop-.”

Encyclopedize: A Technique of Inscription

The suffix “-ize” forms the third angle of the troika of -ist and -ism, (Dressman, 1985, p. 238). Instead of producing an agent noun or the name of system, it expresses a transitive verb. Despite its common usage with other roots (e.g. politicize, individualize, generalize), the articulation of

encycloped- as the verb “encyclopedize” is relatively obscure. Beyond *Blackwood’s Edinburgh Magazine* (1824) explanation that to “encyclopedize knowledge” is to “exhibit all Science in one body,[...] exhibit all Science to one mind” (1824, p. 32), there exists only a handful of contemporary examples of the word. More often, its meaning is captured in the word “encyclopedism,” where “-ism” is described in the *Oxford English Dictionary* as meaning a “process” (“encyclopaedism | encyclopedism,” 2019).

It is with this semantic lean toward process that I understand Jacob, Treves and Gage’s description of encyclopedism. They argued that it does not describe a neutral activity of collecting knowledge. Instead, “encyclopedism implies transmitting and communicating [knowledges] in forms that produce specific intellectual effects, and it is therefore necessary to reflect on the mediums and instruments of totalization: treatises, collections, commentaries, glossaries, maps, syntaxes. Each of these forms deploys its own rules for collecting, unifying, and ordering knowledge” (1997, p. 3). This helps to explain historians’ analytical usage to describe a philosophy concerning knowledge and the processes, practices and techniques used to *encyclopedize* knowledge. Another way to describe this is to return to Todorov’s preferred theory of genre as one that examines the history of how a discourse is institutionalized or *codified* (Todorov and Berrong, 1976, p. 164). Unsurprisingly, “the book” and “the text” have been the privileged sites of codification, even to the point where the concept of the encyclopedia has been ontologically bound to them. Unfortunately, their dominance has constrained analysis. For example, historians have set out to examine “textual practices” of production even when what is being analyzed are grids, images, ornamentation, and diagrams. In these cases, anything that is not text is rendered *textual*, often by deploying Gerard Genette’s concept of the “paratext” (Doody, 2010, p. 130; Franklin-Brown, 2012, p. 73; Rudy, 2014, p. 512). Even where scholars

recognize that encyclopedias are mercurial in form, formal changes are understood primarily as changes in the “technology of the book” (Doody, 2012, p. 6) or “textual culture” (Franklin-Brown, 2012, p. 3).

But books and texts are not the only means of codifying — that is, encyclopedizing — knowledge. Libraries, museums (Harris-McCoy, 2008, p. 27), architecture, art (Franklin-Brown, 2012, p. 6), images (Kemp, 2014), lectures (Hegel, 1991, p. vii), microfilm (Wells, 1938, p. 77), and software (Reagle, 2010, p. 38) have also been bridled with the task. Anecdotally, there exists an encyclopedic archive of smells (Greenwood, 2017) and the Pacifica Radio Archives’s *Encyclopedia of Sound* (2019). With this legion of examples, the analytical definition of encyclopedias as texts is historically and practically flawed. What is meant when one describes the encyclopedic process, of *encyclopedizing*, one is describing how encyclopedias exist as media.

The shift from studying texts to studying media offers a new set of questions; questions that literary and genre theory struggle to address. Despite her reliance on textual theories, Franklin-Brown pulled on this thread. In direct opposition to Ribémont’s literary assumption that “it is the *content* of the encyclopedia, not its *form*, that changes” (Franklin-Brown, 2012, p. 16, emphasis original), she made the compelling case that because the goal of encyclopedist is “to represent *all* knowledge [...], to organize it [...], and to transmit it to an audience” any “changes in the way encyclopedias are constructed indicate nothing less than alterations to the very paradigms of knowledge and its role in the human community” (pp. 3–4, emphasis original). In this context, the study of encyclopedism must include questions concerning “the way form shapes, determines, [and] creates meaning” (p. 17). The material examination of encyclopedias

conducted by Doody, Franklin-Brown, Darnton are the prime examples of this sensitivity to how knowledge is encoded and encyclopedized.

Layouts of encyclopedization. When it comes to the material techniques of encyclopedias, the primary places to begin are the techniques of alphabetical arrangement, subject headings, indices, lexicons, taxonomies or maps of knowledge, cross-references, and now, hypertext links (Yeo, 2001, pp. 25–28; Zimmer, 2009). Our expectations of encyclopedias as having some or most of these elements are part of the sediment of experimentation in encyclopedizing knowledge. At the same time, such expectations are responsible for critical blind spots in identifying the multitude of ways that knowledge can be encyclopedized.

This is a problem that Aude Doody recognized as particularly acute in the case of Pliny's *Natural History*. She chided that the “problem is not with calling Pliny ‘encyclopedic’, so much as with calling his text ‘an encyclopedia’” (2010, p. 5). Doody explained that the first *Natural History* was written on papyrus rolls, composed for Roman readers, and was not written nor received as an encyclopedia. To this point, its hierarchies were “playfully digressive” (pp. 26–27) and it only made sense when read linearly like a narrative (pp. 29–30). Even if it is used as an information source, as Doody attempted to do, its structure demonstrates the frustrating unworkability of the text as a form of reference (p. 112).

Given these facts, why was it considered an encyclopedia? Her answer derives from the archaeology of the assumptions of Pliny's encyclopedia (p. 6). Doody argues that Pliny's work *appears* to be in line with modern sensibilities about encyclopedias because it is encountered as “a repository of knowledge on all of nature, all of life, culled from a wide range of secondary works; it advertises the accessibility of its information, advises the reader to consult rather than

read it, and provides a list of contents to make this possible” (2009, p. 4). To this point, she alluded to the idea that “information retrieval” is central to encyclopedias, though she admitted that there are no set features for this activity as “encyclopedias have changed radically to adapt to new publication methods and techniques” (2010, p. 93). Connected to this observation, she makes the argument that Pliny’s work only became *an encyclopedia* when textual devices for retrieving information were added to it in subsequent editions.

She provides evidence for this point when she conducted a close reading of Pliny’s *summarius*, or “list of contents” (p. 4). As Doody’s information experiment demonstrated, this list was not actually useful for information retrieval activities. Instead, she argued that it functioned as a rhetorical device to support Pliny’s claim that “nature can be itemised” (p. 24). However, as the *Natural History* circulated, copies of it were made and editors had to decide how to interpret this device, a decision that “varied hugely over the course of the text’s transmission history” (p. 129).

During the scribal period, some manuscripts copied Pliny’s design, placing the *summarius* in Book 1, some divided its contents and placed them in “the relevant section at the start of each book,” and others did both (p. 98). Within the first fifty years of the printing press, editorial decisions would begin to recompose the *summarius* completely. Around 1470 the *summarius* was both typeset in a paragraph style as well as in columns “with a number either before or after the entry” (p. 108). These numbers and the name of the entries were consistently applied as chapter headings not found in the original. Due to these typographic practices, the *summarius* was no longer just a rhetorical device, but “a structuring principle in the text as well as the main means of retrieving information” (p. 109). By 1496, the reading practice of writing the book number at the top of each page was translated into the design of the book (p. 110).

Incrementally, certain marginal practices of readers and the way they used the *Natural History* were adopted as formal elements of a published book. Such was the case with producing its index. Renaissance readers would write subject headings in the margins, which were then collated as a separate index (p. 101). In the case of the *Medicinina Plinii* (1509), Pliny's medical information was reorganized and printed as a nine-page index of illnesses (p. 128). By the twentieth century, editions would include an entire index volume to supplement his text (p. 120).

Richard Yeo (2001) saw similar processes of encyclopedization when he studied early British dictionaries. John Locke, an avid reader, developed a system for organizing "Proper Heads" (2001, p. 111) and associated page numbers alphabetically (p. 112) in his "commonplace" books. The particulars of this textual practice were quite novel (p. 19) and suggested a new interpretation of the relationship between systematic and alphabetical organization. Chambers took this as a model for "compromise between systematic and alphabetical organisation" and applied it to his *Cyclopaedia* (p. 114). With the alphabet, Chambers's work had the capacity to add both new and old knowledge into the unity of science, which made it well suited for the "period of transition between Ancients and Moderns" (p. 282). It is on these grounds, rather than the argument that it is an efficient means of organization, that Yeo asserts Chambers used the alphabet as an encyclopedizing technique.

The concerns about how best to format encyclopedic knowledge manifested in other features of encyclopedias of this time as well. One of the features of the early *Britannica* editions was that it was "the first encyclopedic dictionary in Britain to mix short articles and extended 'treatises' in a single alphabetical sequence" (Kafker and Loveland, 2009, p. 11). The format of "giving short entries on particular terms" (Yeo, 2001, p. 180) followed the entry structure used in early dictionaries of arts and sciences (p. 13).

Jeff Loveland remarked that by “the ninth edition, the three longest treatises — ‘England’ (167 pages), ‘France’ (182 pages), and ‘Geology’ (164 pages)—were only half as long as the longest ones in early editions” (2006, p. 77). In these longer formats, the articles “began to assume a definite structure, incorporating information on the ‘History, Theory, and Practice’ of the subjects treated as systems” (Yeo, 2001, p. 186). As one nineteenth century Scottish geologist admired, “instead of breaking [a science] down into as many separate articles it possesses technical terms” the *Britannica* “gives an art or science entire as a treatise” (p. 187). As Yeo remarked, each of these types of “major articles” were identified by their authors (not typically common of shorter entries at the time) and shared the same epistemic function as a textbook (p. 187).

By the time that *Third Edition* of the *Britannica* was finally published, these “large treatises — especially those on the physical sciences — had become major landmarks on a new map of knowledge” (p. 191). They were important aspects of the rhetorical claim that the *Britannica* served to encircle knowledge by providing what one reviewer saw as the “best place to seek overviews of the sciences” (Loveland, 2006, p. 78). However, after 1800 the length of treatises decreased (p. 58) and eventually stopped being a point of advertising (p. 78). Then in the late twentieth century, the value of the long treatise and overview resurfaced with the publication of the *Fifteenth Edition* of the *Britannica* and its tripartite of *Propaedia*, *Macropaedia*, and *Micropaedia* (Dickinson, 1975, p. 131). Through these centuries of transmission, reader-based practices of marking up the margins turned into formal techniques for book making. As a consequence, what was once a digressive narrative or a response to increasing multitude of books (Yeo, 2003) became encyclopedized as works that could be referenced and read in a fragmented, rather than a linear manner.

The encyclopedic affordances of alphabetization have also been amplified by the computational capacities of internet-connected databases. This can be seen in the function and technique of creating new articles within wiki software. When users edit a page, they can create a hyperlink to any other page on the wiki by using WikiSyntax formatting (Cunningham and Leuf, 2001, p. 110). If a user creates a link to a page that does not exist, Cunningham designed the software so that the act of making link is read by the software as a request to create a new page to be edited. This would be achieved in part because the database adheres to an alphabetic logic so that “the title can correspond directly to the file name for the stored page,” and therefore makes searching for an article easy to because the name of the stored file is also the name of the article (p. 110). Importantly, Cunningham based the wiki addressing language is based on the Uniform Resource Locator (URL) syntax which is used to navigate documents connected by the internet (p. 17). Additionally, the “alphabet” that Wikipedia uses to provide addresses and the content of its articles is encoded through Unicode, a universal character set created for multilingual support of digital information (“Help:Multilingual support,” 2020). It is through these joint infrastructures of uniform locations and universal characters that Wikipedia is capable of creating an encyclopedia with articles in over 300 languages on nearly any topic.

However, the alphabet is just one kind of system that encyclopedias have used to encyclopedize knowledge. Mary Franklin-Brown explained how encyclopedic knowledge systems are often composites of different systems. This was the case when ancient Greek philosophy was newly read through the lens of Christian and Arab culture (p. 51). With this new source of knowledge, the old orders of the seven arts were institutionally reconfigured as a preliminary to theology (pp. 73–74) and equal to the emerging disciplines of medicine, law, and history / literature (p. 74).

The inconsistency and incoherency that is often attributed to scholastic encyclopedias, she argued, was due to “this practice of juxtaposing or superimposing multiple organizational structures and epistemologies” (p. 61).

In the case of Vincent of Beauvais’s thirteenth century *Great Mirror*, it took twenty-nine years of “trying and rejecting the models provided by other writers until” he borrowed the paradigm of scriptural narrative (p. 97). Such experimentation also existed in the layout design (*mise en page*) of manuscripts which began to be composed by superimposing grids on the page to aid scribal production (p. 233). Conceptually, these lines were also divisions and subdivisions used to classify and distinguish “different kinds of text” (p. 73). For Franklin-Brown, these grids became “visible fractures, moments when the alternation between discourses is indicated in the very layout of the page” (pp.232–233). As she aptly described, it “gathers together these alien words without privileging one over another, and, thus, it creates a heterotopia of discourse in which each possible configuration of words and things, of institutions and authorities, is represented and contested” (p. 232). Scholastic encyclopedism was therefore not only recognizable through its ordering of knowledge, but also through the interplay of order *and* disorder. As she wrote, “the recognition of either depends on the suggestion — or threat — of its opposite” (p. 186). Disorder, incommensurability, and ruptures are as much a mark of encyclopedism as order, consensus, and continuity.

This can be witnessed in her examination of two compilations that cited the same *carmina figurata*. Found within the *In honorem sanctae crucis* (ca. 810), this poem looks like two crosswords superimposed on one another. Because of this arrangement, its visual knowledge was drawn from its “embroidery” of overlapping meanings (2012, p. 242). But when this figure was “cited” in a thirteenth century manuscript copy of a Beauvais text, the visual structure of the

poem was removed and was written as if it were verse (ragged-right justification, where line breaks indicated the poem's hexameter) (pp. 233–234; p. 238). In a different manuscript copy (p. 237), the text was embedded in the surrounding prose, with only a symbol to indicate the hexameter (p. 236). Through this process of editorial transmission, the meaning of the figure changed from one of visual superposition, to the juxtaposition of prose and verse, and finally to prosaic imposition. Like Pliny's *summarium*, the interpretation of knowledge was materially inscribed through editorial decisions, decisions that demonstrated how a change in material representation was likewise a change in what was valued as knowledge.

In his meticulous account of the publishing history of the *Encyclopédie*, Robert Darnton (1979) similarly raised questions about form. He asked “What form did the thought of the *philosophes* acquire when it materialized into books, and what does this process reveal about the transmission of ideas? Did the material basis of literature and the technology of its production have much bearing on its substance and its diffusion?” (1979, p. 1). His answers to these inquiries are instructive.

Instead of seeing the *Encyclopédie* as a singular effort of the *philosophes* and its effect as being one between these authors and their readers, Darnton made a compelling alternative argument. The circulation and domestication of the Enlightenment relied on the production line of mediators who packaged, designed, produced, and sold the words of Diderot, d'Alembert, and the other 140 contributors. Before 1789, 24,000 copies were published (p. 37) and these books were not verbatim copies of the original. They were reprints, editions, and supplements (pp. 33–35) that were pirated (p. 177), or revised, structurally cut up, and edited without sanctimony (p. 196, p. 202). The publishers responsible for these editions wanted the book to sell and “they assumed that a badly made book would not sell” — to which Darnton added, “they were right”

(p. 236). Only after substantial financial success did “its format decreased in size, it contained fewer plates, its paper declined in quality, and its price went down” (p. 524). It was then, not before, that the ideas of the *philosophes* began to fall directly into hands of middle class and bourgeois readers (p. 526). In other words, the political weight of the words of Diderot, d’Alembert, and Voltaire needed to be designed in order to be effective agents of change. In the context of the Enlightenment, the encyclopedization of knowledge was not just a matter of arranging knowledge. It amounted to adjusting its form to different channels of transmission.

Perhaps one of the more recent ways of thinking about the encyclopedization of knowledge have been the self-reflexive activity of Wikipedians assessing their own success of transforming knowledge from external sources into encyclopedic knowledge. As Wikipedians contribute to articles, their quality of their work can be measured against a community-based set of criteria for classifying articles. These classes range from the lowest rank of “stub” article, up through classes of “start,” C, B, GA or “good article,” A, and finally the highest quality of FA or “Featured Article” (“Wikipedia: Content Assessment,” 2020). It is this last class that Jones describes as being “the most promising measure of quality in the encyclopedia” (2008, p. 266) and is achieved through “a nomination procedure for prospective articles, a period of peer review and further revision, and a final evaluation of the article” (p. 269).

These articles must also follows the style guides of starting with a concise lead section, be appropriately structured with headings, have a consistent citation format, contain images and other media, and is of an appropriate length (“Wikipedia:Featured article criteria,” 2019). On this last point, the general rule is that 40 kilobytes of readable text is considering to be too long (“Wikipedia:Summary style,” 2020). This is equivalent to approximately 20,000 words or 80

double spaced pages of a dissertation manuscript. It is through these criteria and the associated policies and guidelines to achieve these criteria that Wikipedians recognize that they have successfully encyclopedized knowledge.

In addition to these social practices, Wikipedia's encyclopedic knowledge is also shaped by the activities of semi-autonomous scripts called bots. Pragmatically, bots are responsible for detecting and removing vandalism (Geiger and Ribes, 2010; Geiger and Halfaker, 2013) as well as making "it possible to achieve a certain level of uniformity in style and content" (Geiger, 2014, p. 6). However, as Geiger and Halfaker have pointed out, "bots codify" and reinforce "particular understandings of what encyclopedic knowledge ought to look like" (2016, p. 2).

Erinç Salor (2014) made the argument that the changing forms of encyclopedias also change perceptions of time and its relationship to knowledge. In early encyclopedic texts, encyclopedias tended to be produced as a singular and finite set of volumes. This finality, Salor suggested, created the assumption of an attainable completeness to knowledge. This characteristic was then superimposed onto the reader and compiler who themselves, could contain that total as a "body of knowledge" (2014, p. 174). In contrast, the encyclopedias since the Enlightenment were met with the challenge of continuous scientific discoveries. To encircle this knowledge, encyclopedists began "serializing their work" (p. 177) which had the effect of temporally "deferring the moment at which knowledge could be said to be 'complete'" (p. 181). This formal change embedded the epistemological shift from divine and static knowledge to the knowledge of progress.

In the expression of Wikipedia, the same notion of progress is at its core, but it has lost the rhetorical trappings of completeness. As Salor described, "Wikipedia revels in its incompleteness and turns its eternal state of change into a feature" (p. 181). This epistemological

position is encoded in the Wikipedian possibility to always adding incremental changes to an article. As such, the work of compiling the encyclopedia's articles is never finished. In alignment with this position is the argument that Wikipedia is "always evolving and striving toward a universal circle of knowledge" (Vetter, 2019, p. 3). However, what this "circle" *is*, needs to be unpacked. This is a task that will take up the entire next chapter. But before getting there, it is necessary to consider that encyclopedization does just apply to actual encyclopedias, but imaginary ones as well.

Speculative encyclopedization. While time's straight arrow is the most dominant temporal perspective of the last three hundred years, it is by no means the only one. The twentieth century hosts a handful of speculative writers who envisioned alternative spatial and temporal techniques for encyclopedizing knowledge. Famously, Jorge Luis Borges stands as one of most widely known speculators. In his short story "Library of Babel," he imagined a library divided by hexagonal rooms that collected every possible permutation of a book being composed of 410 pages, forty lines per page, eighty characters per page (Borges, 2007, p. 52). A quick calculation tells us that this would produce about $10^{4,677}$ unique pages (Basile, 2018, p. 67). By outputting *all* possible combinations in a single space, every possible literary work that could ever exist becomes presently accessible. However, the epistemological problem becomes a problem of "anarchitecture" (Basile, 2018, p. 22) where the work of the labyrinth's librarians is to wade through room after room of incomprehensible texts in search of those probabilistically few texts that are actually meaningful.

Another story of immense scale is the fable of the 1:1 map. Lewis Carroll, Borges (Corner, 1999, pp. 221–222) and Umberto Eco (Eco, 1995, p. 95) each have versions of this

story that describe a nation that excelled at cartography to the point where they were able to make a map that was the same size as the territory of an empire or nation. James Corner explained that the moral of these stories was that “the more detailed and life-like the map strives to be, the more redundant or unnecessary it becomes” (Corner, 1999, p. 221).

More in line with popular expectations about encyclopedias was Isaac Asimov’s *Encyclopedia Galactica*, an encyclopedia which set the stage for his *Foundation* trilogy. Inspired by the decline of the Roman Empire described by Edward Gibbons, Asimov’s protagonists were a group of “experts and scientists, untouchable by any government authority” who were brought together for the common goal to preserve the knowledge of the Galactic Empire (Salor, 2012, p. 73). As the empire falls, their encyclopedia was to serve as a civilizing jump-start that would bring society out of barbarism.

In contrast to the familiarity of this *Britannica*-inspired encyclopedia was the mysterious group of “psychohistorians” who Asimov tasked with directing the future of the crumbling empire towards utopic revival through the use of the “Prime Radiant.” This “squat black cube” was used to “store the equations that describe the future” of probable actions and events of large groups of people (Asimov, 2012, p. 269). Between the conservative function of the *Galactica* and the predictive qualities of the Prime Radiant, Asimov sutured together the disconnect between the accumulated past and the deferred completion of the future.

While the Prime Radiant can only be described as latently encyclopedic (Asimov never described it as such), Stanisław Lem wrote of his own predictive encyclopedia. In his unique collection of speculative prefaces, *Imaginary Magnitude* (1985), Lem wrote the introduction to an encyclopedia that would solve the crises of a traditional encyclopedia being put instantly out of print “the moment it left the printers” (p. 79). Using computers to calculate all the languages

used by future humans (p. 83) the *Verstrand's Extelopedia* had access to both all comprehensible and incomprehensible knowledge. Unlike Borges's librarians, the Extelopedists had programs that could translate the incomprehensible noise of this total into meaningful expressions. As such, the entries written by computers provided information "about History as it is going to happen" (p. 81) with entries distinguished by their degree of probability (p. 85).

In these speculative narratives are alternative visions to the measured and practical manifestations of encyclopedic knowledge. The circle can be reconstituted as a hexagonal labyrinth, a spiral and sediment of time, a thin and fragile trajectory toward the promised future, or the colonization of the future by the present. Nascent in Borges — but more explicit in Asimov and Lem — are concerns over the meaning of encyclopedic knowledge when it no longer encyclopedizes past and present knowledge but is re-articulated as the authority of a calculated future.

Encyclopedization takes up time and space. Encyclopedizing knowledge does not simply mean to write information into the columns of an encyclopedia. Doody, Franklin-Brown, and Darnton dug through the thick strata of receptions that followed each text, revealing not only a genealogy of textual interpretations, but also interpretations that became codified as designs. Doody examined how the manuscript transmission of Pliny to print transformed reader marginalia into codified reference techniques. Only *after* this process of encyclopedization did the *Natural History* begin to exist as an encyclopedia. Franklin-Brown likewise illustrated how the meaning of textual extracts were purposefully shaped by their visual value as a *form* of medieval information (pp. 235–236). Darnton made the important case that the success of the *Encyclopédie* cannot rest on the authors alone — it must be understood in the networks of

production and distribution that it circulated within. As these historians expertly demonstrated, all reproductions are interpretations, and such interpretations are structured by the affordances, limitations, and practices of the media for which they are inscribed. This important lesson is not only present in Geiger's analysis of Wikipedian bots, but also in the fables of Borges, Asimov, and Lem. As a result of their absurdity, these fables serve as invaluable articulations of what it would mean to dissolve the encyclopedic anxiety by allowing the encyclopedia to achieve the total it set out to describe.

Four Encyclopedic Inheritances

In the introduction of this dissertation, I presented two definitions of encyclopedias, one from the *Britannica* and one from Wikipedia (Preece and Collison, 2016; "Encyclopedia," 2020). Both definitions centered on the idea that encyclopedias are defined as reference works; they cover the branches of knowledge; and are composed of alphabetically or thematically organized articles. In light of the genealogical analysis of this chapter, this definition is woefully limited to describing just one variant of encyclopedias. This chapter has provided a unique approach to correcting this myopic interpretation by excavating a vast field of discursivity that operates on the meaning of what counts as encyclopedic knowledge by following the dominant and marginal meanings attached to "encycloped-."

Instead of the usual approach of describing a history of encyclopedias, I made the point that the notion of an encyclopedia as belonging to a literary genre is laterally — and sometimes antagonistically — in the company of other discursive variants: the encyclopedists as readers and producers; the encyclopedic as an epistemic experience conveyed by poets and philosophers; the politics of encyclopedism with its kings and subjects of empires; and the media enlisted to

encyclopedize knowledge to be encountered by scholastic users. It is clear that each of these articulations of the nodal point of “encycloped-” produces its own unique set of subject roles.

This decentering of encyclopedias has also provided the means to excavate assumptions about them as well. In the case of *the encyclopedists*, the typical description tended to assume that encyclopedists were the originators of an encyclopedia. Of course, these individuals were important, but they alone do not explain how an encyclopedia comes into being. Such an assumption overlooks the multitude of other subject roles that are at work; the unnamed women who constructed indexes and contributed articles, the enslaved individuals and scribes who penned and copied manuscripts, and the readers whose marginalia exist as experiments in information retrieval. These people too shaped the encyclopedia, sometimes literally with their hands.

The genealogical variation of *the encyclopedic* also brought a number of challenges. First of all, *the encyclopedic* does not simply mean “like an encyclopedia.” The encyclopedic is an embodied experience, one that inherits a preference for (though not exclusive to) visual and cognitive encounters at the threshold between the known and an impossible totality. Such encounters are not passionless affairs. They are experiences of knowledge that are enveloped by the hopes and anxieties of knowing bodies. Given these affects, the neutral and objective encyclopedist has little chance of communicating the paradoxes that animate the encyclopedic. Such an activity is properly the role of the philosopher and poet, the “social spokesman” (Frye, 2000, p. 51) who hold counsel with the divine and the cosmological. It must be noted though, that their poetic task is not to communicate the total; it is to cultivate an aesthetic that affords a comprehension of the incommensurability that exists between the known and the unknown.

Traveling down the branch of encyclopedism also changed the set of questions one can ask of encyclopedic knowledge. Instead of a structuralist and literary theory of an immutable genre, studies of encyclopedism examined the tight relationship between power and knowledge. Inspired by Foucault, every moment of encyclopedism was built from elements that have no analogues in the contemporary moment: genres that are now insensible, fantasies that were found in the same space as fact, cultural expressions that defied a rigid understanding of “encyclopedia.” Encyclopedisms are therefore not simply another name for a historical period. They are a specific set practices aimed at negotiating the contest between unequal structures of thought. In many cases, these contests were imperial in nature. They were commissioned and made possible by the empires who needed to filter the knowledge that flowed from the edges of their territories. It is in this sense that Foucault unraveled the meaning of encyclopedism — it is a *dispositif* or apparatus which exists as “a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions” (Foucault, 1980, p. 194).

The verb *encyclopedize* also challenged assumptions about encyclopedias. It is a concept that attended to the way that media cannot be taken for granted in the process of making knowledge encyclopedic. Media are not only responsible for the capacity to compile, retrieve, and circulate knowledge. What counts as knowledge is dependent on the affordances and limitations of those media. The choices in exploiting such characteristics exist as the means for changing our perceptions about the spaces and temporalities of knowledge. Furthermore, encyclopedizing media are responsible for codifying interpretations and expectations made about encyclopedias and non-encyclopedias alike. For example, Pliny’s *Natural History* may not have

been an encyclopedia when it was inscribed on papyrus scroll, but the free online copy of it at the Perseus Digital Library is coded as if it is.

Finally, I return to the purpose at hand, to glean from the genealogy some analytical tools by which to critique and compose a utopian understanding of encyclopedic knowledge. Already, the suffixes have done their job at expanding the horizon of expectation concerning encyclopedic knowledge. But further to this point, the overarching question rests on being able to analyze how encyclopedic peoples are cultivated, and what sort of political subjectivities result from this cultivation.

The place to begin with is the problematique of the total which is the seed of encyclopedic knowledge. It assumes that humans know *something*, and because that something is a fragment of an unknown total, it infers the total in its absence. As Hegel put it, “The whole presents itself then as a circle of circles [...] so that the system of its characteristic elements constitutes the whole idea, which also appears in each individual part” (Macovski, 2009, p. 197). But Hegel’s view was optimistic. His philosophical knowledge about knowledge was filled with wholes — pun intended. As Hilary Clark also aptly described, the encyclopedic is sustained by a number of paradoxes “in seeking to totalize and eternalize knowledge, the writer finds the project shadowed by incompleteness and obsolescence; and in seeking to render knowledge objectively, the writer must make do with a project marked by ideological blind spots, with a knowledge organized by the categories of a particular culture at a particular time” (1992, p. 97). This same sentiment was expressed by Umberto Eco when he argued that – in combination with lists, dictionaries, and catalogues – Western culture uses encyclopedias “[t]o make infinity comprehensible” (Beyer and Gorris, 2009).

These same views find purchase in the theories of the design imagination. For Anne Balsamo (2011) this imagination is a mindset “to transform what is known into what is possible [...] it improvises within constraints to create something new” (p. 6). And Mads Folkmann took this a step further when he argued that aesthetics of the imagination “can be seen as a mental structure that negotiates known and unknown” (p. 71). The overlap between design theory and the design of encyclopedias can therefore be heard in Clark’s statement that encyclopedic desire gives “rise to a new optimism, a sense of new possibilities for recreating, not merely reflecting, the world” (1992, p. 96).

To summarize this theoretical position, encyclopedic knowledge becomes the experience of the limits of what can be known and the incomprehensible magnitude of the remaining totality, even while it is clear that there is an “inability to totalize or include all that can be known” (Clark, 1992, p. 97). In a return to Kluitenberg’s theory of media, I describe encyclopedias as imaginary media that are designed to mediate the impossible desire to sense the totality of knowledge.

However, when encyclopedists address the experience of the gap between the known and the unknown, they are not always in agreement with what it is that can be known and how their readers should come to know it. As such, their inference of the total and the imaginary affordances of their media may be dramatically different. So how do we analytically approach these differences? The structuralist tradition designated these differences as evidence of *forms*, the literary theorists described them as *genre* and *subgenres*, and the Foucault-inspired historians have tethered out from these positions with *encyclopedic modes*, *encyclopedisms*, and *discourses*. I suggest that a different kind of designation is analytically valuable.

I argue that it is necessary to cast off our presumptions about encyclopedias being ontologically reduced to the concept of a genre, an idea, or a work of reference. Instead, it is necessary to consider encyclopedias as *encyclopedic media*: a type of media that enlists imaginaries, techniques, and practices of knowledge in order to pursue the impossible desire of encircling all knowledge. In accordance with this definition, these media exist as “imaginary media” (Kluitenberg, 2011, p. 48) and designed with “imaginary affordances” (Nagy and Neff, 2015) to store, circulate, and process a totality of knowledge. To conclude the chapter, I now synthesize the dominant inheritances in terms of the joint imaginaries, techniques, and practices that have been associated with encyclopedic media.

Given that the form of my analysis has been a genealogy, it is theoretically consistent to describe differences between encyclopedias as genealogical differences, as inheritances. But such inheritances are not naturally and self-evidently adopted by each subsequent generation. They are discourses that are thoughtfully chosen to legitimize particular imaginaries about knowledge. Borrowing from a parable described by Isabelle Stengers to Vinciane Despret, Donna Haraway explained that “[t]o inherit is an act ‘which demands thought and commitment. An act that calls for our transformation by the very deed of inheriting.’” (Haraway, 2016, p. 131). In the genealogy of Western encyclopedic knowledge, there has been a number of experimenters, misfits, dreamers, and poets, who have attempted to make the distance between the known and the unknown something to be experienced. But it is clear that not all of their expressions have been taken up as generational commitments. Some have been forgotten, obscured, or redesigned to make the history of encyclopedias appear to be a clear line of progress and development: from Pliny’s *Natural History* to Wikipedia.

To seriously attend to the genealogy of encyclopedic knowledge it is necessary to understand it as a cascade of thoughtful and committed acts of inheritance. Each encyclopedist must ask what is the best way for experiencing the threshold between the known and the unknown. But they do so by considering what has worked in the past and for what purposes these designs were imagined to be achieved. Such an act requires assessing which encyclopedic discourses work within contemporary conditions and which should be no longer followed. These acts of inheritance dig channels of meaning. They act as watercourses of knowledge that swell and swerve across this field of discursivity. They allow us to recognize different heritages of the unknown.

In conducting the genealogy of encyclopedic knowledge, it has become clear to me that there are at least four dominant encyclopedic lines of inheritance. For simplicity's sake, I name them by the thresholds they describe: the transcendental, the cosmological, the universal, and the hegemonic. Just to reiterate, these are not the only possible inheritances, it just so happens that the balance of discourse and experimentation have focused on repeating and cultivating these four articulations.

In this context of repetition, I return to Leibniz to find some key properties of these inheritances. In his exposition of Universal Wisdom he asserted that the classical divisions within philosophy — Logic, Ethics, and Physics — were akin to the three “dispositions” that Locke devised when describing truth: the discursive, the theoretical, and the practical, (McRae, 1957, p. 48). Leibniz's own disposition of the logic of indexing discourse, McRae wrote, was situated between Descartes's theoretical / synthetic system and Bacon's practical / analytical epistemology. Bacon's system of human knowledge was based on a similar set of three related concepts: imagination, reason, and memory. In addition to these, Bacon was also cognizant that

knowledge was entangled with power. This significance of power, more recently pushed to the center of focus by Foucault and investigated by historians, has been demonstrated to be a necessary addition to understanding encyclopedias.

What is important for the task at hand is understanding what kinds of threshold between the known and the unknown are being inferred by these different starting positions. If one assumes that knowledge is transcendental, and the goal of the encyclopedist is to produce an experience of the limits of that totality, then the techniques enlisted to mediate that total will be dramatically different from those that assume knowledge is practical. These differences become the grounds for producing different encyclopedic subjectivities, just as the tool “determines the political act; and the operation itself produces the subject” (Vismann, 2013, p. 83).

Inheriting the transcendental. If knowledge is imagined as a theoretical, ideal, or divine phenomenon, encyclopedists tend to draw heavily from a transcendental discourse. This articulation infers that our knowledge is fragmented from the total because it is asymmetrical with it. The goal of the encyclopedist is to bring the knower and the unknown in alignment with one another. For Christian encyclopedists, it was to make the believer one with God; for Hegel, it was to make thinking whole and pure. To this point, encyclopedists of this lineage rely on techniques of subtraction, limitation, and selection as a means to remove the aspects of human life that exceed the enclosed and unchanging circle of truth. As a consequence, these encyclopedias tend to be physically smaller than others, and lean toward signifiers attached to holistic treatises, principles, axioms, diagrammatic logics, parables, and poetry. They may also attempt to reduce knowledge to its *essence*, favouring brevity and overviews in contrast to detailed explanation. In direct relation to these techniques, the subjectivity that is cultivated is one that is whole, holy, pure, poetic and capable of seeing the complete picture. They are also

practiced in the acts of judging and eliminating what is partial, profane, impure and fragmented. Borrowing from Northrop Frye, the exemplar encyclopedias of this approach are classified in the genre of sacred books.

Inheriting the universal. In a contrary direction, a *universal* discourse is based on a threshold of knowledge that is built from not only all truth, but also all untruths. This is because encyclopedists in this tradition imagine the total as a universe of meaning. Umberto Eco's description of the Maximal encyclopedia fits this type of discourse. Despite his assertion that the Maximal encyclopedia is a virtual object, some have taken this inheritance even more seriously. For example, Jonathon Basile's algorithm for producing Borges's "Library of Babel" (2018) and Lévy's semantic sphere (2011) are dedicated encyclopedic efforts oriented toward this inheritance. They, like Leibniz, enlisted algorithms that exhaustively combined and coordinated symbols as a grid or index. The subjectivity of their encyclopedic people is cultivated to design, improve, and navigate these vast discursive architectures. They are the librarians, stewards, and experimenters in the organization of knowledge. They have as their common goal the means to store and find all knowledge that probabilistically exists but has yet to be recognized as valuable. Additionally, the principle of universality can also be applied to knowers: these knowing subjects are imagined as being reducible to a unified subjectivity — *the reader* or *the user* who navigate the system. The exemplar media of this inheritance is the dictionary.

Inheriting the cosmological. The transcendental and universal traditions are unique because their epistemologies assume that the encyclopedia is, in some form, already complete. The compliment under these discourses is the incomplete believer or culture, not the encyclopedia itself. The *cosmological* inheritance shifts this balance. The threshold between the known and the unknown is set upon the incompleteness and fragmentation of the encyclopedia.

From a cosmological standpoint, knowledge is the accumulation of fragmented differences writ in time and space. It is from this imagination that I see the commitment to progress most clearly expressed as the accumulation of incremental knowledge from scientific study. As such, the “completed” cosmological encyclopedia is filled with all moments of time and all dimensions of space. Pushed to its extreme, this imaginary of knowledge begins as a map of knowledge but dreams of becoming the territory. The stories by Borges, Eco, and Lewis Carroll about a map that is produced at a scale of 1:1 follows this imaginary affordance. Likewise, the predictive capacities of Lem’s *Verstrand’s Extelopedia* and Asimov’s “Prime Radiant” that were used to calculate future events also fulfills this desire. Even the modest serialization and the 250-year-long institutionalization of the *Britannica* are techniques to record and fix the future by lasting long enough to record it. Through these characteristics, the encyclopedic people that inherit the cosmological tradition are in constant distress about the space available to store details, the time of their recording, and the constant flow of new details that burst forth from both the past and the future. The exemplar of this inheritance are encyclopedias that are designed to be information references that are continuously and endlessly updated.

Inheriting the hegemonic. The fourth inheritance values only knowledge that can maintain, expand, and reproduce a hegemony. It inscribes the norms, the practices, and imaginations of culture into the very structure of the encyclopedia. Eco’s Median encyclopedia fits this description as it ignores and forgets knowledges that would jeopardize its sustainability. To this point, committed encyclopedists that value this discourse have very particular designs for encyclopedias. They believe that the very act of using these works will reproduce the hegemony in the users themselves. Should the hegemony disappear, it will live on and be reborn by later generations who use the encyclopedia that was created. This was the narrative premise of

Asimov's *Encyclopedia Galactica* and James Joyce's dream for *Ulysses*, which he described as giving "a picture of Dublin so complete that if the city one day suddenly disappeared from the earth it could be reconstructed out of my book" (Ercolino, 2014). To Joyce's point, the future is not something just to be recorded. It is a place of death for the hegemony. The intent to cultivate an encyclopedic people is therefore to extend its life by producing people compatible and compliant with it: be it an empire, a city, or a culture.

By this description, I interpret the ancient Greek meaning of encyclopedias as a general education. As such, the moniker of encyclopedia can apply to institutions and curricula designed to provide holistic or complete educations and circulate around the subjectivity of the *learner*. However, this articulation of encyclopedic knowledge is less common, with a few exceptions of Hannah More's schools and Thomas Leitch's vision of a Wikipedia-like influenced liberal education. More often, the hegemonic paradigm of knowledge is recognized within works that serve to familiarize and assimilate individuals with a culture or a community. The exemplars of this inheritance are the imperialist encyclopedias of the Roman, Mamluk, and British empires.

Wikipedia and the conflict of inheritances. For the sake of analytical clarity, I have outlined the characteristics of these four paradigms of knowledge that encyclopedists choose to inherit — the transcendental, the universal, the cosmological and the hegemonic. But such divisions are rarely so clear-cut. As far the genealogical analysis examined, there are no examples of actual encyclopedias where encyclopedists have consistently and coherently engaged with only one of these inheritances in order to encircle knowledge. It is common to find these imaginaries, techniques, and practices of knowledge intersecting with one another.

This brings us to the underlying purpose of the genealogy of encyclopedic knowledge: to assess how Wikipedia is situated amongst its kin; how, when wandering through this field of discursivity, Wikipedia's designers set about making their own cultivar from this history. For this purpose, I will briefly review some of the characteristics of Wikipedia that are drawn from this list of inheritances. In consideration of the transcendental paradigm and its concentration on divinity and timeless truths, the descriptions of Wikipedia up to this point do not suggest that the online encyclopedia has adopted this paradigm. Instead, its connections are more firmly located in the other three.

Wikipedia is fundamentally shaped by its dedication to universal access which is socially and legally afforded by its commitment to producing free culture — free to edit and free to use. It is also technically bound together by the wiki database system where each article is locatable according to an addressing system based on the Uniform Resource Locator syntax (URL) and the universal character set of Unicode. These attributes places Wikipedia squarely within a universalist vision of knowledge. Likewise, the fact that the encyclopedia is designed specifically to be constantly updated, expandable, and founded on the accumulation of records is evidence that Wikipedia has fully inherited a cosmological paradigm of knowledge. Before considering how Wikipedia can be seen to inherit the paradigm of hegemonic knowledge, it is necessary to take stock of one final insight from the genealogical analysis.

One of the epistemological situations that has been encountered throughout this analysis was that when encyclopedists attempt to encircle knowledge, they encounter the limits of the systems of knowledge they enlist for the task. For example, Trevor Murphy described how Pliny the Elder's *Natural History* was “defined on one edge by the expansion of Roman power, and on the other

by the inexorable decay of knowledge” (p. 69). Pliny therefore was caught between a “totalizing, Romanocentric universe” (p. 71) and the sheltering of “obsolescent knowledge in their vagrant nooks and crannies” (p. 73). A similar sentiment of epistemological contradiction emerged from the Vincent of Beauvais’s thirteenth century *Great Mirror*. According to Franklin-Brown’s careful reading, Vincent created “a hybrid text, on the one hand exegetical, tied to and subordinated to Scripture, intended to elucidate meaning, and on the other empirical, attentive to the world” (Franklin-Brown, 2012, p. 61). This contradiction between transcendental and empirical knowledge would not be resolved five hundred years later. Diderot and d’Alembert tried to construct a totality of knowledge within the *Encyclopédie* that reconciled the competing premises of Kant’s transcendental reasoning with Locke’s empiricism. They failed (Ferris, 2003, p. 1260). Even with a keen critique of this outcome, the poet Samuel Taylor Coleridge’s eighteenth century *Encyclopaedia Metropolitana* was similarly caught within epistemological contractions. He demanded that an encyclopedia must provide “instruction in a circle” and this would be achieved through the continuous discourse of treatises — and not fragmented by alphabetization. However, when his encyclopedia was published it contained both systems (Hawley, 2006, p. 228). Novalis, also an eighteenth-century poet, was more acutely aware and honest about the impossible conditions of encyclopedic knowledge when he recognized that the encyclopedia only “becomes complete by the continual adoption of incompleteness as its central doctrine” (Ferris, 2004, p. 5).

Based on these examples, the cultural value of encyclopedic knowledge needs to be reconsidered. Instead of seeing the worth of encyclopedias in terms of providing a total view or a collection of knowledge, it is time to recognize that their cultural value is also bound to the frictions, contradictions, and epistemic troubles that they are designed to confront. This brings us

back to Wikipedia and its connection to the paradigm of hegemonic knowledge. The analysis recounted that Wikipedians are part of an open community. As part of this context, the community is responsible for sifting, sorting, summarizing, and organizing the knowledge within its articles as well as knowledge about the community itself. This situation is suggestive of a hegemonic orientation toward knowledge: a community that socializes individuals into an epistemic culture for the purposes of encircling all knowledge.

However, there is a consequential paradox about this situation. Wikipedia is designed to be “open.” But as Nathaniel Tkacz has aptly argued about Wikipedia, “the logic of openness actually gives rise to and is perfectly compatible with new forms of closure” (Tkacz, 2015, p. 33). Through the lens of critical feminist political theory, I read the politics of this closure as the politics of community and its associated concept of consensus (Fraser, 1990, p. 80, Mansbridge, 1993, p. 367; Mouffe, 2005, p. 11). As a number of researchers of Wikipedia have noted, “the conceptual coherence of a community” is predicated on acts of exclusion (Tamani, Mandiberg, Mabey and Evans, 2019, p. 4) and “entails power struggles” and “hegemonic interpretations and practices” (Pentzold, 2011, p. 717). It is here, in this epistemological contradiction, that I find Wikipedia’s status as an encyclopedia requires careful reflection.

I argue that this conflict between openness and closure is the contemporary analog to previous encyclopedia-defining conflicts between competing systems of knowing. It is akin to the European medieval and Enlightenment struggle with reconciling spiritual and empirical knowledge and it is similar to the divisive debates over whether encyclopedias should convey a knowledge that was unified by systems or a knowledge that was fragmented by the alphabet. In the next chapter I follow through with Levitas’s archaeological mode of analysis and excavate the political consequences of this contradiction between openness and closure. In doing so, I

explain how the historical and current imaginary of creating a community that can encircle knowledge is an imaginary that has an epistemological stake in denying, rather than confirming, the gendered differences of its editors.

5. Encyclopedia Hegemonica: Imaginaries of the Impossible Desire of Consensus

An editor of the *Encyclopedia Britannica* once remarked that not only does each era carry with it a particular kind of encyclopedia, but each encyclopedia cultivates different kinds of people: whole men for Ancient Greece, pious men for Medieval Europe, and free men for the Enlightenment (Preece, 1965, p. 798). For Warren Preece, these were not just facts of the historical record, but a condition of large-scale epistemological changes that coincided with “the imminent decline of one intellectual tradition and the imminent evolution of another” (p. 799). As a scholar of medieval encyclopedism, Mary Franklin-Brown made similar comments about the effect of encyclopedias on readers. She wrote that “the encyclopedia, in any age, always purports to represent reality” and as a consequence, “it shapes, not only their subjectivity, but also, simultaneously, their perception of and interaction with the objects of knowledge” (2012, p. 308). Wikipedia’s own Jimmy Wales echoed this political argument. Quoting the *Britannica* editor Charles Van Doren, he said that since “the world is radically new, the ideal encyclopedia should be radical, too [...] in politics, and philosophy, and science” (Reagle, 2010, p. 142). Joined together, the cultural significance of any encyclopedia is imagined to be found in its status as a bellwether of the imminent evolution of knowledge and its capacity to cultivate an encyclopedic people adept with this new knowledge. Theoretically, these statements align with Foucault’s argument that encyclopedias exist as the tide lines of broad and sweeping changes to what counts as knowledge within a culture. In other words, encyclopedias act to educate and discipline readers to viewing the world from a new dominant cultural perspective: encyclopedias are hegemonic devices.

But what is the scale, scope, and character of these encyclopedic evolutions? What inheritances are kept, and in the keeping, contribute to what can be imagined to be new? In the previous chapter, I explored the field of discursivity that has been attached to the concept of encyclopedic knowledge. After exploring the vast sets of meanings that have circulated around the concept, I pointed out the limited utility of defining encyclopedias in the traditional terms of a genre, a text, or an authored product. Instead, I considered encyclopedias to be characterized as *encyclopedic media*; both imaginary and real apparatuses that enlist different means of storage, circulations, and processes in the pursuit of the impossible desire to encircle all knowledge. A key component of thinking of encyclopedias as media is that they come attached to a genealogy with dominant and marginal imaginations, techniques, and practices — attributes that are not so much timeless as they are epistemologies that encyclopedists rationalize as valuable to inherit, apply to their contemporary inquiries, and make new.

In light of this genealogical outlook, I do not assert that Wikipedia exists *either* as a completely new trajectory *or* simply as a repackaging of old Enlightenment ideas. Neither approach is sufficient to address the discursive dynamics at play within Wikipedia. I argue that what is necessary is an excavation and a retelling of the guiding imaginary of knowledge that has structured Wikipedian practices and techniques. My approach to this history is based on feminist theories of utopia and design that sideline narratives of either total revolution or perfect replication. For Ruth Levitas, the analysis of utopia requires me to lay out "the underpinning model of the good society" in order to scrutinize and *then* reconstitute the model (2013, p. xvii). Daniela Rosner similarly argued that "[t]he point is not to present an alternative but, rather, to intervene in the stories we tell" about design (2018, p. 21). In other words, both Levitas and Rosner advocated for a kind of critical retelling that is oriented toward repair. The following

chapters move toward that goal. After drawing the past into the present as a form of intervention, I re-frame the context of Wikipedia's gender gap as an encyclopedic concern. This adjustment of perspective allows me to address the question: is the gap a "bug" in the socio-technical software of the wiki which can be fixed, or is it an effect of the epistemic and political design of the encyclopedia itself? As this chapter proposes — and the subsequent chapters confirm — the gender gap is a concern that has roots in Wikipedia's status as an encyclopedia.

At the end of the previous chapter, I argued that one of the discursive inheritances of encyclopedic knowledge is a hegemonic paradigm of knowledge. Encyclopedists under this commitment were described as being dedicated to producing works that cultivated knowers who could reproduce the hegemonic power structure. Most historians attached this discourse to encyclopedias that served the colonizing projects of empires: be it the *Natural History* of the Roman Empire, the bureaucratic encyclopedias of the Mamluk empire, or the imperial namesake of the *Encyclopedia Britannica*. Based on this history, it is difficult to square how this paradigm of hegemony could be at work within Wikipedia.

However, Yochai Benkler, one of the astute proselytizers of Wikipedia offered an important clue as to where this connection can be made. In his book *The Wealth of Networks* (2006), Benkler observed that Wikipedians engage in "open discourse" with the aim of "consensus" (Benkler, 2006, p. 72). Underlying Benkler's description was the democratic value of a "horizontal" form of collaboration that was imagined to counter-act unnecessary authority (p. 169). Given the publication date of Benkler's writing was in 2006, it is likely that he understood consensus as a general attitude rather than an embedded feature of Wikipedia. It was only in April of 2005 that Wikipedians were proposing to turn consensus practices into a Wikipedian guideline ("Wikipedia:Consensus," 2005). Again, it took until January 18, 2007 — a

year after Benkler's book was published — for the guideline to be accepted as a formal Wikipedia policy ("Wikipedia:Consensus," 2007). In the span of those two years, consensus moved from an ideal that guided practices, to a guideline which was the documentation of "best practices" of consensus, to a policy which was a "[standard] that all users should normally follow" ("Wikipedia:Policies and Guidelines," 2019).

Writing during this same period of transition, Wikipedia researchers found that policies in general, and "consensus-seeking" in particular, constituted "the fundamental collaborative work that Wikipedians engage in" (Kriplean, Beschastnikh, McDonald, and Golder, 2007, p. 1). Indeed, the balance of Wikipedia activity was dedicated not to articles, but to "user, user talk, procedure, and other non-article pages have become a larger percentage of the total edits made in the system" (Kittur, Suh, Pendleton and Chi, 2007, p. 455). This statement holds true today as it did a decade ago. On a Wikipedia special page ("Wikipedia:Database reports/Pages with the most revision," 2019) the top one hundred most edited pages have a total of 17.2 million edits. Of these pages, not one of them is an article.

With the context of consensus is not only the concept of community, but also coercion and control as well (Kriplean, Beschastnikh, McDonald, and Golder, 2007, p. 1). A number of researchers have followed the implied binary of these terms and come to the following conclusions. For one, Wikipedia's process "is norm-driven" (Menking and Rosenberg, 2020, p. 19) with consensus being something that is "lobbied for, through networking and alliance-building by personalities with agendas" (Kildall and Stern, 2011, pp. 173–174). This also entails acts of exclusion that enable "the conceptual coherence of a community" (Tamani, Mandiberg, Mabey and Evans, 2019, p. 4), and the making of the Wikipedia community therefore "entails power struggles" and "hegemonic interpretations and practices" (Pentzold, 2011, p. 717). These

articulations suggest that a hegemonic perspective of knowledge has been inherited by Wikipedians and is inscribed in its concepts of consensus and community.

To assess the extent of this inheritance, it is necessary to first understand the relationships between hegemony, community, and consensus as discursive nodal points that support Wikipedia's meaning as an encyclopedia. By relying on feminist critical political theory, the first portion of this chapter explains how the political concepts of community and hegemony are synonymous. Second, I investigate the history of encyclopedic media that have used these concepts for encyclopedic purposes. In doing so, I trace the explicit use of consensus as an encyclopedic concept as far back as Chambers' *Cyclopedia* (1728) and follow it through various editions of the *Britannica*, the Documentalists of the early twentieth century, and democratic theorists of education who were also encyclopedists. I then use these precedents as a means to articulate the encyclopedic nature underlying Benkler's description of Wikipedian consensus and open discourse. Finally, I examine how the ideas of community, consensus, and hegemony instruct Wikipedia's foundational principles. The conclusion that I come to at the end of this archeology is that not only is a hegemony an active epistemological paradigm, the Wikipedian community has been designed to act as the circle in the "circle of learning."

The Choice of Hegemony

The concept of consensus within critical feminist political theory draws heavily from Antonio Gramsci's insights on hegemony. According to Chantal Mouffe, Gramsci's hegemony is "defined as the *ability* of one class to articulate the interest of other social groups to its own" (Mouffe, 1979, p. 183, my emphasis). The emergence of hegemony is therefore not just a consequence of an economic structure (as some Marxist theorists argue), but an "ideological

struggle” that “forge[s] unity between economic, political and intellectual objectives” (1979, p. 180). Hegemony is therefore a political phenomenon that is continually performed, historically situated, and describes two different kinds of processes.

The first process is attached to the negative expressions of hegemony — when it is “transformative.” In this form the interests of the masses are absorbed or neutralized “in such a way as to prevent them from opposing those of the hegemonic class” (Mouffe, 1979, p. 182). As a result, the type of “consensus obtained with these methods was merely a ‘passive consensus’” (Mouffe, 1979, p. 182). As new antagonistic elements continually arise to contest the hegemonic class, this fundamental class mobilizes its intellectual and material resources to absorb and neutralize its revolts, critics, and resistances. This reading of hegemony renders it a social form that is dominating, silencing, and politically coercive.

The popular interpretation of hegemony falls in line with this perception. But political theorists like Gramsci and Mouffe recognized a second form of hegemony — the “successful” or “expansive” hegemony. Instead of neutralizing antagonistic differences, this form consists of “the creation of an active, direct consensus resulting from the genuine adoption of the interests of the popular classes by the hegemonic class, which would give rise to the creation of a genuine ‘national popular will’” (Mouffe, 1979, p. 182). In this latter interpretation, hegemony exists as an essential element of democratic systems. Instead of *reproducing* the ideology of the ruling class, the hegemony exists as a *re-articulation* of power so as to limit the exploitation of the people that it enfolds into its community. It is this dual quality of hegemony as just and unjust — of either being the adoption of difference or the neutralization of it — that has readily been extended by critical feminist political theorists. Under their tenure, they raise these concerns about the coercive elements of deliberative and rationalist democracy and its incapacity to deal

with the intersectional context of power at play within the politics of gender, race, sexuality, and ability.

Critiques of Jürgen Habermas's theory of the public sphere and theories of liberal democracy cover much of this ground. Mouffe argued that the "central trait of most liberal thought is the rationalist belief in the availability of a universal consensus based on reason" (Mouffe, 2005, p. 11). This becomes the founding conceit of liberal democracy; that it assumes the possibility of a "nonexclusive public sphere of rational argument where a noncoercive consensus could be attained" (1994, p. 1545). Some deliberative democracy theorists have gone so far as to describe that beyond the "active consensus" of deliberation, there also exists "passive consensus" that is produced when parties simply "move on" (Vasilev, 2015, p. 85). Mouffe denounced this belief with sparkling clarity: if "every consensus is based on acts of exclusion, it reveals the impossibility of a fully inclusive 'rational' consensus" (Mouffe, 2005, p. 11). The only way to make such an inclusive consensus is to game the conditions of who and what is allowed to be discussed.

For Fraser, the social conditions that would allow for this to happen were far outside the conditions of actually existing democracy, such as assuming, as Habermas did, that interlocutors "would set aside such characteristics as differences in birth and fortune and speak to one another as if they were social and economic peers" (1997, p. 77). The negation of difference subsequently produces the imagined "space of zero-degree culture, so utterly bereft of any specific ethos as to accommodate with perfect neutrality and equal ease interventions expressive of any and every cultural ethos" (1997, p. 97). As a consequence, a failure to reach a consensus could only be "the result of distortion" that emerges from purposeful dishonesty or a false knowledge of reality rather than an acknowledgment of difference (Hauser, 1999, p. 54). The

political theorist John Dewey shared similar concerns about these kinds of “communication distortions” (Whipple, 2005, p. 176). He explained that “overt force” and “hired promoters” impede “free inquiry and expression” (Dewey, 1946, p. 169) and therefore limited the capacity to transform “the Great Society” into the ideal democratic form, “a Great Community” (p. 184).

It is here that the democratic rhetoric of “community” must be questioned. Fraser suggested that community describes “a bounded and fairly homogeneous group, and it often connotes consensus” (Fraser, 1990, p. 80). From this perspective, the social leveling required in the concept of “community” and “consensus” should be recognized as elements of a neutralizing hegemony. Jane Mansbridge made a similar point. She argued that each distinction of a group of people will “[conjure] up its dominant or majority referent,” and this then “implicitly excludes those whose experiences differ from that majority” (Mansbridge, 1993, p. 367). This follows that not only do communities act through dominance, “dominance through language thus cannot be avoided” (Mansbridge, 1993, p. 367).

And this is where Katarzyna Jezierska’s intervention with Habermas and Mouffe makes an important distinction between consensus, deliberation, and decision-making. She argued that the actual goal of democratic deliberation is not decision-making, nor agreement, but understanding (2019, p.1). Deliberation therefore becomes pivotal to the self-realization of a community through ethical-political discourses that are “oriented at understanding ‘who we are’ and ‘who we want to be’ (p. 4). As such, consensus is no longer a goal. Instead, Jezierska argued for keeping it “only as a potential *outcome* of deliberation, which logically equates it with dissent, or disagreement as another possible outcome” (p. 16, emphasis original). Therefore, “[w]hen consensus simply becomes one possible outcome,” forums that are oriented toward decision-making instead of understanding should rely on “voting after deliberation” (p. 18).

Deliberation and decision-making are therefore separate activities, and neither should be conflated with consensus.

In contrast to Habermas and Dewey, these critical feminist political theorists have also offered alternative forms of democratic hegemony that are expansive by understanding how it functions socially and spatially. For example, Fraser preferred the concept of publics which “emphasizes discursive interaction that is in principle unbounded and open-ended, and this in turn implies a plurality of perspectives.” She continued that “the idea of a public, better than that of a community, can accommodate internal differences, antagonisms, and debates” (Fraser, 1990, p. 80). Fraser’s more narrowly described “subaltern counterpublics” focused clearly on the role of domination and contestation within identity politics (1990, p. 67).

In a similar vein, Jane Mansbridge explained that political structures committed to difference are often expressed through systems of voting. When a majority votes to move one direction, the respective minority can create “enclaves of resistance” where they can “rework their ideas and their strategies, gathering their forces and deciding in a more protected space in what way or whether to continue the battle” (Mansbridge. 2017, p. 105). It is in these “protected enclaves” that those with less power “can come to understand their interests better, explore their common and conflicting ideas in a setting of mutual encouragement” (Mansbridge. 2017, p. 105). If a democracy allows for such spaces to exist, it must also support and facilitate their design. The agonist designer Carl DiSalvo argued for this exact point when he wrote that there is a necessity for “creating and enabling these spaces of contest” where “difference and dissensus” and the “assumptions and actions that shape power relations and influence” can be revealed (DiSalvo, 2010, p. 2).

What results from critical feminist political theory is a deeper appreciation of how a “successful hegemony” could be cultivated within democracy through publics and enclaves. It would deny the idea that broad social groupings exist as “communities” and that they are better understood as “publics” with internal and external antagonisms. For each public, there is the possibility of forming a provisional consensus about the identities, concerns, and materials that constitute the basis of their discursive interactions. These can then be brought into contact with other publics (larger or smaller) and create further alliances and antagonisms.

This theory spells out a new project for hegemony as it does not strive toward the end point of consensus or “community.” Instead, it is animated by the oscillation between consensus and dissensus at different scales, to different degrees and within different spaces. Creating the institutions, practices, and subjectivities that sustain this kind of democratic hegemony is at the heart of these feminist political theories. However, this is a dream that is not shared with those encyclopedists who have ruminated on the utility of community as an encyclopedic structure. In fact, they see difference as a danger to, rather than a partner of, consensus.

An Archaeology of Common Unities

1728–1849: The Mature Knowledge of Scientific Communities. In the previous chapter I argued that every encyclopedist has been guided by encyclopedic inheritances that imagine ways to encircle knowledge. In this vein there have been impossible desires for completeness (Doody, 2010, p. 169), wholeness of body (Harris-McCoy, 2008, p. 20), perfect reflection (Franklin-Brown, 2012, pp. 46–47), timeless doctrine (Ferris, 2004, p. 2), unified sciences (Neurath, 1946), and a world community (Wells, 1938, p. 79). Because these are impossible *desires*, they go hand

in hand with reciprocal *anxieties*: the fear of knowledge being subjective, incomplete, partial, different, dissenting, disconnected, local, temporally-bound, situated, and infinitely specific.

Between the seventeenth and twentieth centuries, the encyclopedic desires / anxieties that appeared to dominate were those associated with fixing disconnected knowledges in their place, to pin them to the background system that linked all understanding, and render (both the system and its parts) knowable to all those who could read. The first edition of the *Britannica* clearly articulated this when it described the “systematic reader,” a person who attained a holistic understanding by jointly reading treatises and articles (*Encyclopaedia Britannica*, 1778, p. iv) as well as navigating the encyclopedic apparatus of indexes (p. vi) and appendices (p. viii). A hundred and thirty years later the editor Hugh Chisholm made a similar description when he noted that the innovative “editorial mechanism” of the index was created for “every class of reader” (*Encyclopaedia Britannica*, 1910, p. ix). This last comment falls within reference to the variety of encyclopedic subjects that were interpellated by the encyclopedia: the student, the scholar, the “ordinary man” and the specialist. While different, each of these subjects were respective sides of the same subject role. This period imagined encyclopedic knowers as systematic readers and readers of systems.

Underlying this cultivation of the encyclopedic reader was a political project. The historian Jeff Loveland explained that the editors of the first edition believed they could offer readers “perfect” knowledge “without the assistance of a master” (2006, p. 70). The moral and political philosopher Alasdair MacIntyre similarly pointed out that at the root of the nineteenth century encyclopedist’s philosophy was a Cartesian and Kantian “declaration of independence by reason from the particular bonds of any particular moral and religious community” (1991, p.

59). By reading all the facts of science between the covers of the encyclopedia, one could use their own rationality to remove oneself from “the tutelage of authority” (p. 64).

But scientific consensus was a problem for the modern dictionaries of science; it moved faster than the publisher’s ability to update their volumes. Ephraim Chambers recognized this problem with his *Cyclopaedia* (1728). He was burdened with the question of “how to register and summarise this rapid growth of knowledge while at the same time attempting to distil essential (and stable) truths supported by the consensus of leading authorities” (Yeo, 2001, pp. 70–71). The encyclopedist decided that the *Cyclopaedia* was perched on the edge of present knowledge and provided “a modest basis for future advances and discoveries” (p. 71). Over a century later, the editor Macvey Napier of the *Seventh Edition* of the *Britannica* (1842) expressed an “enthusiasm for the most recent ideas” but only those ideas and subjects that reflected “mature knowledge” (Yeo, 2001, p. 270).

But this issue was far from settled. Yeo remarked that Napier’s correspondences with contributors raised this question: “should scientific articles seek to express the consensus of the scientific community, however defined, or should they include the most recent, controversial hypotheses?” (p. 270). One contributor of the *Seventh Edition* argued that “[r]ather than being a summary of a consensus,” articles describing contentious fields should act as “interventions in a debate” (p. 271). The result of these discussions between 1820 and 1840 was a belief that encyclopedic articles offered “opportunities for specialist controversy rather than as careful public statements of the present consensus in various fields” (p. 278). In the second edition of the *Metropolitana* (1849), the editors denounced this position. The *Metropolitana* did not contain “speculations” because “an Encyclopedia is a *History* of human knowledge, in which therefore

these intellectual embryos, which at best are (as it were) but truths in the *future* tense, have no rightful or befitting place” (1849, p. 3, emphasis original).

Despite the certainty of these different positions, their forceful contentions identify an epistemological rupture. Beyond being records of knowledge, encyclopedias were also being imagined as vehicles for “a common terminology and, potentially, a consensus on what had been established and what still needed to be done” (Yeo, 2001, p. xiv). In other words, they did not just *report* science; they were epistemic actors within the scientific community and authoritative articulators of new and settled knowledge (Yeo, 2001, p. 275).

1875-1910: The Policy of the Objective View. These debates demonstrate the imprecision of demarcating a line within scientific knowledge that is always subject to change. But encyclopedias were also drawn into epistemic controversies with communities outside of science. The political philosopher Alasdair MacIntyre characterized this conflict as a difference between how scientific and religious communities conceptualize consensus. Aligned with the natural sciences, he argued that the encyclopedists of *Ninth Edition* of the *Britannica* understood that epistemic “agreement” as an “unconstrained consensus,” that existed “without either formal or informal tests” (p. 188). This scientific view of consensus directly contested its religious counterpart. Under theology, “agreement arises only in communities constrained by enforced religious tests” (p. 188). These competing modes of consensus famously made trouble for the *Ninth Edition*.

In 1875, a new volume published William Robertson Smith’s article “Bible” where he made that argument that “the Bible could be considered not only as theology” but as a historically and cultural situated literature (Kogan, 1958, p. 65). By interpreting the Bible a

human construction, he was investigated in 1877 by a special committee at the Free Church College to discover whether he was guilty of heresy (Kogan, p. 57). In 1880, the punishment for Smith was softened to a mere admonishment and was passed with an incredibly close vote: 299 to 292 (Kogan, p. 57).

The *Britannica*'s editors recognized that this was not just an isolated incident. There was a feverish antagonism between Christian religious, scientific and philosophical means of explaining the world. In Thomas Spencer Baynes's "Prefatory notice" to the *Ninth Edition*, he exclaimed that "[t]he air is full of novel and extreme opinions, arising often from a hasty or one-sided interpretation [...] of modern inquiry." In such issues, the *Britannica* was not to take part as it "has to do with knowledge, rather than opinion" (Baynes, 1878, p. viii).

Inspired by Baynes's description, the editors of the *Eleventh Edition* decided impartiality did not mean leaving "controversy out altogether" since this would only "avoid responsibility at the cost of perpetuating ignorance" (*Encyclopaedia Britannica*, 1910, p. xxi). Their solution was to use the "policy" of "objective view" to "summarize controversy by rendering dogmatic beliefs "according to the interpretation, accepted by those who hold it" which in turn, was ensured by the presence of "contributors of all shades of opinion" as a means to "give representation to all parties, sects and sides" (1910, p. xxi). They could achieve this since "the controversies which at that time raged round the application of historical and scientific criticism to religion have become less acute, and an objective statement of the problems, for instance, connected with the literary history of the Bible is now less encumbered with the doubts as to the effect on personal religion which formerly prevailed" (1910, p. xvi). When controversy was not as evident, the organization, focus, and length of articles was judged by "consensus [which] is the only ultimate criterion" (1910, p. xxi).

If the *Britannica* was to survive as a commercial enterprise and an authoritative institution, it had to demonstrate how it would be able to close this gap in its circle caused by incommensurable conflicts of opinion. Before the twentieth century, the *Britannica*'s position concerning consensus that it was the product of an unrestrained combination of each individual's rationality. Now, rationality was seen as the product of consensus. The shift was subtle. By being embroiled in high profile controversies, the *Britannica* was forced to find a way to join the two. Agreements made by any community — and disagreements made by scientific and religious communities — could be encircled by collecting, summarizing, and organizing them within the same space. Under this vision developed by the *Britannica*, consensus became the content of the encyclopedia and an announcement of its rationality.

1905-1938: The Documentation of the World Community. Perhaps due to the institutional threads that tied the *Britannica* to other encyclopedic imaginations, its deployment of consensus was relatively conservative and pragmatic. It lacked the desire to envision an encyclopedia where consensus and hegemony were its primary goals. The media historian, Aaron Worth, pulled on this thread when he examined the works of H. G. Wells. Wells's writing (both science fiction and non-fiction) was burdened with the consequences of technical disconnection, temporal discontinuity, and cultural-geographic differences that were exaggerated by a fragmented British Empire. It was these differences for him (and not the colonizing empire) that brought violence, injustice, and inhumanity. Many of Wells's plots circulated around the quest of creating unified and just societies overcoming these differences. In the positive light, it meant speculating on a world that was technically, politically, and culturally consistent and whole. The reverse of this

desire was that complete connection would be achieved through the “eradication of all difference” (Worth, 2010, p. 65). This was the vision that served as the inspiration for both his real and imagined encyclopedias (respectively, *Outline of History* and *World Brain*). In the *World Brain*, his anxiety about the danger of difference was clearly articulated:

“How often do we see men misrepresenting each other in order to exaggerate a difference and secure the gratification of an argumentative victory! A World Encyclopaedia as I conceive it would bring together into close juxtaposition and under critical scrutiny many apparently conflicting systems of statement. It might act not merely as an assembly of fact and statement, but as an organ of adjustment and adjudication, a clearing house of misunderstandings; it would be deliberately a synthesis, and so act as a flux and a filter for a very great quantity of human misapprehension. It would compel men to come to terms with one another.” (Wells, 1938, pp. 22–23)

In Wells’s opinion, encyclopedias needed to appeal to greater aspirations than a “casual summaries of opinions” (1938, p. 19), which set it apart from the *Britannica*’s policy of objectivity. Instead, the user of his encyclopedia would, “find very carefully chosen and correlated statements and arguments” (1938, p. 19) which supported “dissolving human conflict into unity” (p. 62). With this kind of unity, humanity could “pull its mind together,” and get on with the “beginning to the new world” (p. 64). This, Wells argued, could also be achieved when the fragmented knowledge of history was reconstructed as a “general development of mankind” (p. 142) that would lead, as he wrote in his *Outline of History*, to “The Next Stage of History,” and to “the possible unification of men’s will in political matters” (Wells, 1922, p. 1086).

Well’s vision for the *World Brain* was therefore deeply political and predicated on building a “world community” (1938, p. 57) that would be based on the “co-operation” of universities and institutions in order to create “an intellectual authority sufficient to control and direct our collective life” (p. 68). In an earlier work, he described that such a “World State” would need to abandon the inefficiencies of an electoral democracy (1905, p. 258) and be

governed by a “voluntary nobility” of administrators, or “samurai” (p. 259) which held “all the real power of the world” (p. 277). Through this entangled imagination of a World Brain and a World State, Wells’s imagination was animated neither by a published encyclopedia nor a “technological network, but as *institution* and *bureaucracy*” (Muddiman, 1998, p. 95, emphasis original).

The famous Belgian documentalist Paul Otlet shared similar sentiments. Otlet is famous for his documentation institution of media called the Mundaneum (Rayward, 2003, p. 60), a “world palace” for the “encyclopedic codification” (Rayward, 1994, p. 141) of information that came from the “interrelated networks” of institutions and international associations (pp. 245–246). Within this network, the Mundaneum served as the “nerve center” of this global network and “[a]round it would grow a world city representing symbolically a new polity in which international relations of all kinds could be rationally ordered” (Rayward, 2003, p. 6). Like Wells, the underlying purpose of the world palace was to assist society in its “inter-mental agreement,” and direct it “towards consensus” (de Moura, 2014, p. 6).

1916-1955: The Platform of Democratic Participation. Despite sharing some conceptual alliances with Wells (Rayward, 1999, p. 571) and social connections with Otlet (Rayward, 2008, p. 16), Otto Neurath envisioned an encyclopedia that was not reliant on the same ideas of information storage and retrieval. In an early outline of his project, Neurath described that there was a requirement for a type of encyclopedia that understood that the “unification and systematization of science are permanent activities” (1937, p. 267). This would be achieved, he argued, by concentrating on creating a common language and a homogeneous vocabulary that expressed all scientific development and build bridges between the sciences (1937, p. 273). This

vision of the encyclopedia was realized in Neurath's *International Encyclopedia of Unified Science*, an encyclopedia that moved beyond being a "mausoleum" of dead knowledge and toward "a living intellectual force" (Neurath, 1955, p. 26). The primary premise for this vision was that his encyclopedia would "become a platform for the discussion of all aspects of the scientific enterprise" (p. 26).

As a contributor to Neurath's encyclopedia, John Dewey recognized that the unity of science was typically pursued through "co-ordinating the scattered and immense body of specialized findings into a systematic whole" (Dewey, 1955, p. 32). But like Neurath, he understood unity as also meaning a process, an "attitude and method" (p. 29), one that manifested in "any walk of life" where there "is the will to inquire, to examine, to discriminate, to draw conclusions only on the basis of evidence after taking pains to gather all available evidence" (p. 31). To this point, the scientific attitude includes not just scientists but also "the engineer [...], the farmer, the mechanic, and the chauffeur" (p. 30).

This encyclopedic view reflected Dewey's theory described in *Democracy and Education* (1916). In this work he argued that "the living, experiencing being is an intimate participant in the activities of the world to which it belongs" and therefore "knowledge is a mode of participation" (1916, p. 393). Because of this condition, the political ramification was that "[s]ociety not only continues to exist *by* transmission" but also "*in* transmission, *in* communication" (1916, p. 5, emphasis original) and therefore "all communication (and hence all genuine social life) is educative" (1916, p. 6). This active view of democracy meant that the consensus of a society is not passive consent. Summarily described, "[c]onsensus demands communication" (p. 6). As William Shea explained of Dewey's intervention, cultural authority

no longer existed in the text and the “divine confirmed officeholder;” it lived in the interpreter and the “confirming community” (1989, p. 302).

This educative theory of democracy was embedded within Dewey’s vision of the encyclopedia where the unity of science is a way of life. Framed this way, the primary obstacle of unity was the “active opposition to the scientific attitude on the part of those influenced by prejudice, dogma, class interest, external authority, nationalistic and racial sentiment, and similar powerful agencies” (1955, p. 32-33). By removing these differences, science could be unified when “all human beings become scientific in their attitudes” (p. 38).

This participatory view of education, democracy, and the encyclopedia put him in direct conflict with H. G. Wells — and he said as much. In his 1939 essay “I Believe,” Dewey wrote: “The technocrats of recent memory [...] ruined their vision when they fell into the pit dug by Wells and Shaw, that of rule from above by an elite of experts — although according to technocracy engineers were to be the samurai” (Dewey, 2008, p. 95). In contrast, Dewey’s encyclopedic vision was based on a common attitude that would support collaboration, communication, and consensus of all individuals committed to the ideal for of democracy. This vision alluded to “The Great Community” which he had earlier theorized would exist through “free and full intercommunication” (1946, p. 184).

1952–2000: The Synthesis of Opinion and Tradition. Dewey’s epistemological account of knowledge was also in conflict with the encyclopedist Mortimer Adler who was “a former student of Dewey’s and one of his critics” (Shea, 1989, p. 297). This division between the two was drawn on account of Dewey’s relativist liberal political theory that Adler believed abandoned the “essential principles of [...] justice, freedom, truth” (p. 297). Adler’s own

democratic imagination of education was based on the canon and traditions of Western thought. This was evident in Adler's collaboration with the *Britannica* on the *Great Books of the Western World*, and his argument that this set of books represented "the western tradition *as a whole*" (Adler, 1952, vol. 2, p. 1222, emphasis original).

Adler continued to develop his plan for a democratic culture when he became chairman for the *Britannica*'s Board of Directors from 1974–1995 (Editors of the *Encyclopaedia Britannica*, 2019). In this capacity he saw to the launch the *Fifteenth Edition* of the *Britannica* in 1975 which was a dramatic redesign of the entire encyclopedia (Selinger, 1976, p. 440). When reflecting on the design for the *Britannica*, Adler made a statement that could have been used to describe Wikipedia: "We live in an age and in a society that is dominated by cultural pluralism and intellectual heterodoxy. Unacceptable, therefore, would be any ordering of the departments of knowledge or the fields of learning that is hierarchical or that is ascending or descending in a scale of values involving judgments about what is more or less fundamental, important, or significant" (Adler, 1986, p. 90–91).

Adler's solution was to instruct readers to view knowledge as a circle, where each part "could be a starting point from which one might move in any direction to other parts" (p. 91). He chose this figure rather than a hierarchical order because he believed "[s]uch an ordering would be regarded as culturally monolithic instead of *pluralistic*, [...]. It would be challenged at every point as being opinionated in a privately tendentious manner instead of representing, as it should, *a public consensus*" (Adler, 1986, p. 90-91, emphasis mine). These last emphasized terms require some further attention in order to piece together their meaning.

When Adler described "public consensus," he appeared to be working with a distinction between knowledge and opinion he had been working with since 1952. In the introduction to the

Great Books, Adler described an important difference between an encyclopedia and a syntopicon (or synthesis of topics). For him, the content of an encyclopedia includes facts drawn from “historical and scientific knowledge” (1952, p. xiii). Notably, opinion is not listed here. That is reserved for the syntopicon which is based in “the realm of thought and opinion” (p. xiii) and describes “topics” which exist as “a place at which minds meet — to agree or disagree, but at least to communicate with one another about some common concern” (p. xii). The *Great Books* project, enabled by Adler’s syntopicon, was therefore a means of “comprehending the wisdom and understanding accumulated thus far in all major fields of inquiry” of Western culture (Adler, 1952, p. xiii). Years later, Adler was working on the political character of this division. In *How to Think About Great Ideas* (2000), he called attention to “the fact that all of us are aware that it is only with respect to opinion that we talk about a consensus” and never about knowledge (Ch. 2, para. 36). And since it is opinion, the only correct and democratic way to resolve differences of opinion is to assent voluntarily to the authority of “majority rule” (Ch. 2, para. 10). Pieced together, I argue that what this is what Adler meant when he said the order of the *Britannica* reflected a “public consensus.” It was the synthesis of majoritarian opinions that had been gleaned from the Western tradition.

1728-2000: Encyclopedic Variants of Consensus. Before broaching the topic of how Wikipedia ties into this archeology of encyclopedic consensus, it is necessary to review the various meanings encountered so far. During the eighteenth and nineteenth centuries, encyclopedists understood that encyclopedic knowledge reflected knowledge that had *matured* by way of the scientific community. What was less clear was how to deal with the community’s unsettled debates. Importantly, this concern was born from the belief that encyclopedias did

more than provide knowledge to the general public. They also served as an avenue to publish original research. In doing so, the encyclopedias of the 1820s–1840s were participants in scientific debate, rather than mere collections of established knowledge.

When it came to the *Britannica*'s controversies of the late nineteenth century, it was clear that the encyclopedia had to devise a technique for epistemic contests that came from outside the scientific community. In light of this, encyclopedists of the *Eleventh Edition* used consensus as a means to judge how knowledge should be ordered and informed the scale of each article (*Encyclopaedia Britannica*, 1910, p. xxi) — though they did not provide additional detail about how such a consensus was generated. When it came to disagreements, the encyclopedia's role was to summarize these disparate positions. In other words, opinions were just one more phenomenon that could be described by the encyclopedia — and therefore could be known. It was left up to the readers to judge their value.

H. G. Wells admonished the *Britannica* for this approach. He argued that when an encyclopedia deals with the uncertainty of a topic, it should only report “carefully chosen and correlated statements and arguments” rather than a summary of opinions (1938, p. 19). Accordingly, Wells and Otlet's discourse about encyclopedic consensus took a different route. Instead of reflecting on the consensus of already existing communities with disparate epistemological systems, the goal of their encyclopedic projects was to centralize and filter these external sources to create the conditions for a new community, a new political consensus in the form of a world government run by institutions and experts. Consensus was therefore imagined as threshold into utopia.

Neurath and Dewey also had utopian aspirations, but they contested the idea that a world community should be based purely on the transmission of knowledge between experts. For these

two philosophers, consensus was an encyclopedic process to coordinate the babel emanating from disconnected sciences and to cultivate a scientific attitude within humanity. Here, the meaning of “encyclopedia” shifted away from the ideas of storage and toward the notions of education and ongoing participation in the pursuit of the ideal form a democratic society: the “Great Community.” In contrast, Dewey’s student Mortimer Adler argued that the organization of encyclopedic knowledge itself was a matter of consensus, a consensus that was mined from the majority of opinions found in the canon of Western culture.

Placed alongside one another there is a noticeable temporal pattern between these encyclopedic usages of consensus. From Adler, while consensus can engage with the present, it represented a wisdom that reached deep into a cultural past. For Dewey (and to a degree, the editors of the *Seventh* and *Ninth Editions* of the *Britannica*) consensus was understood as a phenomenon that drew its legitimacy from the present as individuals became active participants in negotiating the controversies and meanings of knowledge. Wells’s discourse was based on the idea that our past and present knowledge are only the developmental steps toward our rendezvous with a future society, a political consensus that encircles all of humanity. These are the encyclopedic articulations of consensus that point to the flexibility of the concept: a flexibility that is likewise found within Wikipedia’s imagined affordances of community.

Wikipedian Consensus as a Knowledge of Knowledge

Converting Opinion into Knowledge. When it comes to Wikipedia’s vision for consensus, the names of Baynes, Wells, Dewey, and Adler are rare finds. Wikipedian consensus is more often linked to hacker culture, the wiki software itself, and the neoliberal theory of knowledge articulated by Friedrich Hayek. I will cover these more usual suspects before connecting the dots

of how these meanings come to articulate an encyclopedic imaginary of hegemony — one that is capable encircling all knowledge by transforming opinions about knowledge, into a knowledge of knowledge.

When Joseph Reagle described that “the meaning of consensus” within Wikipedia, he justifiably pointed to the idea of “rough consensus” that played a “seminal role in the development of the Internet” (Reagle, 2010, p. 100). During the development of the Internet Engineering Task Force (IETF), consensus was adopted as one of its decision-making mechanisms. Distilled to its essence, David Clark proclaimed during a 1992 meeting that “We reject: kings, presidents and voting. We believe in: rough consensus and running code” (Reagle, 2010, p. 102). In most cases, this statement is used to describe the anti-authoritarian tract in techno-libertarian / hacker culture (O’Neil, 2009, pp. 38–39; Berry, 2014, p. 181). While this is certainly the case, this reading of the manifesto also misses the deeper political theory at work. Clark’s statement is first a provocation against the political value of powerful and tyrannical minorities (elites, monarchs, cabals, etc.). But it is also an admonishment of the value of governance by the majority as represented by a voting system.

This makes sense in the context of the IETF which was a social unit limited in scope, action, and members. Siding with Jane Mansbridge, Joseph Reagle argued that consensus is likely “best suited to small groups of people with some common interests and acting in and assuming good faith” (2010, p. 111). A subsequent side effect of Mansbridge’s view is that group decisions are only made into policy when there are no objections from all members (p. 106). This explicit participation reinforces “the unity of the group” (p. 112) and takes authority away from individual members and embodies it in the “process” (O’Neil, p. 149). From this description of the IETF and its concentration on action, process, distrust of traditional authority,

and the ideal of participation by all members of a community reflects a Deweyian notion of a democratic community.

When it comes to Wikipedia, Johanna Niesyto also made the connection that “Clark’s mantra of rough consensus seems to be deeply inscribed into Wikipedia principles for conflict resolution” (2011, p. 139). In addition to this, the “adjective ‘rough’ points to the fact that rough consensus is never fixed or defined in detail” (p. 141). It is in this sense that consensus is perhaps best understood as one of Wikipedia’s social norms, rather than just an explicit policy. Christian Pentzold, confirmed this assessment when he defined Wikipedia as an “ethos-action community” where social organization is self-governed through “functional consensus” that establishes itself as a means “to react to an emerging problem or task, not to predetermined issues” (p. 714).

Even the encyclopedia’s name reflects this epistemic orientation; the adoption of the Hawaiian word, wiki, for “quick” (Cunningham, 2001, p. 14) and the suffix of “-pedia” jointly articulates Wikipedians as “quick learners.” This characterization also follows the expectation of internet-enabled subject positions who embraced participation, peer production, and collective intelligence (Bruns, 2008; Jenkins 2006; Benkler, 2006, Lévy, 1997). In 1997, Pierre Lévy’s poetically predicted the arrival of such “a strong people, one perpetually engaged in the process of self-knowing and self-creation, a people in labor, a people yet to come” (Lévy, 1997, p. 89). Since the early 2000s, Wikipedians have been the standard flag-bearers of this new digitally-enabled people (Benkler, Shaw and Hill, 2015, p. 176; Lévy, 2011, p. 91; Bruns, 2008, p. 1).

On this basis, Benkler’s description of Wikipedians engaging with “consensus,” articulates a key aspect about them, especially since they do so through “self-conscious use of open discourse” (Benkler, 2006, p. 72). In this statement, Benkler connects to the concept of openness as a reservoir of meaning. For example, Wikipedia is built on top of open source

software; it is intended to provide open access for anyone to read or edit; its content is “open” in the legal sense that it is free to be used rather than proprietary (Tkacz, 2014, p. 24); and the platform records, stores, and displays all individual actions that make Wikipedia’s decision-making process “transparent” (Benkler, 2006, p. 73); editors add article pages as they see fit, rather than a prescribed list or order (Muchnik, Itzhack Solomon and Louzoun, 2007, p. 2); and despite being known for its rules, Wikipedia’s policy of “Ignore all rules” asserts a bureaucratic openness (Tkacz, 2014, p. 99). All of this is to provide legal, technical, epistemic, and operational support to render every single Wikipedian action as “open.”

This penetrating value of Wikipedian openness does not just come from anywhere. Jimmy Wales explicitly stated that “[o]ne can’t understand my ideas about Wikipedia without understanding Hayek” (Mangu-Ward, 2007), the neoliberal economist who advocated for the political value of openness. In his article *The Use of Knowledge in Society* (1945), Hayek argued that the open society “acts as one market, not because any of its members survey the whole field, but because their limited individual fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all” (p. 526). Later in his career he explained how this ideal of market exchange applied directly to knowledge when he wrote, “that more successful solutions of the problems of society [...] do not rely on the application of anyone’s given knowledge, but encourage the *interpersonal process of the exchange of opinion* from which *better knowledge* can be *expected* to emerge” (Hayek, 1990, p. 148, my emphasis). Almost naturally, he assumed, “better knowledge” would spring forth from the exchange of opinion. This, he explained, was because “competition is the most effective discovery procedure which will lead to the finding of better ways for the pursuit of human aims,” for either intellectual or material purposes (pp. 148–149). Additionally, this idea of the open society is

deeply “individual-centric in terms of decision-making, responsibility, competition, and familial ties” (Tkacz, 2014, p. 34).

So, when Benkler described Wikipedians as committed to “open discourse,” the term “open” can be read partially in the sense that Hayek understood it; as the free exchange of opinions. However, Benkler clarifies that this exchange is not based on market competition nor consumers. Instead, people should be treated as “users” to ensure the greatest numbers of “antagonistic [...] dissenting voices” (Whipple, 2005, p. 176). This idea is echoed in Benkler’s description of Wikipedia discussions that serve to facilitate “the synthesis of positions and opinions” by making these opinions “jostle for space” in a “free-flowing exchange of competing views” (Benkler, 2006, p. 218). After this process, “the output is more easily recognizable as a collective output and a salient opinion or observation” (Benkler, 2006, p. 218).

This imagination for the encyclopedic role of consensus through opinion differs greatly from the historical discourses previously discussed. Two editors of the *Britannica* writing over a century apart (Baynes, 1878, p. viii; Adler, 2000, Ch. 2, para. 36), H. G. Wells (1938, p. 19), and John Dewey (1916, p. 222) all agreed that knowledge and opinion were distinct from one another. Of these, Dewey’s description represents the general tenor of their jointly-held position: “Knowledge is distinguished from opinion [...] and mere tradition” because it is “what is sure, certain, settled, disposed of; that which we think *with* rather than that which we think about” (Dewey, 1916, p. 222, emphasis original).

Through the triangulation of Hayek, Benkler, and Wales, the political concept of *openness* tacks on a new encyclopedic role for opinion. Instead of keeping knowledge and opinion separate, Wikipedia opinion is *transformed* through the competition of consensus, and produces, as Hayek put it, a “better knowledge” (1990, p. 148). When consensus is understood in

this manner, opinions about what knowledge should be included and excluded from the encyclopedia are no longer opinions. Likewise, the uncertainty that comes with speculation and conflict is not just resolvable. Through the open consensus of a crowd, the Hayekian position argued that these opinions become recognized *as* knowledge.

This spells out a very interesting — and troubling — situation for articulating the epistemic value of Wikipedia’s policies. Since 2008, English Wikipedia policies and guidelines have included a template at the top of each page which proclaims that users must ensure that each edit “reflects consensus” (“Template:Policy,” 2008). Here, the function of consensus goes beyond producing encyclopedic articles. Its function is to document what the community *knows* to be the common way to represent, discuss, and produce encyclopedic knowledge. To riff on Dewey’s aphorism, these policies are something Wikipedians “think with” rather than “think about” (1916, p. 222). It is a hegemonic knowledge of knowledge.

This perfectly aligns with Bryce Peake’s description of Wikipedian knowledge: “The expertise of Wikipedians on all things Wikipedia, according to Wikipedians’ actions, trumped any other form of expertise in knowledge production – such that knowledge about (and research on) campus sexual violence and its effects was never the real subject of debate. Instead, [...] they turn to hermeneutic arguments through a near infinite, always self referencing, system of WP:<POLICY>” (Peake, 2015). Just like transcendental philosophies, science, and universal alphabetization were argued by encyclopedists to be appropriate means to know how to order knowledge, the consensus of the Wikipedian community is being used for the same epistemological purpose. But there are serious political concerns that emerge from this encyclopedic imaginary. In the following section I examine how these concerns manifest in the consensus represented by Wikipedia’s five pillars.

Wikipedia's Five Pillars: Thinking with Hegemony. The Wikipedian community is grounded in five pillars that announce that Wikipedia is an encyclopedia; it is written from a neutral point of view; it produces free content; through respect and civility; and that there are no firm rules (Reagle, 2010, p. 52). These pillars have both been described as “the most complete and sensitive summary of Wikipedia collaborative norms” (p. 52) and the “principles informing and undergirding the prevailing epistemic [...] norms and practices” (Menking and Rosenberg, 2020, p. 3). In other words, they are descriptions of the overarching consensus that holds the Wikipedian community together. While these pillars were not present for the first three years of Wikipedia, they have “changed very little since 2005” (Menking and Rosenberg, 2020, p. 6). By approaching these pillars from a feminist perspective, as Adrienne Wadewitz suggested, the authors argue that this activity can serve as an important means to understand the limits of encyclopedic knowledge (2013a). I take this concern as an excellent opportunity to examine how Wikipedians *think with* their inherited hegemonic paradigm of knowledge as a means to understand encyclopedic knowledge.

This first pillar inscribes the idea that “Wikipedia is an encyclopedia” and establishes its ontological status as a product and a type of content (Menking and Rosenberg, 2020, p. 14). It also functions as a safeguard for preventing “the influence of individuals whose values and aims are incompatible with the Wikipedia project” (p. 14). Over time, this pillar has been supported by the “What Wikipedia is not” policy that enumerates “organizational forms, identities, or missions in which the encyclopedia project would not engage” (Keegan, 2013, p. 5). What is striking here is that despite rhetorical focus on “openness,” the very first principle highlights the pragmatic

necessity of enclosure by ensuring that all activity is directed towards this singular goal of producing an encyclopedia.

The second pillar describes that Wikipedia is written from a neutral point of view (NPOV) and asserts that “that no article should be biased towards one position or another” (Niesyto, 2011, p. 143). Johanna Niesyto recognized that this is a kind of “standardized method” of writing, where the principle “translates between different social and cultural worlds,” as a way to allow them to “coexist” within the same system (Niesyto, 2011, p. 143). It is also a perspective that Niesyto ascribed to Hayek’s “market theory applied to encyclopedic policy” (p. 143). Joseph Reagle confirmed this argument stating that the principle of neutrality is not “so much as an end result, but rather as a stance of dispassionate open-mindedness about knowledge claims, and as a ‘means of dealing with conflicting views’” (2010, p. 56). In the context of the precedents of encyclopedic consensus, this pillar is a direct descendant of the *Eleventh Edition*’s policy of “the objective view” (*Encyclopaedia Britannica*, 1910, p. xxi). It presumes that the encyclopedia can act as the mediating space where contesting points of view can be situated beside each other.

But this kind of encyclopedic neutrality and objectivity fail themselves. In the context of articles concerning topics about narratives, Wadewitz demonstrated that despite the Wikipedian position that “the plot is obvious and non-controversial,” Wikipedian plot summaries are interpretations of works rather than neutral records of facts (Wadewitz, 2013a). She also identified that the issues of neutrality are not just of individual interpretation but also reproductions of institutionalized “patriarchal power structures that legitimize knowledge.” Likewise, if Wikipedia’s neutrality is based on its sources, then neutrality is limited by the fact that some topics “such as sexuality studies or feminist studies, have a harder time gaining

funding than other topics and thus there is less expert scholarship to draw on to create articles” (Wadewitz, 2013b).

This principle, Wadewitz suggested, is one “that one could ‘characterize’ information and issues rather than debate them;” a position that can only be held if “there is some set of independent universally recognized set of criteria” for choosing important viewpoints — which does not exist (Menking and Rosenberg, 2020, p. 16). Leitch similarly argued that the idea of a neutrality that represents “all important viewpoints” produces a “disingenuous” position (p. 41). Implicitly aligning with Dewey (Shea, 1989, p. 300) and Haraway’s (1988, p. 587) views on knowledge, Leitch argued that a NPOV does not appear from nowhere — “someone must decide which viewpoints are important enough to include in a given article, and which of the important viewpoints deserve the most prominent representation” (p. 41). In other words, the apparent openness inscribed in the language of neutrality hides the enclosures that exist as the default position for looking at other viewpoints. Therefore, what counts as Wikipedian “neutrality” is actually the “consensual thinking” of what is important *specifically* to the Wikipedians writing the article (p. 42). As Menking and Rosenberg put it, NPOV is less about neutrality than it is the “epistemic integrity” performed within “the practices and protocols the community elects to enforce” (2020, p. 17). Again, this pillar of neutrality is conditioned by how the community encloses the meaning of neutrality.

The third pillar describes that the entirety of Wikipedia’s content is permitted to “be used, edited, or distributed by anyone” (Menking and Rosenberg, p. 17). The underpinning principle here is one about universal access; about creating an encyclopedia that “anyone can edit.” But this articulation falls short because it fixes the concept of access to a consumable product (p. 17).

As Menking and Rosenberg observed, this kind of access does not address access in terms of “the active need to promote and foster diverse participation” (p. 17).

Legal scholar Danielle Citron provided a rigorous explanation of this in terms of online access in general. She argued that when access to a product or community is free, it also allows access to the online community in a way that allows anonymous groups “to deny women, people of color, religious minorities, lesbians, and gays access” (Citron, 2009, p. 68). As such, online mobs effectively raise the price of maintaining an online presence for these groups “by forcing them to suffer a destructive combination of threats, damaging statements” (p. 68) or sexual threats that “make women want to lay low” (p.70). Access becomes a tool to mark a dividing line between whose participation is and is not accepted. So long as universal access is conceived of in terms of a product and technical access — as the third pillar of Wikipedia does — it cannot provide a principled framework to address these exclusionary practices that socially close off Wikipedia from marginalized groups.

The fourth pillar deals with the concept of civility and was first described as “the writers’ rules of engagement” (Menking and Rosenberg, 2020, p. 6). It is a pillar that is imagined to “keep the boundaries of the epistemic community open, by requiring that all contributors are treated with respect” (p. 18). As such, this pillar (which is simultaneously a policy) instructs editors to “[r]esolve differences of opinion through civil discussion” (“Wikipedia:Civility,” 2019). If civility fails, then editors are often pointed to WP:Dispute Resolution, a policy that Reagle thought was “surprisingly optimistic, as if agreement and harmony are the natural state from which disputes sometimes errantly arise and must be swiftly corrected” (2010, p. 46). This is born out in the consensus policy which falls under the umbrella of civility.

Originally, the consensus policy was composed of a multitude of positions: “unanimity and a lack of voting (e.g., “voting is evil”); pausing when agreement cannot be reached; participation by all those with ideas on the subject; listening with an open mind; facilitators, but no ‘leaders’; egalitarianism; and a factual rather than emotional focus” (Reagle, 2010, p. 101). A decade later, some of these meanings have been minimized (more about this in the following chapter). For example, consensus is no longer articulated as unanimity (like the type that Jane Mansbridge described) and polling (rather than voting) is allowed only as a means of structuring discussion. Reagle argued that the Wikipedian concern about voting does not have to do explicitly with a concern that it enforces majority rule. The concern is that voting challenges the notion that consensus can naturally be achieved because voting “symbolizes, reinforces, and institutionalizes division” (Reagle, 2010, p. 112). Reagle pointed out that this distrust of division and political difference stemmed from Wikipedia’s earliest cultural norms used to counter the “common tendency in groups is to adopt a parochial in-group / out-group mentality” (Reagle, 2010, p. 80). This is reflected in an often-cited essay that disparagingly describes social groups as cabals (“Wikipedia:Cabal,” 2019) and a behavior guideline that describes how efforts to act collectively on a discussion topic is “considered inappropriate [...] because it compromises the normal consensus decision-making process” (“Wikipedia:Canvassing,” 2019). These attitudes institutionalize the perception that consensus is only legitimate if users act on their own as liberal individuals who will naturally assent to the authority of the community.

As part of the early descriptions of the consensus policy is its connection to civility and the idea of collaborating through “a factual rather than emotional focus” (Reagle, 2010, p. 101). This perspective reinforces what Fraser identified as the myth of the public sphere being “open and accessible to all” (Fraser, 1990, p. 63) because interlocutors are assumed to “bracket status

differentials and to deliberate 'as if' they were social equals" (p. 62). This is a point that Menking and Rosenberg supported when they criticized the pillar's premise of an "unbiased position" (2020, p. 18) or when Vetter and Pettit explained that "[w]hile we might imagine collaboration as inclusive and diverse" [...] consensus represents the more pragmatic method of achieving a product in line with a community's majority of stakeholders and established practices" (2017). As such, what makes consensus work is not diversity, but the enclosure of discourse that happens in the presence of a "homogenous editorial base" (2017).

What is therefore at stake is not just respect, but what kinds of statements are recognized as valid. For some adherents to Habermas's theory of the public sphere, what counts as civility is akin to "courteous turn-taking in speaking and a well-mannered demeanor" (Papacharissi, p. 266). However, this conflation of civility with politeness is politically dangerous. Zizi Papacharissi explained that actual civility is the "respect for the collective traditions of democracy" (Papacharissi, 2004, p. 260). By this definition, what counts as being uncivil is not rudeness or improper manners, but "behaviors that threaten democracy, deny people their personal freedoms, and stereotype social groups" (p. 267). Similarly, Jezierska argued that the conditions of deliberation are not "exclusively formed by rational discourse" (2019, p. 19). Instead it includes utterances "springing from local, even individual experiences, as well as those emotionally tainted" because all that is required of deliberation is a "1) willingness to publicly justify your position; 2) readiness to listen to the other(s); and 3) openness to change your own position under the influence of the encounter" (p. 19).

Agreeing with Fraser, Papacharissi draws this problematic style of stoic address to its historical roots where civility "functioned merely as a realm for privileged men to practice their skills of governance" and worked to exclude other social groups (Papacharissi, 2004, p. 266).

Reagle similarly recognized this fact when he described the civility policy, noting that it borrows social practices that come from a culture of “gentlemen” who were made the “arbiters of truth because their privileged status allegedly rendered them immune from external pressure” (Reagle, 2010, p. 68). This status is captured in the translation of Jürgen Habermas’s *The Structural Transformation of the Public Sphere* (1991), where his use of the German word *bürgerlich* simultaneously carries the connotations of both “civil” and “bourgeois,” so that there is a sliver of semantic difference between a civil public sphere and a bourgeois public sphere (p. xv). These inheritances of civility as meaning a male-oriented and stoic bourgeois politeness can be seen to be at work in the policy itself and the actual conversations of Wikipedians.

For example, the notion of politeness and its opposite rudeness have long been a part of Wikipedian civility, going as far back as 2004 (“Wikipedia:Civility,” 2004). Likewise, incivility is explicitly defined as “personal attacks, rudeness and disrespectful comments” (“Wikipedia:Civility,” 2019). When it comes to conversations held between 2001 to 2015, it was found that when Wikipedians who rise within the ranks of the community, “female and male authorities are just as (un)emotional in terms of valence in their language use” (Gallus and Bhatia, 2020, p. 128). This change, the authors conclude, “is driven by women who converge to the behavior of their male counterparts as they assume positions of power” (p. 128). As such, the pillar of civility and the consensus policy raise concerns about whose social norms have been used to determine what kinds of expressions count as civil and reinforce the consensus of the community.

The final pillar describes that Wikipedia does not contain firm rules and is synonymous with the appropriately sparse policy of “Ignore all rules” (Tkacz, 2014, p. 99). In the most recent version, the policy is restricted to a single line: “If a rule prevents you from improving or

maintaining Wikipedia, ignore it” (Wikipedia:Ignore all rules, 2020). The contradiction of this “antirule sentiment” was not lost on Tkacz as “No Firm Rules” exists as a *pillar*, literally a metaphor for firmness, stability, structure, and foundation. Accordingly, he argued that “it is clear that Wikipedia does have firm rules — powerful and forceful statements — and this is necessarily the case” (Tkacz, 2014, p. 99). Without rules, without forms of enclosure, the encyclopedia would not function.

Menking and Rosenberg provide an extended description of how this paradox works. First of all, the position of “No Firm Rules,” “makes it sound as if the whole process is open and accessible” (2020, p. 19). But the “rules” that guide the community do not all qualify as rules in the sense that they are explicitly documented. They are “norms,” and “the critical contrast between a norm and a rule is that the former is not set in stone. We tend to see norms as being more dynamic than rules” (p. 18). As a consequence, Wikipedia’s concentration on rules and the openness of ignoring them does not provide actionable language on how to challenge, contest, and reform the social closures that exist as the community’s norms.

This is especially concerning when the majority of edits made in the first decade of Wikipedia came from one per cent of editors (Matei and Britt, 2017, p. 1). These authors argued that the stability of Wikipedia was reliant on the “Wikipedia elite” which the authors classified as the “functional leaders” of the project (p. 1). Accordingly, decision power is made by a limited number of individuals and not the participation of the entire population. As Matei and Britt described, this decision-making power is complex and is at times expressed differently depending on the present conditions. Sometimes it is an “adhocracy” which is “a form of social organization that supports organically emergent groups in which roles are achieved, not prescribed, and in which members enter and leave the organization at a certain rate, which is

neither very high nor very low” (Matei and Britt, 2017, p. 27). But power is also expressed bureaucratically with “several layers of formal control mechanisms, enforced by formal roles, including the “bureaucrats,” “admins,” and “sysadmins” (p. 27).

Mathieu O'Neil came to the same conclusion but described this situation as “online tribal bureaucracy” (2009, p. 175) which is the combination of “a new form of charismatic authority peculiar to virtual networks, *index authority*” (2009, p. 43, emphasis original) which is the “the aggregated trust of a community of thousands” (p. 115). This works in tandem with the bureaucratic characteristic of creating organizational roles that are authoritative in themselves rather than being dependent on the identity of the actual person performing the role (p. 175). In both theories of Wikipedian power, the authors are attesting to the informal and formal aspects of control.

This poses a problematic issue especially from the fact that the informal control through adhocratic index authority and formal positions of power are situated within a community, as Wales remarked, “largely made up of tech geek-oriented men” (Selyukh, 2016). This situation is exacerbated by the fact “adhocratic regimes are notoriously hard to change, as they tend to function by customs and practical know-how” (Matei and Britt, 2017, p. 174). This perspective is confirmed by Wikipedia’s consensus policy when it describes how the community is sustained by the stability of its policies, and therefore “[i]mprovements to policy are best made slowly and conservatively” (“Wikipedia:Consensus,” 2019). And it is here that I argue that the encyclopedic imaginary of Wikipedian consensus becomes a thoroughly problematic expression of a transformative hegemony.

“Thinking With” and “Thinking About” the Wikipedian Community

In the preceding sections I examined how consensus has historically been used for encyclopedic purposes. After reviewing Wikipedia’s usage of this concept, some immediate alignments emerge. For one, the concentration on the encyclopedia as a permanent deliberative activity is symmetrical with Neurath and Dewey’s visions of cultivating a democratic community based on the *common unity* of a scientific attitude. In fact, Dewey’s description of this attitude as “the will to inquire, to examine, to discriminate, to draw conclusions only on the basis of evidence after taking pains to gather all available evidence” (1955, p. 31) is an appropriate description of principle and the policies that support Wikipedia’s neutral point of view.

At the same time, the fact that the majority of Wikipedian edits are generated by an elite class of Wikipedians reflects Well’s vision for a class of individuals trained in coordinating the world’s knowledge. These Wikipedians maintain a system for mediating epistemic conflicts with the goal of providing humanity with a consensus of knowledge. However, Wells’s vision also included that this consensus would include a political consensus on how to unite the world — a goal that is not explicitly stated within Wikipedia’s principles. When it comes to Adler’s perspective on consensus, he would have been likely horrified by the idea that the encyclopedia was organized by the collective opinions of individuals rather than the majoritarian opinion of Western culture. However, he would at least agree that the organization of the encyclopedia is a matter of opinion and that Wikipedians should assent to the opinion of the majority and its traditions.

How Wikipedia differs from its predecessors is that the imagination of a democratic community was re-articulated with the individualist politics of openness. Through this neoliberal epistemology, opinions and knowledge were no longer considered separate. Instead, Wikipedians

converted their collective opinions into knowledge they could *think with* in order to process and manage all other knowledges. The community, its principles, and its policies are therefore, the actual means to organize the encyclopedia's system of knowledge. Their aggregated opinions become a knowledge of knowledge. This epistemological condition is fundamental to understanding Wikipedia's status as encyclopedia. In other encyclopedias, this would be recognizable as the system of knowledge: its "circle of learning." It is the same here.

As such, consensus is more than a policy about making decisions. Consensus is a cultural technique that is imagined as providing the affordance of dissolving individual difference into a demand of assenting to the authority of the community. Thomas Leitch explained that this is necessarily always the case with communities, as "[e]very community that brings people together also separates them from members of other communities that have equally instrumental functions" (Leitch, 2014, p. 27). Within Wikipedia, this has been achieved by adopting first principles that deny the situatedness of knowledge of its members; that prevent internal political divisions; and that assert that adhering to the community's norms of politeness is the same as being civil. As such, the rhetoric of openness masks the realities of Wikipedia's enclosures that limit epistemological and political differences from upsetting the coherency of the community.

So far, I have described the political consequences of *thinking with* community knowledge as a means to encircle all knowledge. But Wikipedians also *think about* their community — that is they have changing opinions about how the community should be organized by its pillars, policies, and guidelines. And this was Wadewitz's purpose for thinking about the limits of Wikipedia's pillars as it stood at the time. She called upon Wikipedia's editors "to redefine the culture of Wikipedia and point out the flaws in its current system" (Wadewitz,

2013b). However, Menking and Rosenberg noted that it was these pillars themselves restricted the “ability of community members to *change* these practices” (2020, p. 20, emphasis original).

My investigation of Wikipedian consensus provides a new avenue for understanding how this happens. Primarily, Wikipedian discussions about redefining the encyclopedia do not occur in a space of equal and competing *opinions*. On one side is the established consensus of a policy which has attained the authoritative status, as Hayek put it, of the “better knowledge” of the community. Under this model, the early contributors to Wikipedia were able to be the first to establish what counted as *community knowledge*. Theoretically speaking, this means that when new users joined Wikipedia and the membership diversified, the opinions of these new users were considered to be *just* opinions and not yet community knowledge. This view is codified in the consensus policy when it states that “Consensus among a limited group of editors, at one place and time, cannot override community consensus on a wider scale” (“Wikipedia:Consensus,” 2019). As such, if Wikipedia is imagined as a *community*, then these minority positions must dissipate into an assent to the community’s knowledge; a knowledge that was born from the opinions of a community of — as Wales described — “tech geek-oriented men” (Selyukh, 2016).

According to this imaginary of encyclopedic knowledge, I have drawn an outline of how the gender gap is an encyclopedic trouble. It is a trouble that comes from a vision of consensus where the majoritarian opinions of a male-centric community have been converted into *better knowledge*, and the dissensus of women can only be conceived of as the *opinions of a minority of individuals*, and therefore unable to contest the social norms of the community on equal epistemological grounds. Epistemologically then, any articulation of a subjectivity other than that of the “individual editor” and the community-committed Wikipedian is rendered

incomprehensible. For example, a collective subjectivity such as “women” does not pull any political weight in determining how the community should function. One is either an editor or a Wikipedian.

To follow the breadcrumbs left so far, this analysis has operated within the overall framework of utopia as a method, by “piecing together the images of the good society that are embedded in political programmes” while also addressing “the question of what kind of *people* particular societies develop and encourage” (Levitas, 2013, p. 153, emphasis original). When it comes to Wikipedia, the rhetorical positivity attached to consensus and community to lead us to *the good society* does not hold up. This situation brings us back to the beginning of the chapter and Mouffe’s twin reading of hegemony. She explained that there exists “transformative” hegemonies where the interests of those with less power will be absorbed or neutralized “in such a way as to prevent them from opposing those of the hegemonic class” (Mouffe, 1979, p. 182). In contrast, is a “successful” hegemony that values the “genuine adoption of the interests” of those that are not part of the hegemonic class (Mouffe, 1979, p. 182). This structure was seen by Mouffe and Jezierska as enlarging the scope of democracy by complementing consensus with dissensus. Citing Nancy Fraser, Reagle explained that subaltern counterpublics must be allowed to coalesce on Wikipedia so as to “formulate and discuss interpretations of their identities, interests, and needs counter to the mainstream discourse” (2010, p. 95). But this can only occur if a collectivity of opinions is allowed to form as counterpublics. To this point he warned that Wikipedians must “recognize that consensus and dissensus each have an important, and unavoidable, role in community” (Reagle, 2010, p. 46). The imagined affordance of eradicating difference, as expressed when consensus is a goal and not an outcome, purposefully makes

dissensus insensible in order to maintain the coherency of the community. In the context of the encyclopedic imaginaries of community, especially those of Neurath and Dewey, this means that dissensus becomes an obstacle to cultivating a unified attitude toward knowing the world.

However, our knowledges are plural, situated, and different. We cannot all belong to the same community. And yet this is Wikipedia's impossible encyclopedic desire; to give all of humanity access to the encyclopedia and in the process, transform us all into Wikipedians. In the following chapter I examine how the concept dissensus is further minimized by analyzing how this encyclopedic imaginary of a global community has become embedded in the cultural technique of Wikipedian consensus.

6. Wikipedian Consensus: Designing a Cultural Technique

The utopian desire for creating a unified democratic community is a desire that has been present in the encyclopedic imaginations of H. G. Wells, John Dewey, and Mortimer Adler. By providing the outline of this lineage in the previous chapter, I illustrated how Wikipedia's commitment to creating an all-inclusive community is deeply connected to these utopian aspirations. At the same time, Wikipedia's particular political vision of consensus was not just a reproduction of these previous desires. Instead, in adopting a neoliberal epistemology of knowledge that includes opinions as a Hayekian form of "better knowledge," Wikipedia created a completely new articulation of how to encircle encyclopedic knowledge.

Even with their inspiring visions of a flourishing humanity, it was necessary to expose these dreams of a good community to "scrutiny and critique" (Levitas, 2013, p. 154), a fundamental activity within Ruth Levitas's utopian mode of archeology. To begin this analysis, I referred to the positions of critical political feminist theorists like Chantal Mouffe, who argued "every consensus exists as a temporary result of a provisional hegemony, as a stabilization of power, and that it always entails some form of exclusion" (Mouffe, 2000, p. 104). Therefore, when consensus is considered as a goal and not just one possible outcome, it cultivates a dangerous form of politics. To this point, by locating Wikipedia's common unity within its five pillars, I uncovered a silence underneath the rhetoric of openness attached to Mouffe's assessment. I came to the conclusion that the inspiring vision of an open community based on consensus also included a complimentary set of hegemonic enclosures that were imagined to limit — if not eradicate — collective political difference within the community to maintain its coherency.

This insight plays into Ruth Levitas's argument that underneath each imaginary of a "good society" there exists "significant silences" about who is a model person (Levitas, 2013, p. 154). She noted that this shift to analyzing subjectivity fell within the ontological mode of utopian critique (p. xvii; p. 153), and for my purposes I will bifurcate this mode along two lines. In this chapter (Chapter 6), I examine this ontology in terms of what kind of knowing subject is articulated as desirable to pursue Wikipedia's dream of an all-inclusive community. In Chapter 7, I examine the opposite angle of this ontology by investigating which knowing subjects of dissensus are seen as dangerous or counterproductive to the maintenance of Wikipedia's common unity. It is in that chapter that I deal directly with the question of how Wikipedia's gender gap is connected to its status as an encyclopedia. However, there is some work to be done before I describe the details of that point. In particular, this work goes beyond the imagination of the possible and towards actual techniques for cultivating an encyclopedic people.

In the proceeding chapters I made the case that encyclopedias are not neutral vehicles for communicating a collection of humanity's array of knowledges. Indeed, encyclopedias are built upon "mediums and instruments of totalization" that are consciously chosen to "produce specific intellectual effects" (Jacob, Treves and Gage, 1997, p. 3). This is the case when encyclopedist enlist instruments such as "treatises, collections, commentaries, glossaries, maps, [and] syntaxes" because each is understood to deploy "its own rules for collecting, unifying, and ordering knowledge" (p. 3). So according to Jacob, Treves and Gage, there is an intellectual necessity to reflect on these media because they become a threshold between the imagined and actual conditions of organizing knowledge. But it goes further than that.

These encyclopedic instruments can also be understood in terms of a *cultural technique*: a tool that “determines the political act; and the operation itself produces the subject, who will then claim mastery over both the tool and the action associated with it” (Vismann, 2013, p. 84). Therefore, when one cultural technique dominates an epistemic landscape, it creates the conditions for valorizing one type of knowing subject (those who are adept with the technique) while devaluing others who are either not proficient in its use or contest its cultural dominance. It is here that I find the eventful friction between the impossible desire of an all-inclusive community and the means by which this desire has actually been codified as a cultural technique and instrument of totalization. This is the location of the meanings and the materials of Wikipedian consensus.

By unpacking these meanings, this chapter outlines the ways that Wikipedia's utopian desires align with what Daniela Rosner identified as the problematic conditions of design's fourfold paradigm of individualism, objectivism, universalism, and solutionism (2018, pp. 13–14). To this point, the Wikipedian reliance on consensus does more than structure the process by which encyclopedic knowledge is made into reliable articles. It also produces and legitimizes particular subject positions. In the process of analyzing consensus through this lens, I find that the concept of “the Wikipedian” is premised on an individualist editor that performs a bracketed subjectivity that sheds the situatedness of their social, political, and economic conditions. The concentration on individualism serves as the epistemological basis for ensuring that consensus can always happen — and therefore limits divisive internal collectivities from forming dissensus. Likewise, the focus of editors on producing solutions — rather than engaging in deliberation for the sake of understanding — articulates the value of consensus as a decision-making mechanism. From this perspective, consensus can be understood as a cultural technique: a socio-technical

phenomenon that involves “the conditions of production, its material properties or spatial circumstances,” that ultimately “determines the scope of the subject’s field of action” (Vismann, 2013, p. 84). As Wikipedians engage in the social and technical apparatuses that are attached to consensus, they themselves become transformed by the same process.

This perspective is confirmed by Johanna Drucker's explanation that the relationship between interfaces and users is not an instrumental one. Instead, designers and researchers must ask "Who is the subject of an interface? How are we produced as subjects of the discourses on the screen?" (2014, p. 147). Put this way, the current chapter operates within Levitas’s ontological mode of utopia. I do this by reverse engineering the meanings and materials of Wikipedia's technique of consensus. Along the way, I provide the basis for identifying the type of subjectivity that is valued and amplified by Wikipedia's political design.

For this purpose, Vismann offered some valuable clues as to the method of analysis. She argued that some cultural techniques find their “expression in written directions, notations, codes of procedure, [...] and other systems of signs” (2013, p. 88). She added that these instructions do not have to be followed through in order to create new political situations. What mattered is that a practice is articulated by performers with operations, thus producing new kinds of subjects (p. 84). This theory follows the main tenets of media archaeology; that these techniques structure physical materials and processes as much as they “establish some form of connection to the symbolic order” (p. 92). Given this theoretical context, the feminist epistemological questions of “Who knows? What can they know? When?” (Nelson, 1993) can only be answered after inquiring as to “How knowledge is known? With which tools?”

Based on my media archaeological framework, I conducted a discourse analysis of the “directions, notations, codes of procedure” that articulate the nodal point of consensus to

understand the political subjectivity that emerges from this cultural technique. As a floating signifier, different articulations of consensus were analyzed to describe discourses which have struggled to control its meaning. The first section provides an overview of the content of the policy as it first appeared. It is followed by a chain of content and network text analyses that examine how different symbolic codes were deployed on the policy talk page — which in turn informed the development of the actual policy. The third section is composed of a frame analysis that unpacks the material codes of consensus that are embedded within Wikipedia's interface and its bots. Importantly, this analysis bridges both the archaeological and ontological modes of utopia. By following Drucker's theory of interfaces, I am able to connect how the historical composition of a particular frame enunciates different subjectivities attributed to the technique of consensus.

The combined conclusion of the three analyses of how consensus is designed demonstrates that there is no single and monolithic meaning of this cultural technique. Instead, it is better understood as an order of discourse that resonates with Wikipedia's interface in a way that legitimizes some techniques and meanings of consensus and not others. When the through-lines between these designs are seen together, it is clear that Wikipedia's expression of consensus cannot be understood as an inherently open process. Instead, its character is tethered to the spaces where it is processed, enclosed, divided, and accumulated. In other words, consensus is always a situated operation.

A Shift in Method. This chapter continues with Jørgensen and Phillips's (2002) advice that discourse analysts need to assemble a multiperspectival discourse analysis that is appropriate to the type of phenomenon that they are investigating. In Chapters 4 and 5 I adapted the

Foucauldian methods of genealogy and archaeology to excavate disparate encyclopedic practices, techniques, and imaginaries. Now that the focus is narrowly trained on examining contemporary political subjectivities that are produced by the cultural technique of consensus, the mix of discourse methods needs to be adjusted accordingly. In particular, their strengths must be found within their capacity to analyze how discourses are articulated through the vast amounts of digital symbols and graphic structures that are present on Wikipedia, rather than an excavation of past encyclopedic media.

It is on these grounds that critical discourse analysis (CDA) is deployed since its aim “is to shed light on the linguistic-discursive dimension of social and cultural phenomena and processes of change in late modernity” (Jørgensen and Phillips, p. 61). Just as in previous chapters, *discourses* continued to be understood from Laclau and Mouffe’s perspective: a discourse is a system of meaning that distribute key signifiers, enunciated subjectivities, and antagonistic elements with other discourses. What CDA specifically provides is a practical and quantitative means for studying these phenomena by examining the presence and absence of different discursive elements. In most studies, this means starting with quantitative methods associated with a content analysis that identifies the frequencies, concordances, or clusters of specific linguistic or visual features that appear in a text. The benefit of this approach is that not only is there a clear starting point for analysis (a characteristic missing from a Foucauldian analysis) it is well adapted to parse large amounts of data and find significant features that would otherwise be overlooked. With the intent to illustrate how both alphanumeric expressions and visual material produce Wikipedia’s order of discourse concerning consensus as it was expressed over sixteen years, these CDA-associated methods are well-suited to the task. However, Jørgensen and Phillips explained that despite its usage for analyzing visual discourse, “there is a

tendency to analyse pictures as if they were linguistic texts” (p. 61). Given the media archaeological framework that is sensitive to the differences between media, this assumption cannot pass. Building on the strengths of Johanna Drucker’s (2014) design-oriented discourse analysis of interfaces, I augment CDA’s deficiencies with her frame analysis of interfaces.

Additionally, it must be made clear why CDA uses quantitative measurement. This method does not presume that each content analysis represents an exhaustive description of the discursive phenomenon that is under study. Instead, they are anticipated to serve as the foundations of interpretations for how linguistic and visual features are part of the building blocks of a political structure of meaning. This is the position that Simon Lindgren (2016) took when he connected network text analysis with discourse theory to deal with large data sets that can be collected from internet platforms. For him, the two forms of analyses are useful for “integrating relational as well as interpretive sensibilities” (p. 349). In the following analyses of Wikipedia’s consensus policy, I follow Lindgren’s trajectory and work to operationalize the network text analyses and content analyses as iterative methodological filters that sort through the components of discourses in order ground a qualitative interpretation of how they interact with one another.

In terms of the actual analysis of the networks, I relied on the description of nodes adapted Poppings classes of relations: strength, sign, and meaning (2000, p. 3-4). In terms of directionality, I reduced all graphs to unidirectional to show the interrelationship between the words, rather than to describe the grammatical order the words arrived in. As such, the direction of the relationships in the graphs do not have importance for my analyses. In terms of strength, I used the size of each node to indicate the frequency of its use in the corpus. For Poppings, a sign designates whether something is positively or negatively related, and the meaning is the content

of that relationship. In the case of my analyses, this relationship is displayed in graphs where I am analyzing the discursive antagonisms that contest whether consensus “is” or “is not” a particular meaning. The property of meaning is displayed in the graphs as the words located in the center of each node.

Limitations of method. I limited my study of Wikipedian consensus for Chapter 6 to texts publicly available on Wikipedia. This rationale follows the design of the encyclopedia as “a thoroughly transparent platform that faithfully records and renders all individual interventions in the common project and facilitates discourse among participants about how their contributions do, or do not, contribute to this common enterprise” (Benkler, 2006, p. 73). This allows Wikipedians to record all discussions about articles and policies so as to remain transparent about how decisions are made. However, it is not unusual for critical decisions to be “discussed in public and private IRC channels, mailing lists, personal email, and other off-wiki communication” (Forte and Bruckman, 2008, p. 4). Chapter 7 follows these discourses surrounding consensus and how they connect to the broader social issue of gender inequality.

Privacy. As a consequence of this methodological choice there is the nascent question of privacy. Wikipedia is not only a publicly accessible site that can be viewed without being logged in; the textual content of its pages is legally released under a GNU Free Documentation License. This means that articles, project pages, user pages, and talk pages are free to be copied and redistributed. However, researchers need to be conscious that “individuals may not expect their data to be analyzed” (Wattenberg, 2007, p. 275). As such, I refer to usernames or quote users only when it is necessary or important for the analysis.

The First Version of the Consensus Policy

The development of the Wikipedian policies follow an iterative path. First, Wikipedians engage in a novel practice that is considered useful and worth documenting for other Wikipedians to adopt. This process of institutionalization usually begins with essays on current practices, which then may be turned into guidelines, and then into policies (Kriplean, et. al., 2007, p. 2). This means that policies are not prescriptive in nature. They are written after a set of practices have coalesced as a norm that users are expected to follow (Butler, Joyce and Pike, 2008, p. 1103). If a policy is not followed, then the actions of a user may need to be considered to be “destructive” to the encyclopedia, the group, and its efforts (Butler, Joyce and Pike, 2008, p. 1107).

Conducting social behaviours that are counter to a policy can led to different sets of sanctions, from reprimands to site-wide bans. In other words, adherence to the norms established within policy are the basis by which the subjectivity of a user is interpellated.

The development of consensus as a policy follows this same path. As users began using consensus as a means to filter and negotiate knowledge, they developed a set of practices around it. This resulted in the creation of a “project page” that documented this practice and an associated “talk page” that served to facilitate discussion about the meaning of consensus. In 2004, a user named Hyacinth started a project page to outline that “Wikipedia is a consensus,” and that it “is easiest the less people are involved” (“Wikipedia:Consensus” 2004). The latent paradox of creating a community based on openness was acknowledged by the editor when they noted that “Consensus may become impossible to maintain as ever-growing numbers of new people toss articles around” (2004). This project page continued to be developed and this short page eventually became designated as a guideline in 2005 (“Wikipedia:Consensus,” 2005). Two

years later over several edits, it was designated as a policy in 2007 ("Wikipedia:Consensus," 2007).

The following analysis describes the articulations of consensus present within the project page when it was accepted as policy. These articulations are then connected to the imaginaries of consensus described in Chapter 5. This serves to demonstrate how the encyclopedic inheritance of hegemonic knowledge has become inscribed as an “expression in written directions, notations, codes of procedure, [...] and other systems of signs” (Vismann, 2013, p.88).

On January 18th, 2007, the Consensus project page was designated as a policy (Figure 2). The opening paragraph of this version begins with two assertive sentences: “Wikipedia works by building consensus. Consensus is an inherent part of a wiki process” ("Wikipedia:Consensus," 2007). These statements are followed by four interwoven articulations of the concept of consensus. The first conceptualization of consensus describes it in terms of how the cumulative edits to an article that are *not changed* constitute the “unanimous approval of the entire community.” This concentration on consensus being identified by iterative action and inaction alludes to David Clark’s concept of “rough consensus” that privileges the idea of “running code” (Reagle, 2010, p. 102) and exemplifies what Mathieu O’Neil described as the distributed and aggregated charisma of “index-authority” (2009, p. 43.) Under this condition, “Silence equals consent,” and “is the ultimate measure of consensus” ("Wikipedia:Consensus," 2007). From a theoretical perspective, this articulation of silence also aligns with the idea of “passive consensus” where parties simply “move on” without explicit agreement about a decision (Vasilev, 2015, p. 85). In this case, the “moving on” is recognizable in the aggregate of uncontested content.

Figure 2

First draft of WP:Consensus as a policy January 18, 2007

Wikipedia:Consensus

From Wikipedia, the free encyclopedia

This is an old revision of this page, as edited by Radiant (talk) (contrib) at 11:59, 18 January 2007 (per talk page). The present address (URL) is a permanent link to this revision, which may differ significantly from the current revision. (diff) — Previous revision (Latest revision) (diff) | Newer revision — (diff)

This page documents an English Wikipedia policy.
It describes a widely accepted standard that all editors should normally follow.
Changes made to it should reflect **consensus**.

Wikipedia works by building consensus. Consensus is an inherent part of a wiki process. The basic process works like this: someone makes an edit to a page, and then everyone who reads the page makes a decision to either leave the page as it is or change it. Over time, every edit that remains on a page, in a sense has the unanimous approval of the entire community. "Silence equals consent" is the ultimate measure of consensus — somebody makes an edit and nobody objects or changes it. Most of the time consensus is reached as a natural product of the editing process.

When there are disagreements, they are resolved through polite discussion and negotiation, in an attempt to develop a consensus. If we find that a particular consensus happens often, we write it down as a guideline, to save people the time having to discuss the same principles over and over. Normally consensus on conflicts are reached via discussion on talk pages. In the rare situations where this doesn't work, it is also possible to use the Wikipedia dispute resolution processes, which are designed to assist consensus-building when normal talk page communication gets stuck.

Contents (hide)

- Reasonable consensus-building
- Consensus can change
- Consensus vs. other policies
- Consensus vs. supermajority
- See also

Reasonable consensus-building

Consensus works best when all editors make a good faith effort to work together to accurately and appropriately describe the different views on the subject.

It is difficult to specify exactly what constitutes a reasonable or rational position. Good editors acknowledge that positions opposed to their own may be reasonable. However, stubborn insistence on an eccentric position, with refusal to consider other viewpoints in good faith, is not justified under Wikipedia's consensus practice. (Note that in the rare case if the "eccentric" position turns out to have merit, the consensus can change.)

Even if an editor's contributions appear to be biased, keep in mind that their edits may have been made in good faith, out of a genuine desire to improve the article. Editors must *always* assume good faith and remain civil.

Consensus can change

Main page: *Wikipedia:Consensus can change*

Once established, consensus is not immutable. It is reasonable for the community to change its mind at times. It is perfectly fine for a small group of editors to reach a consensual decision about an article or group of articles, but if these articles gain more attention from Wikipedia as a whole it is then possible that more people come in that disagree with the initial decision, thus in effect changing the consensus. The original group should not block further discussion on grounds that they already have made the decision.

Wikipedia guidelines

Guidelines list - Policies list

Behavioral

- Assume good faith - Conflict of interest - Courtesy - vandalism - Disruptive editing - Don't take the newsmen - Don't edit to make a point - Etiquette - Don't game the system - User pages - Other behavioral guidelines - WMF friendly space policy

Discussions

- Talk page guidelines - Signatures

Content

- Citing sources - External links - Reliable sources (medicine) - Fringe theories - Non-free content - Offensive material - Don't copy long texts - Don't create hoaxes - Patent nonsense - Portal namespace - Other content guidelines

Editing

- Article size - the bold - Edit summary - Understandability - Other editing guidelines

Organization

- Categories, lists, templates - Categorization - Disambiguation

Style

- Manual of Style (contents - lists - tables)

Deletion

- Deletion process - Speedy keep - Deletion guidelines for administrators

Project content

- Project pages (Wikipedia - Templates - User pages (User boxes) - Shortcuts - Subpages

Other

- Naming conventions - Notability

Consensus vs. other policies

It is assumed that editors working toward consensus are pursuing a consensus that is consistent with Wikipedia's basic policies and principles - especially *the neutral point of view* (NPOV). At times, a group of editors may be able to, through persistence, numbers, and organization, overwhelm well-meaning editors and generate what appears to be support for a version of the article that is actually inaccurate, libelous, or not neutral, e.g. giving undue *weight* to a specific point of view. This is not a consensus.

The preferred way to deal with this problem is to draw the attention of other editors to the issue by some of the methods of dispute resolution, such as consulting a third party, filing a request for comment (on the article in question), and requesting *mediation*. Enlarging the pool will prevent the railroadng of articles by a dedicated few. In the case of a small group of editors who find that their facts and point of view are being excluded by a larger group of editors, it is worth considering that they may be mistaken.

Also see *Wikipedia:Single purpose account for considerations relating to brand new users who appear and immediately engage in a specific issue*.

Consensus vs. supermajority

While the most important part of consensus-building is to thoroughly discuss and consider all issues, it is often difficult for all members in a discussion to come to a single conclusion. In activities such as *Requests for Adminship*, *Articles for Deletion* or *Requested Moves*, consensus-building becomes unwieldy due to the sheer number of contributors/discussions involved. While consensus-building is still the preferred method, some contributors have also come to use a *supermajority* as one of the determinations. This interpretation is exemplified by the following description of consensus, from the *mailing list*:

In fact WP's standard way of operating is a rather good illustration of what it does mean: a mixture across the community of those who are largely agreed, some who disagree but agree to disagree without disaffection, those who don't agree but give low priority to the given issue, those who disagree strongly but concede that there is a community view and respect it on that level, some vocal and unreconciled folk, some who operate 'outside the law'. You find out whether you have consensus, if not unanimity, when you try to build on it.

Precise numbers for "supermajority" are hard to establish, and Wikipedia is *not* a majoritarian democracy, so simple vote-counting should never be the key part of the interpretation of a debate. However, when supermajority voting is used, it should be seen as a process of "testing" for consensus, rather than reacting consensus. The stated outcome is the best judgment of the facilitator, often an admin. If there is strong disagreement with the outcome from the Wikipedia community, it is clear that consensus has not been reached. Nevertheless, some mediators of often-used Wikipedia-space processes have placed importance on the proportion of concurring editors reaching a particular level. This issue is controversial, and there is no consensus about having numerical guidelines. That said, the numbers mentioned as being sufficient to reach supermajority vary from about 60% to over 80% depending upon the decision, with the more critical processes tending to have higher thresholds.

See the pages for *RM*, *AFD* and *RFA* for further discussion of such figures. The numbers are by no means fixed, but are merely statistics reflecting past decisions. Note that the numbers are not binding on the editor who is interpreting the debate, and should never be the only consideration in making a final decision. Judgment and discretion are essential to determine the correct action, and in all cases, the discussion itself is more important than the statistics.

Note: In disputes, the term *consensus* is often used as if it means anything from *genuine consensus* to *majority rule* to *my position*; it is not uncommon to see both sides in an *edit war* claiming a consensus for its version of the article.

See also

- Consensus
- Consensus decision-making
- Groupthink
- Wikipedia:Featured article candidates
- Wikipedia:Policies and guidelines
- Wikipedia:Supermajority

Categories: Wikipedia policies Wikipedia guidelines

This page was last edited on 22 September 2020, at 21:21 (UTC).

This version of the page has been revised. Besides normal editing, the reason for revision may have been that this version contains factual inaccuracies, vandalism, or material not compatible with the Creative Commons Attribution-ShareAlike License.

Privacy policy - About Wikipedia - Disclaimers - Contact Wikipedia - Mobile view - Developers - Statistics - Cookie statement



The second conceptualization specifies that consensus that occurs on talk pages. The policy describes how the conduct of interlocutors should resolve disagreements “through polite discussion and negotiation” (“Wikipedia:Consensus,” 2007) and that “[e]ditors *must always* assume good faith and remain civil” and “reasonable” (“Wikipedia:Consensus,” 2007, emphasis original). This articulation echoes the public sphere theory of consensus where the bedrock of resolving disputes is premised on the “decorum” (Fraser, 1997, p. 78) and “etiquette” of politeness (Papacharissi, 2004, p. 260).

The third articulation of consensus shifts the focus from producing articles to producing the principles of the encyclopedia. For instance, when Wikipedians document a guideline they do

this “to save people the time having to discuss the same principles over and over” (“Wikipedia:Consensus,” 2007). On the surface this articulation replicates Mortimer Adler’s conception of consensus through the syntopicon which served to “save the person who is beginning his inquiry into a certain problem much of the preliminary labor of research, and advance him rapidly to the point where he can begin to think independently about it, because he knows what thinking has been done” (Adler, 1952a, p. xxix). In this sense Wikipedia’s policies institute a custom of tradition that future users are instructed to follow. However, this is not the only meaning of consensus at work here.

If Wikipedia’s policies are understood as an aggregate of the decisions made by *all* Wikipedians, then this articulation of Wikipedian consensus also aligns with Friedrich Hayek’s vision of consensus. For him, when a society attempts to find solutions to its problems, these solutions “do not rely on the application of anyone’s given knowledge, but encourage the interpersonal process of the exchange of opinion from which better knowledge can be expected to emerge” (Hayek, 1990, p. 148, my emphasis). However, if this consensus is established by Wikipedia’s most active elite “functional leaders” (Matei and Britt, 2017, p. 1) and then simply followed by the remaining ninety-nine per cent, the assertion that policies save people time is operating according to the bureaucratic logic of Wells’s *World Brain* and “World State.” As such, there is some ambiguity concerning whether the consensus that is represented by Wikipedia’s policies is a tradition that emerged from either competition-based or bureaucratic forms of organization.

The fourth articulation of consensus further complicates this ambiguity. When users cannot voluntarily come to a consensus, the policy stated that they should appeal to the dispute resolution processes, “which are designed to assist consensus-building when normal talk page

communication gets stuck” (“Wikipedia:Consensus,” 2007). At this time, dispute resolution was inscribed as avoiding disputes, deliberating, disengaging, and seeking the opinion of non-involved editors (“Wikipedia:Dispute resolution,” 2007). Each of these processes for dealing with controversy reflects John Dewey’s assertion that “[c]onsensus demands communication” (1916, p. 6). But it stops being Deweyian when communication fails and users appeal to an Arbitration Committee who vote on what decision should be made about the conflict (“Wikipedia:Dispute resolution,” 2007). This last resort of assenting to a voting authority runs counter to Dewey’s vision of a participatory democracy.

After these four conceptualizations of consensus, the policy explains that “consensus is not immutable” and that it can “change.” This leads to a tangent about the concerns of majoritarian voting when determining consensus. To this point, the policy makes the following distinction: “when supermajority voting is used, it should be seen as a process of 'testing' for consensus, rather than reaching consensus” (“Wikipedia:Consensus,” 2007). In this case, the policy states that the outcome of the test should be judged by “the facilitator, often an admin”. This assent to a bureaucrat again aligns with Wells’s, rather than Dewey’s or Hayek’s, position on how to organize a political consensus.

Finally, the policy also admitted that “a group of editors may be able to, through persistence, numbers, and organization, overwhelm well-meaning editors and generate what appears to be support for a version of the article that is actually inaccurate, libelous, or not neutral” (“Wikipedia:Consensus,” 2007). This, the policy stated, “is not a consensus.” This concern over the power of majority reaffirms the distrust of voting embedded in the hacker-notion of David Clark’s rough consensus (Reagle, 2010, p. 102).

At the end of this first version of the consensus policy, it is clear that there are a number of competing views concerning what consensus is, how it operates, and who is involved in the process. While there is a persistent attachment to a bureaucratic view of consensus, it is not consistent. At various points, the policy dabbles with Hayek's theory of openness, Adler's view that consensus is based on tradition, as well as Habermas's attention to civil discourse and concerns over communication distortions. It also articulates a version of Clark's rough consensus and a degree of a Deweyian focus on participation rather than authority.

What this review of the first draft of the policy suggests is that Wikipedian consensus did not first appear as a verbatim copy of any one theory of consensus. Instead, it emerged as a composition of contrasting and conflicting theories that outline a whole coterie of subjectivities that are operators of consensus: editors, administrators, discussants, arbitrators, and voters. The question is therefore not *which* imaginary of consensus is being encoded into Wikipedia's policy. The questions that need attention are the following: What is the *order* of privilege within these imaginaries? Are there any contrasting meanings of consensus that were explicitly and purposefully removed from its rules?

The next section of the chapter examines these questions by conducting an analysis of the policy over the course of its lifetime: from its first draft as a project page to its most recent version at the time of the analysis. I do this to not only see how the meaning of the policy changed over time, but to examine how different discourses came into conflict with one another and settled as *an order of discourse*. As such, the first step is to examine the broad field of meanings that Wikipedians were using to articulate the policy. For this purpose, I examined the policy's talk page and its archive.

Content and Network Text Analysis: Symbolic Codes of a Policy

WP:Consensus Talk Page. Just like most other aspects of Wikipedia, the meaning of consensus as a policy was subject to debate on the associated talk page. This character of Wikipedia also means that understanding how users encoded the concept of consensus as a policy means investigating the meanings Wikipedians discarded as well as included. This is all the more important given the fact of the essential paradox of creating a consensus policy: the policy-writers had to come to a consensus about consensus as they were writing a guideline about consensus. Needless to say this was a difficult task and fraught with diverse opinions, heated arguments, and deep suspicions about whether consensus should be a policy in the first place. In part, consensus as a concept resisted being mobilized as a policy — that is, a social norm that could be enforced — because of the multiple and ambiguous meanings that have been used to articulate this activity. And yet, consensus was already assumed to be part of the genetic make-up of the community. The talk page of the consensus policy (WP:Consensus) therefore stands as a record of the breadth of articulations that were being pitched as the legitimate “Wikipedian” definition of the word.

In the language of discourse analysis, consensus served as the nodal point and its contested meanings can be considered the site of contact between different sets of discourses. The primary purpose of the current chapter is to outline how these discourses are ordered, thus providing a clear ontological hierarchy for which political subjectivities are cultivated by this cultural technique. The first step of analysis required the observation of key signifiers within this broad “field of discursivity” and then the identification of clusters and systems of meanings that connect them together. The purpose of the following chain of content and network text analyses (Figures 1 and 5) are therefore used to record the steps that I took to operationalize the concept

of “systems of meanings” and *identify* different discourses. So, while the individual words and phrases are used as “units of analysis,” these content and network text analyses serve primarily to sift and sort the corpus to the point where it is possible to identify the presence of discourses.

To conduct this analysis, I began with a corpus of every post on the `wiki/Wikipedia_talk:Consensus` page, starting on July 11, 2004 and ending on January 8, 2019. This included the then “current” talk page (January 8, 2019) and all discussions that had been moved to the page’s archives. Data collection occurred in two batches: December 3, 2014 for Archives 1-18 and January 29, 2019 for Archives 19, 20. Each page was saved as an HTML file and then converted to Markdown plaintext files to remove extraneous HTML code. The resulting corpus was composed of 5MB of plaintext.

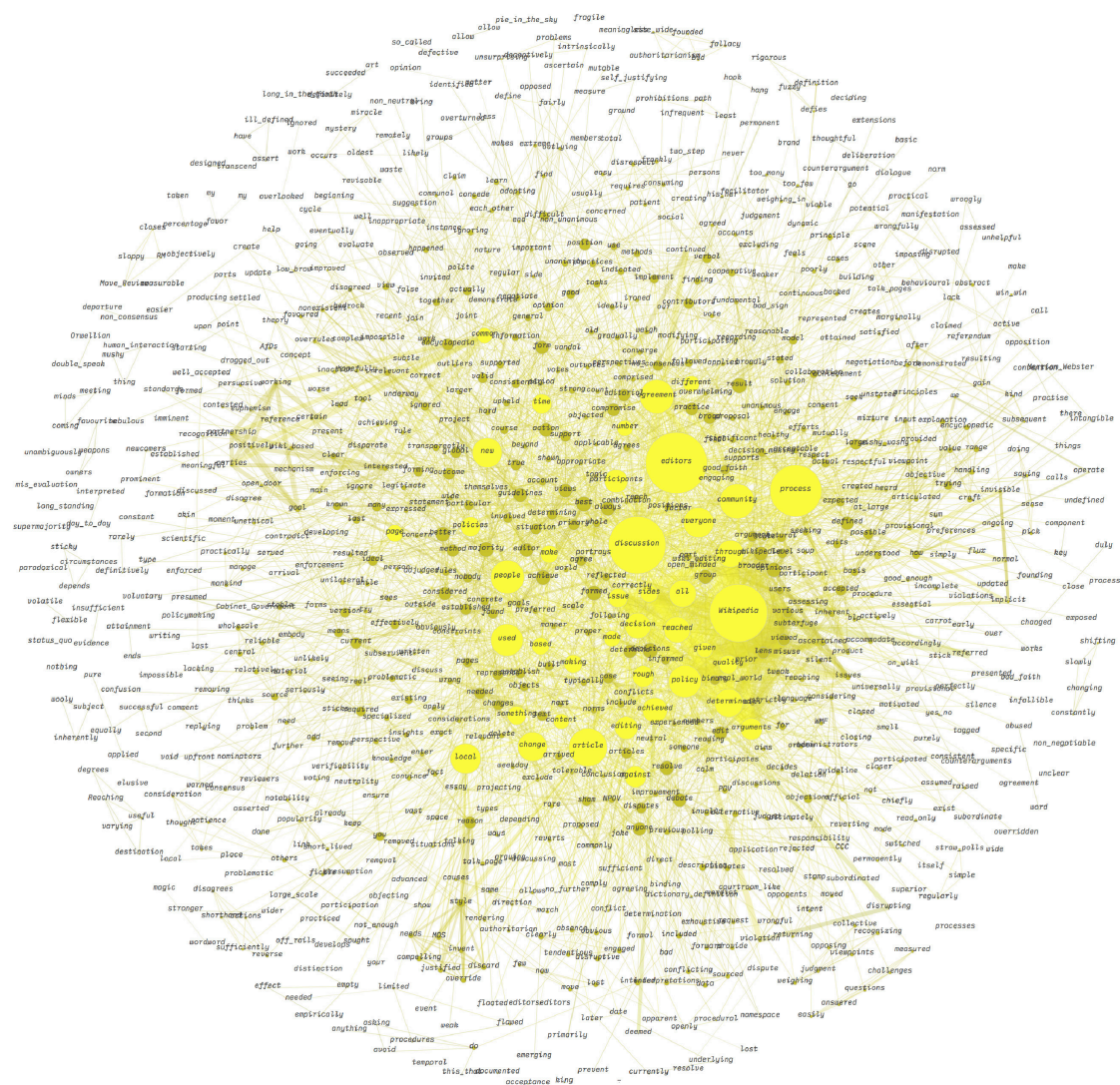
This corpus was then sorted using “definitional phrases” as the unit of analysis. This unit was circumscribed by concentrating on only phrases that included the word “consensus” followed by the verb of being “is.” Using the content analysis software AntConc (2012), I used the wildcard string query “* consensus is *” to filter the corpus for these phrases. Results were saved as tab-delimited text files and described using four categories (instance number, archive number, the five words preceding “consensus is”, and the five words that appeared afterward).

On the first pass I collected 1442 instances. On the second pass I removed false returns, leaving 1088 definitional phrases for analysis. During this pass, I noticed that the instances could easily be divided into three categories: positive phrases (consensus is *: 797), negative phrases (consensus is not *:129), and differential phrases (consensus is * but it is not **: 162). On a subsequent pass, the phrases were analyzed for whether or not they contained a subject role. Combined together, the dataset represented the frequencies of signifiers, their usage as positive or negative definitions, and the type of subjects drawn into definitions of consensus. The

following sets of graphs are content and network text analyses based on this data. Content analysis was used to either show the predominance of discursive signifiers as a measure of their frequency. In some cases, frequency was also mapped temporally and represented changes in predominance over time. Network graphs were used to illustrate the concordance and clustering of key signifiers and contested terms to demarcate the different systems of meaning. Combined together, each analysis builds up the pieces to first identify the presence of articulations, their discursive connections, and then their order. Ultimately, the analysis describes the multitude of meanings that have rigidified Wikipedia's political design as an expression of consensus.

Figure 3

**Key signifiers of the
WP: Consensus talk page**



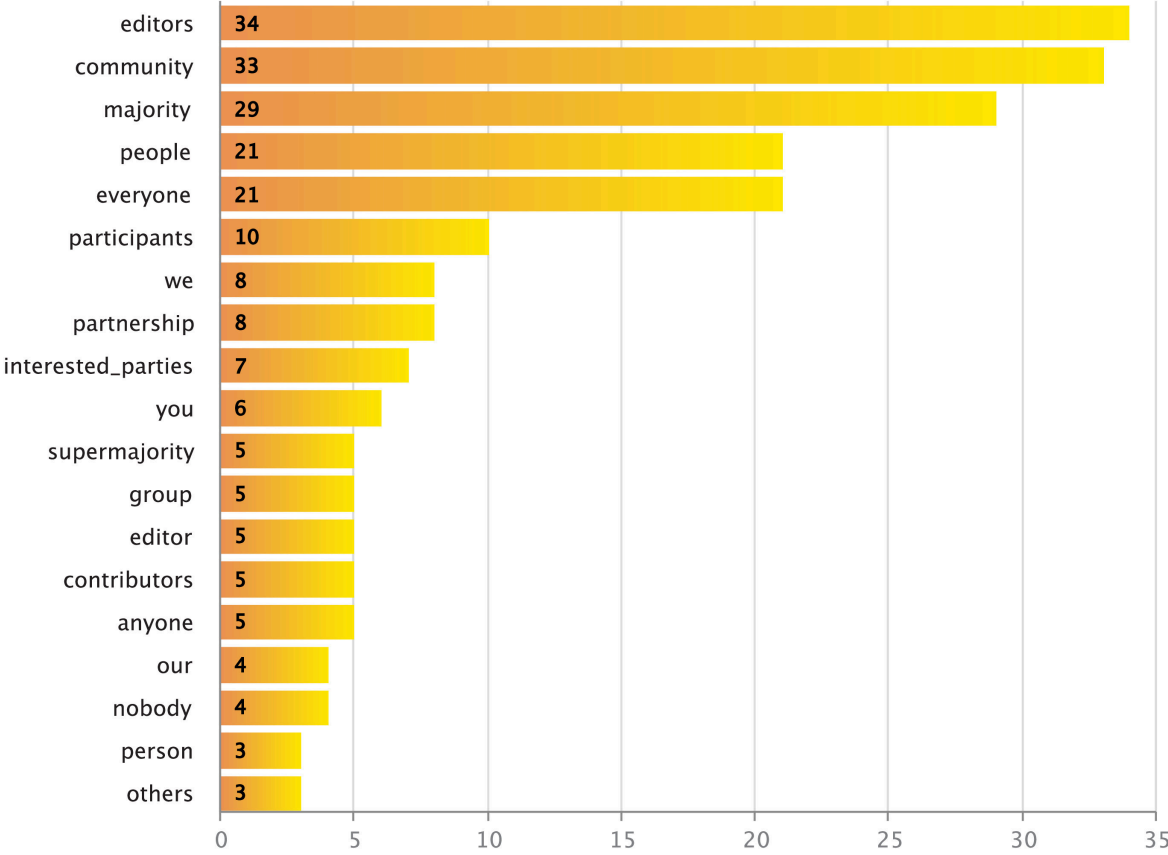
Most frequent

Least frequent

Filter 1: What are the key signifiers within the field of discursivity (Figure 2)? The first task was to distinguish between all signifiers, which were key signifiers of consensus and which circumscribed the outer limit of discourse. In order to display this relationship as a difference between the “core” and the “peripheral” I converted the dataset of positive definitions into a network graph. During this pass, stopwords and “consensus” were removed; each phrase was then converted to a network using the dot graphing language and textmechanic.com (2019). Using the Gephi network analysis software, I analyzed the frequencies of all connections of different words, which is the degree of betweenness (Poppings, 2000, p. 12). After being calculated using the Fruchterman-Reingold algorithm, I graphed the core (≥ 32 degrees = yellow) and the periphery (< 32 degrees = grey). Figure 1 represents the results of filtering the corpus to identify key signifiers. The value of degrees was then recorded as a new data point for these words in a coding spreadsheet. I used the visualization as a means to draw my attention to the centrality of certain concepts — such as “Wikipedia,” “discussion,” “process,” and “editors.” This aided in familiarizing myself with the structure of data as I prepared subsequent analyses.

Filter 2: What subjects were articulated in defining consensus (Figure 3)? Since a discourse includes subjects, all the definitional phrases were coded in terms of their use of subjects or roles. Figure 2 displays the frequencies of these words. Significantly, 67% of the subjects that were articulated belonged to just five signifiers: editors, community, majority, people, and everyone. As part of the process of interpreting the data I used this figure to familiarize myself with the discursive subjects that were emerging from the corpus. The full list of subjects was saved as a list to be used to filter the corpus when it came time to identify the adjacency between these words and the list of key signifiers.

Figure 4
Frequency of subject roles for
WP:Consensus talk page

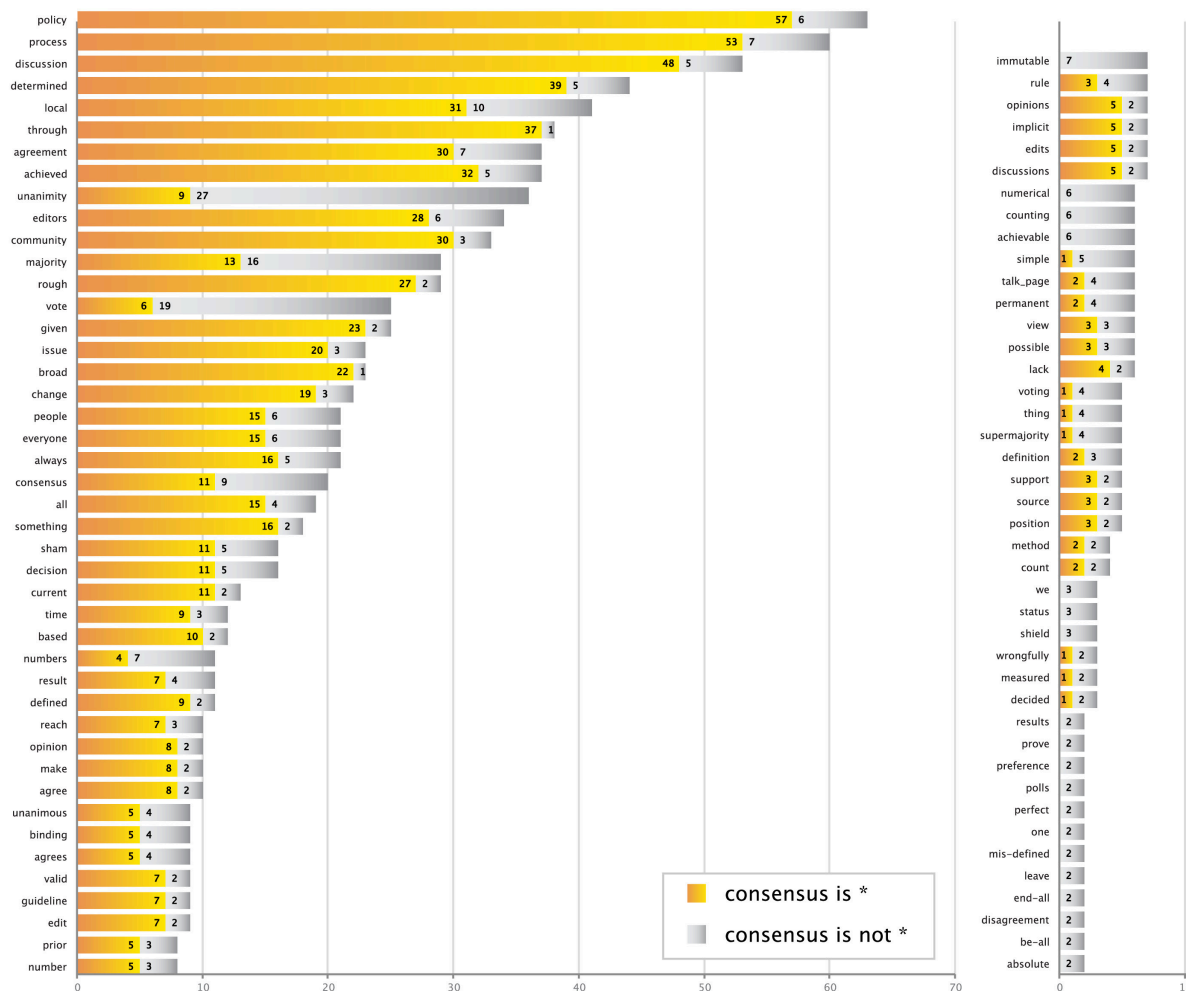


***The following subject words had only two instances each:**
administrators, arbcom, cabinet_government, opposition
outliers, your

***The following subject words had only one instance each:**
arbitrators, contributor, disputants, each_other, everybody,
expert, facilitator, groups, her, him, his, I, man, mankind,
members, minds, minority, newcomers, no_one, nominators,
opponents, other, owners, participant, persons, reviewers,
super_majority, tag_team, them, themselves, us, users,
vandal, warriors

Figure 5

Discursive antagonisms of WP:Consensus talk



Filter 3: What antagonisms were articulated in defining consensus (Figure 5)?

According to Laclau and Mouffe, different systems of meaning compete to control the meaning of a nodal point. This discursive activity was identified with the talk page by examining how Wikipedians deployed negative definitions to re-articulate meaning. This was achieved by drawing from the positive, negative, and differential categories. Those signifiers that had both a positive (consensus is x) and negative (consensus is not x) definition were considered to be

contested. This visualization of the data helped to identify nuances within the corpus. In particular, there were 57 phrases that denoted that consensus *is* a policy, and six that said that it *is not* a policy. There were also a few notable exceptions to this rule, where there was not a positive reflection of the negative statement: such as “consensus is not unanimity,” “consensus is not [a] majority”, and “consensus is not [a] vote.” This list of phrases was again reserved for the network text analysis of identifying how the key signifiers and subject roles connected to these points of contestation.

Preliminary results: The identification of apparent discourses (Figure 6 and Figure 7).

The next step of analysis was to identify how these key signifiers, subjects, and antagonisms could be considered to be specific discourses. Using the same methods from Figure 1, I produced a new dataset that only included definitional phrases with these three markers of discourse drawing from the lists produced during the process of filtering the corpus. This dataset was then rendered using an OpenOrd algorithm and analyzed for modularity in order to discern how the adjacency and distance (Poppings, 2000, p. 12) produced different clusters of definition. The results were recorded as a graph (Figure 6) and then transposed into a table (Figure 7) in order to visualize how different meanings clustered together.

Figure 7 displays that only six of the nine clusters contained all three markers of discourse (key signifiers, subject roles, and antagonisms). I labeled these clusters as discourses and tentatively named them by combining their most frequent key signifier and subject: process editors; discussion participants; community community; against you; Wikipedia users; and common parties.

Figure 6

Clusters of key signifiers, subject roles, and discursive antagonisms

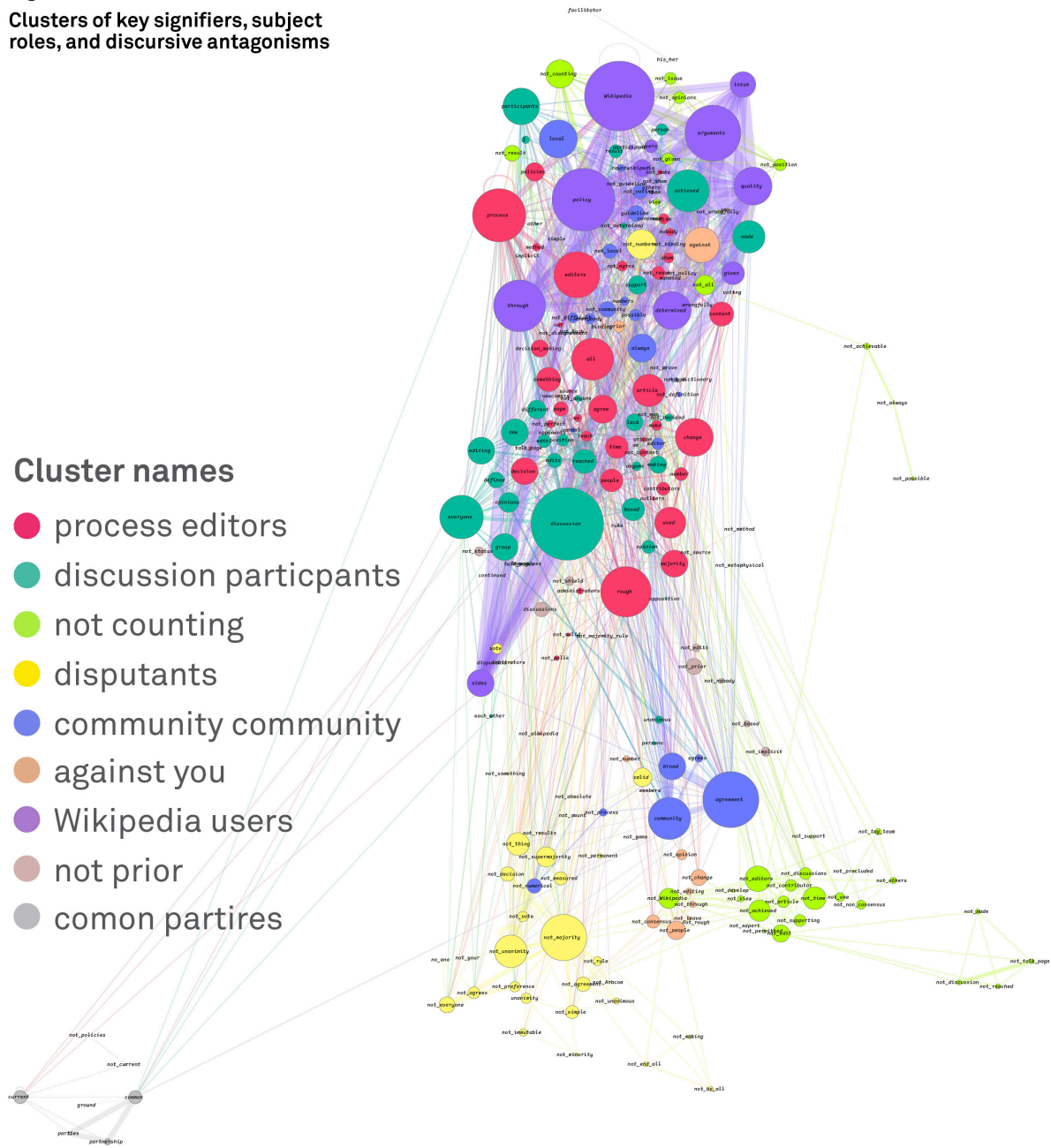
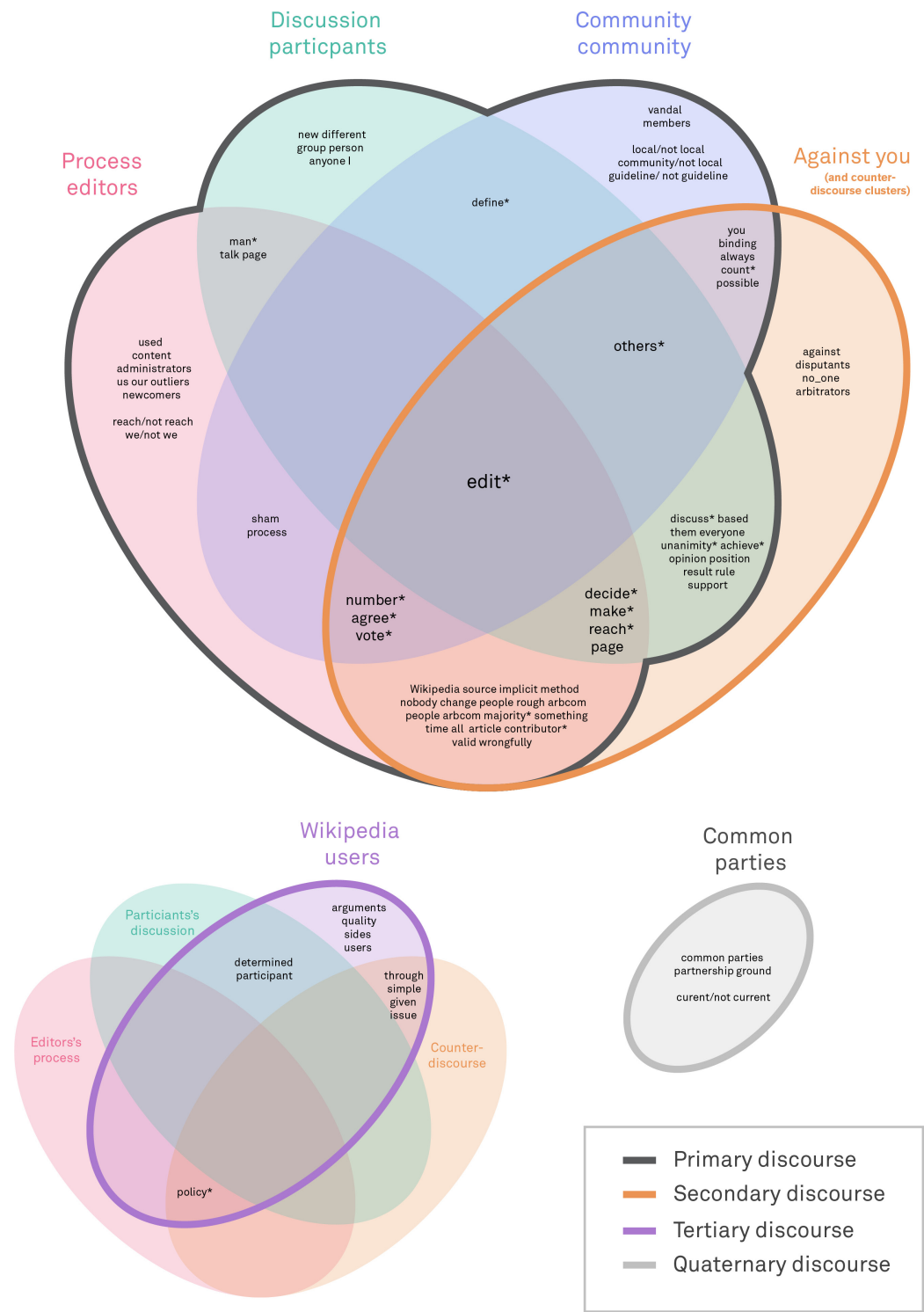


Figure 7

Table of discursive clusters on WP:Consensus talk page

Discourse	% of graph	Key signifiers	Subjects	Contested signifiers (Externally antagonistic)	Contested signifiers (Internally antagonistic)
Yes	19%	process rough editors all change article used decision something content people time policies page number make	editors all majority people contributors us administrators arbcom our outliers we mankind newcomers	agree decision_making sham not_agree nobody method not_perfect not_polls talk_page not_valid source voting implicit not_majority_rule not_wikipedia wrongfully	not_reach reach not_we not_content not_make
Yes	17%	discussion achieved made new editing reached based different making	participants everyone group person anyone I each_other persons	opinions support lack defined edits result opinion edit position not_decided unanimous not_determined themselves talk_pages not_lack not_disagreement rule other opposition continued not_anyone not_man opponents	
No	14%			not_counting not_editors not_time not_achieved not_all not_Wikipedia not_edit not_result not_contributor not_given not_issue not_opinions not_position not_article not_discussions not_supporting not_one not_non_consensus not_others not_tag_team view not_achievable not_view not_discussion not_made not_reached not_talk_page not_wrongfully not_possible not_develop not_permitted not_always not_precluded not_support not_expert	
No	14%		disputants arbitrators no_one	not_majority not_unanimity not_numbers not_thing not_supermajority valid not_everyone not_agreement not_decision not_measured not_simple not_agrees vote unanimity not_preference not_vote not_rule not_immutable not_unanimous not_permanent not_end_all not_be_all not_minority not_making not_Arbcom not_something not_absolute not_results not_your	
Yes	13%	community agreement local	community editor everybody vandal others members	always broad not_numerical not_voting possible not_difficult numbers agrees count not_process not_binding not_definition not_sham not_you not_prove consensus not_count not_dictionary	not_local not_community guideline not_guideline
Yes	6%	against	you them	not_people not_change not_consensus prior not_opinion not_number not_editing not_through binding not_leave not_game not_rough	
Yes	5%	Wikipedia policy arguments through quality determined sides issue given	users participant	simple	
No	5%			not_prior discussions not_policy not_implicit not_shield not_status not_edits not_based not_nobody not_method not_source not_metaphysical	
Non-clustered signifiers	4%				
Yes	3%	common	parties	partnership ground	current not_current

Figure 8
Contested signifiers between each
discourse within WP:Consensus talk page



Results: WP:Consensus talk page order of discourse. Now that the corpus had been filtered so that the components of discourse and their connections with one another had been recorded, it was now possible to analyze how these discourses interacted as an *order of discourse*. Using data from Figure 7, I analyzed which of these meanings were used across discourses (using * to denote a signifier's cognates — i.e. edit* = edit, edits, editing, etc.) and represented them in the Venn diagrams of Figure 8. The overlapping sections show meanings that were used in what I interpreted as different discourses. Words recorded on the outside lobes denoted meanings that were unique to a specific discourse, while those in the middle demonstrate a contested key signifier. The following describes each of these apparent discourses by outlining their key signifiers and giving a composite example of how each was expressed on the talk page.

Primary discourse — Edit, discuss, evaluate. In Figure 6 and Figure 7, the teal, purple and pink clusters can be understood as a deeply interconnected primary discourse with three sub-discourses: “process editors,” “discussion participants,” and “Wikipedia users.” In this discourse, consensus was described as occurring in the context of editing, discussion, or evaluation. This is demonstrated in three composite examples taken from the talk page.

Composite of sub-discourse 1 — Editors' process: “*Editors* tend to adhere to the idea that consensus is a natural and inherent property of editing; in general, a user makes a change to a page, then anyone who reads that page can leave it as is or change it. When editors cannot *reach* agreement by editing, the *process* of determining consensus is then taken to the talk page.”

Composite of sub-discourse 2 — Discussion Participants: “When you make an edit after a discussion, that does not mean that no other *participants* in the *discussion* (or even some *new*

editor) cannot change it back because you believe you have consensus. It just means that the edit you want to make is still disputed.”

Composite of sub-discourse 3—Wikipedia users: “Discussion participants and uninvolved editors can both assess consensus. Their assessment follows the current statement on the page: Consensus is determined by the *quality* of the *arguments* given on the various *sides* of an issue, as viewed through the lens of *Wikipedia* policy.”

What emerges from these visions for consensus is a mixture of theories of consensus. The sub-discourse of Editors process aligns with David Clark’s “rough consensus” where the purpose is to facilitate action (Reagle, 2010, p. 102) and the idea of “passive consensus” (Vasilev, 2015, p. 85). Additionally, this discourse was attached to the subjects of administrators, which connects to Wells’s bureaucratic view of democracy. In contrast is sub-discourse 3 which relates to the Habermas-inspired “active consensus” of rational debate (Vasilev, 2015, p. 85) and Dewey’s participatory view that “[c]onsensus demands communication” (Dewey, 1916, p. 6). What is interesting is that sub-discourse 2 articulates an undertheorized middle ground between a passive and an active view of consensus — a view that is attuned to consensus as an ephemeral process.

Secondary Discourse — Counter-discourse. The discourse “against you” and the clusters that did not qualify as discourses in themselves made up 33% of Figure 6. Common to all of these clusters was that most of their signifiers were antagonisms. Based on this, I interpreted these clusters and “against you” as forming a fragmented counter-discourse to the primary discourse of “Edit, discuss, evaluate.” In particular, there was a concern that consensus could not be evaluated with any certainty and therefore could not constitute an enforceable policy. This view reflects Menking and Rosenberg’s argument that some aspects of Wikipedia are more akin to “norms” rather than “rules” (Menking and Rosenberg, 2020, p. 19). In defense of consensus

existing as a norm, definitions of consensus attached to this discourse were against establishing a quantitative measure for identifying consensus. As such, this counter-discourse included negative definitions of consensus that challenged the idea that supermajority, unanimity, or voting are synonyms for consensus. A composite example of this kind of discourse could be expressed on the talk page in the following way: “There are issues that can’t be settled and those go to the Arbitration Committee. In these cases, consensus is not being used. *Arbitrators* get to vote, and usually it is the *disputants* that get topic banned or completely banned. That is not consensus.”

Tertiary Discourse — Scale. In Figure 6, the “community community” discourse was distributed throughout the graph and made up the third largest cluster (13%). Revealingly, the internal antagonisms of this discourse deal with defining consensus in terms of scale which allowed it to articulate a semantic departure from the primary discourse. A composite example of this discourse on the talk page could be expressed this way: “There are several levels or scales to consensus that we’ve seen. At the narrowest there is an implied consensus through silence or editing. This becomes no consensus when someone disputes it. Then there is consensus as a result of discussion, which then becomes a *local* consensus, then it moves to a *broad* consensus. At the top end of things is *community* consensus, which ranges from adopted essays, to *guidelines*, to the broadest consensus of all, our policies.”

This iterative building up of different local consensuses toward a larger all-encompassing one can be seen as an adoption of Hayek’s neoliberal view of consensus. The aggregate of opinions about uncertain topics transforms into a knowledge that holds the community together. To a degree, this discourse also reflects Dewey’s participatory views of consensus, however the idea that consensus is achieved through silence is one articulation that conflicts with his theory.

Quaternary discourse. At the top left of Figure 4 is “common parties”, a discourse which was isolated from the rest of the clusters and had thick internal edges, suggesting an insular discourse that had little influence on the overall ordering of meaning. Additionally, there were not enough signifiers of this discourse to identify it with a pre-existing theory of consensus or even an emergent one.

Conclusion to talk page analysis. On the WP:Consensus talk page there are at least three significant discourses identified by differing key signifiers and subjects. Their interactions described within in the Venn diagram (Figure 5) suggest that these discourses were “colliding antagonistically” (Jørgensen and Phillips, p. 48), each jostling to articulate the meaning of consensus by denying the legitimacy of specific signifiers as either being “is consensus” or “is not consensus.” The third conclusion is that these antagonisms were recognizable as a specific order of discourse between the primary deliberative democratic / hacker discourse (with three sub-discourses: Process editors, Discussion participants, Wikipedia users), a secondary counter-discourse (Against you) and a background Deweyian-Hayekian discourse (Community community).

From the perspective of critical feminist political theory, these results are interesting. While there is a dominant discourse concerning consensus, there is also a clear and frequent counter-discourse. It was characterized by reservations about whether Wikipedian consensus can actually be defined as “consensus” or if would be used as a form of domination. Despite these critiques, these arguments did not cohere into a formalized discourse of its own. Instead of producing a set of its own key signifiers and subject roles to contest the meaning of consensus, the majority of linguistic activity was dedicated to negating the signifiers of the dominant discourse. As such, while there is a thread of concern over hegemony in these articulations, it did

not coalesce into a discourse akin to the positions associated with Mouffe's theory which would seek to balance consensus with dissensus. The consequences that emerge from this lack of a clear discourse of dissensus was dramatically illustrated by how the talk page discussions were transformed into the actual consensus policy in the next section.

WP:Consensus Policy. On the WP:Consensus talk page, every comment was in some way vying to control adjacent meanings of consensus. Through the frequent use of certain signifiers, some definitional phrases were taken up as articulation points within one or more systems of meanings. In other cases, signifiers did not resonate, and as a result, did not significantly contribute to contests over the meaning of consensus. This is important to understanding the space of the talk page, as not every articulation was regarded as meaningful to the actual policy. This was not the case in the space of the policy page itself. Every edit recorded to the policy page was assumed to fix its meaning — if only temporarily or incorrectly. Each edit was a moment of closure about the meaning of consensus.

The data collection of WP:Consensus was conducted on January 31, 2019. On that date, the policy project page had been edited 2,564 times from July 11, 2004 to January 22, 2019. Following David Moats's (2018, p. 18) method for analyzing changes to Wikipedia articles, I downloaded the HTML files for every 100th edit found on the policy history page. After reviewing the 20 files collected, it was clear that there were only minor changes from one version to the next. Considering this, the corpus was reduced to only 10 HTML files (1 for every 250 versions).

Because each word should be considered as contributing to the meaning of consensus as a policy, the unit of analysis was "words" of a version of the policy — with the following

exceptions. The first pass of analysis included cleaning extraneous elements from the data. This meant limiting each version to the content between the H1 “firstHeading” at the top and the category links at the bottom. HTML for links was removed along with the table of contents. Images with words in them were treated as part of text to be analyzed. Word exclusions included stopwords, “Wikipedia”, and “consensus” — except when consensus was used as part of the phrase “no consensus.” The second and third passes began by categorizing words based on their semantic relationship to the discourses identified on the talk page. Some instances of coding included tagging a single word, a set of words, or applying multiple tags to a single instance if the meaning was ambiguous.

During the fourth pass, I came across the issue that not all of the policy words could be categorized by the discourses that were identified on the talk page. In part, this can be explained by the differences in the units of analysis. Because the policy was being analyzed as a whole and not just definitional phrases, broader categories were developed. Subsequently, the discourses of “process editors,” “discussion participants,” “Wikipedia users,” “community community,” and “against you” were expanded to the broader discursive themes of “Editing,” “Dialogue,” “Judgment,” and “Hegemony”; and an additional four sub-themes: “Versions,” “Behaviour,” “Attention,” and “Counter-hegemony.” After the 10 versions were analyzed, the frequencies of each word and their associated themes were tallied.

Figure 9
Key signifiers of the
consensus policy



*A ranking of 20 words was used as a threshold for each theme. However, in some instances there were numerous words with frequencies that were the same at the 20th position. In these cases, a cutoff point was chosen based on how well the words aided in the readability of the graph. Additionally, the * at the end of some words indicates that the one or more cognates of the word were part of a single sum used for ranking. For example, "building*" represents the sum of instances for "building," "built," and "build".

Filter 1: Frequency of key signifiers for the consensus policy (Figure 9). In the ten versions studied, I identified four demarcated themes. Figure 9 represents the frequency of (approximately) the twenty most frequent words in each theme across the 10 versions. Of course, many of these words did not fall into just one category. For example, “neutral” appeared as one of the most frequent words for both “Dialogue” and “Judgment.” In these cases, the surrounding context was used to interpret which categories, if not both, it belonged to.

The largest quadrant of Figure 6 is “Editing” and labeled words associated with editing actions: i.e. “edit,” “use,” “make,” “changes.” Attached to this category was the subcategory of “Versions” that included frequencies for meanings that were temporal in nature, describing consensus as “new” or a “process,” whether it “changes” “over time;” or if it should be “continued” instead of being “disrupted,” “reversed” or “reverted.” In the parlance of wiki-culture, the concept of versions and its complement the “revert” refers to the action of choosing to return to a previous version of a page (Kittur, Suh, Pendleton and Chi, 2007, p. 456).

The “Dialogue” quadrant gathered words related to “discussions,” “disputes,” and “talk.” On both the talk page and policy page these dialogic subjects were understood to be “participants” and were attached to a sub-category of “Behaviours.” Under this category were the actions of “be bold,” “civil,” and “helpful.” However, not all forms of participation were considered welcome. For instance, when two or more users who “disagree about the content of a page repeatedly override each other’s contributions,” this activity is known as an “edit war” and makes “consensus harder to reach” (“Wikipedia:Edit warring,” 2019). Another form of unwanted participation is the act of “canvassing” where users notify other users “with the intention of influencing the outcome of a discussion in a particular way” and “compromises the normal consensus decision-making process” (“Wikipedia:Canvassing,” 2019).

The third largest quadrant was “Judgment.” While the talk page defined consensus in terms of “Wikipedia users” and their relationship to the “policy,” the policy page demonstrated an expanded set of articulations. “Policy” was often found in the contexts of “arbitration,” “decisions,” “sanctions,” “administrators,” “guideline,” and “resolution.” The sub-category of “Attention” was one of the more difficult themes to identify as it was not readily described within talk page definitions. In the context of the policy, there was a significant effort dedicated to getting people to “notice” (using “noticeboards”) when trouble with consensus was occurring. This might mean getting more “eyes” to “read” or “watch” pages. What this theme identifies is that the consensus policy was not a stand-alone document, but was intimately connected with a network of other Wikipedian policies and concepts, all supporting one another to legitimate particular articulations about the meaning of consensus.

The fourth quadrant was based on the talk page discourse of “Community community.” This discourse on community was re-conceptualized as “Hegemony,” based on critical feminist political theory. As Fraser and Mouffe have argued, “[c]ommunity’ suggests a bounded and fairly homogeneous group, and it often connotes consensus” (1997, p. 97) and “[c]onsensus in a liberal-democratic society is — and will always be — the expression of a hegemony” (2000, p. 49). Under this theme I coded concepts related to “community,” “agreement,” “all,” and “accepted” as hegemonic.

Changing community to hegemony also revealed a more appropriate understanding of the talk page’s “Against you” counter-discourse. In coding instances of “no consensus,” “they,” “not numbers,” and “not unanimity,” these words stood out, not only because they were deployed to be counter-discursive, but because they explicitly expressed counter-hegemonic stances, ones that sought to break the assumptions of a homogeneous group.

Figure 10
Subject roles of the
consensus policy

parent: 6		1	1			1	1	1	1
third party: 7	1			2		1	1	1	1
Jimmy Wales*: 8	1	1	1	1	2	1	1		
third opinion*: 8		1				2	1	1	1
users: 8	1		1	1	1	2	1	1	
majority: 9	3	1	2	1	1	1			
developers: 9	1	1	1	1	1	1	1	1	1
contributors*: 10						1	3	3	3
parties: 12			1	1	2	2	2	2	2
committee: 17						2	4	4	7
participants: 20	1		1	1	1	4	4	3	3
(WMF) Board: 22	1	1	1	1	1	1	1	5	5
group: 31	3	5	6	3	3	4	2	3	1
administrators*: 55	1				1	1	8	11	11
editors*: 291	7	15	8	9	5	23	47	45	39
	2005-04	2007-09	2008-05	2010-09	2012-10	2019-01			

Filter 2: Subjects of the consensus policy (Figure 10). After coding each discursive word for its theme, frequency, and version, the dataset was also analyzed in terms of subjects. By concentrating on the seven most frequent subjects, there emerged two notable observations concerning the type of subjects articulated by WP:Consensus over its 15 years of existence.

The first observation came from total frequencies. “Editing” had the greatest number of subjects, overwhelmingly concentrated in the role of the “editor” (291) which made up over 50% of all subjects recorded. Of the remaining top six subjects, “Judgment” came second with the related “administrators” (55), “Wikimedia Foundation Board” (22), and “committee” (17). Both “Dialogue’s” “participants” (20) and “parties” (12), and “Hegemony’s” “groups” were almost equally frequent. As such, it can be observed that subjects were defined in order of Editing, Judgment, and then Dialogue and Hegemony.

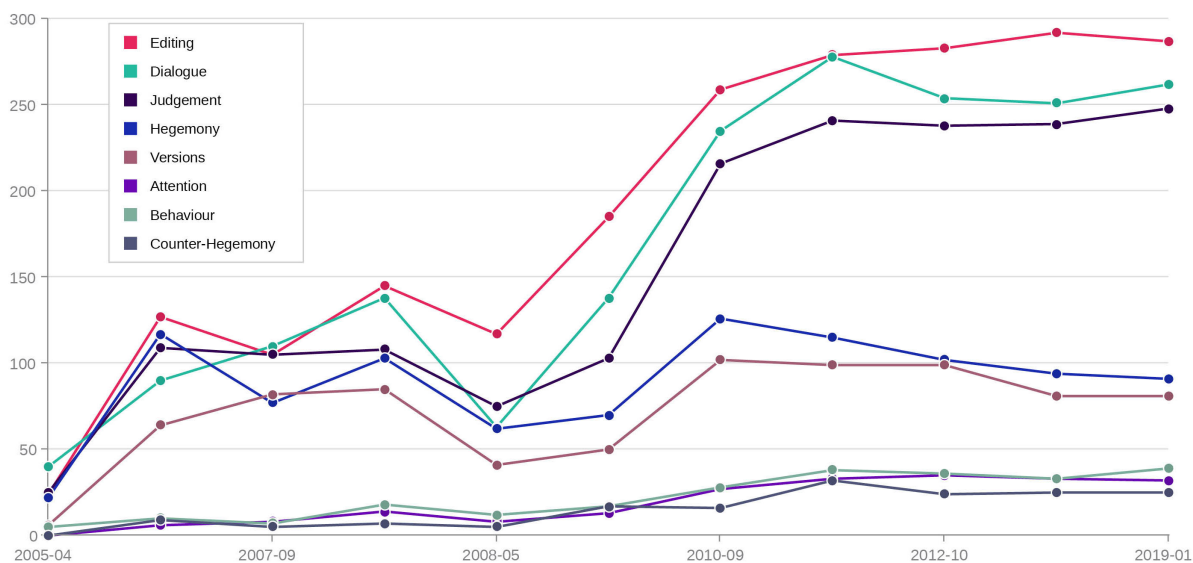
The second observation came from the distribution of frequencies over time. From the beginning, the subject of the editor was consistently the most prominent subject in each of the versions of the policy that was studied. This was not the case for the other roles described. For example, the hegemonic subject of the “group” increased in the beginning, but then trailed off by 2019. In contrast was the slow and marginal development of “participants” and “parties,” both of which had no instances in the first version and only two instances each in the most recent. By this count, the subjects of dialogue played a marginal role in shaping the meaning of consensus. This means that outside of editors, the beginning of the policy concentrated on articulating hegemonic subjects, like “groups.” This is in contrast to the development of the subjects of judgment such as “administrators,” “committee,” and “WMF Board” which jumped up to importance between 2010–2012. This points to the fact that as the policy developed it was

increasingly understood that bureaucratic subjects were important for articulating the meaning of consensus.

Filter 3: The stabilization of discursive themes for the policy page (Figure 11 and Figure 12). In addition to understanding the changes to subjects over time to understand how consensus was fixed as a policy, it is also valuable to observe how the themes themselves were similarly mobilized. Figure 12 displays the sum of the instances of all words categorized by each theme and how these sums were distributed throughout the lifespan of the policy.

Figure 11

**Discursive themes of
WP:Consensus 2005–2019**



In the first three years of the page (2005–2008), there was constant movement of themes between the top four spots. Figure 11 displays this jockeying of position more clearly and how in 2012, the themes began to stabilize their positions. Furthermore, as the policy gained edits, the frequencies of each theme began to distance themselves from one another, creating three distinct groupings. In the context of the policy, each theme played its part in articulating consensus, thus

demonstrating that despite their differences these articulations were discursively compatible, though still hierarchically organized as an order of discourse.

Figure 12

Ranks of discursive themes of the consensus policy

	2005-04	2007-01	2008-04	2008-05	2009-05	2010-09	2012-01	2012-10	2015-05	2019-01
1.	dialogue	editing	dialogue	editing	editing	editing	editing	editing	editing	editing
2.	editing	hegemony	judgment	dialogue	judgment	judgment	dialogue	dialogue	dialogue	dialogue
3.	judgment	judgment	editing	judgment	dialogue	dialogue	judgment	judgment	judgment	judgment
4.	hegemony	dialogue	versions	hegemony	hegemony	hegemony	hegemony	hegemony	hegemony	hegemony
5.	versions	versions	hegemony	versions	versions	versions	versions	versions	versions	versions
6.	behaviour	behaviour	attention	behaviour	behaviour	counter-hegemony	behaviour	behaviour	behaviour	behaviour
7.	—	counter-hegemony	behaviour	attention	attention	behaviour	attention	attention	attention	attention
8.	—	attention	counter-hegemony	counter-hegemony	counter-hegemony	attention	counter-hegemony	counter-hegemony	counter-hegemony	counter-hegemony

This stabilization can be observed in the version of the consensus policy at the time of the analysis — January 22, 2019 (“Wikipedia:Consensus,” 2019). In this version, the order of discursive themes can be seen in the organization of its top-level headings: Achieving consensus; determining consensus; consensus can change; decisions not subject to consensus of editors; and See Also. Under the first heading, consensus is conceptualized “Through editing” and “Through discussion” (“Wikipedia:Consensus,” 2019). This is an extension of the two views that were articulated in the first draft of the page: that of rough consensus supported by passive consensus and a deliberative and active view of consensus. Interestingly though, the aphorism “Silence means consent” that was prominent in the first version, has been re-articulated as a link to an essay — the least authoritative format within the policy environment (Kriplean, 2007, p. 2) — that

states that “[s]ilence does not imply consent when drafting new policies” (“Wikipedia:Consensus,” 2019).

Under the section describing how to determine consensus is a discussion about levels of consensus. In keeping with the hegemonic discourse of consensus, the policy states that “Consensus among a limited group of editors, at one place and time, cannot override community consensus on a wider scale” (“Wikipedia:Consensus,” 2019). This means that above all else, it is the authority of the community that shapes the structure of the encyclopedia. This “community consensus” is inscribed in the Wikipedia’s policies which are valued for their “stability and consistency” and therefore are subjected to a different “standard of participation” where “[i]mprovements to policy are best made slowly and conservatively” (“Wikipedia:Consensus,” 2019).

Under a section describing consensus-building, editors are encouraged to maintain a “neutral, detached, and civil attitude.” When this is difficult to maintain, editors are directed toward “soliciting outside opinions” and “Administrative or community intervention” (“Wikipedia:Consensus,” 2019). In the case of “no consensus” editors are led to technical (rather than social) actions of how to proceed. Additionally, the idea that “consensus can change” is inscribed as a flowchart of editor actions of moving from a “previous consensus” to a “new consensus.” Held together, the concept of “consensus-building” takes on a bureaucratic and procedural meaning rather than one that is based in deliberation as Katarzyna Jezierska defined it (2019, p. 19).

One aspect of this later version of the policy is that it makes an important caveat. Despite consensus being fundamental to Wikipedia, not all decisions are “subject to consensus of editors.” Examples of these exemptions include decisions made by the Arbitration Committee,

decisions that concern legal issues, or operations of sister projects maintained by the Wikimedia Foundation (Wikipedia's parent organization) ("Wikipedia:Consensus," 2019).

Results: The order of discourse for the WP:Consensus policy.

1. WP:Consensus is *primarily* articulated in terms of a relationship between the editing process of editors, the dialogue of editors — not discussants nor participants — on the talk page, and the judgment involved in the decision-making of both editors and administrators. Of these, the meanings attached to editing and editors was the most consistent and dominant form of closure. By this description, the main articulation of Wikipedian consensus leans towards O'Neil's description of "online tribal bureaucracy" (2009, p. 175) or Matei and Britt's description of Wikipedian power as a combination of adhocracy and bureaucracy (2017, p. 27). This articulation also points to the fact that the subjectivity of the editor is legitimized by their capacity to provide technical or immediate solutions. Rosner identified that this reliance on solutionism problematically limits the capacity to address socio-technical concerns that require a different kind of response (2018, p. 14). This explains the strong reliance on action and judgment, rather than an explicitly participatory form of deliberation based on understanding.

2. WP:Consensus is *secondarily* articulated by the meanings of hegemonic agreement within the community and a process that emerges from the development of subsequent versions. This articulation aligns with Hayek's vision of an open society (1945, p. 526) and O'Neil's description of "index-authority" which are both based on the aggregated agreements of individual opinions (2009, p. 43), as well as design's dominant paradigm of individualism that imagines "users as an aggregation of individuals rather than as a web of relationships" (Rosner, 2018, pp. 12–13). This approach similarly engages with a kind of universalism that treats each user as an interchangeable token. From a different angle, when consensus takes on the form of

policies, they are understood to act much slower and conservative in terms of improvements. This is to ensure that the community remains stable and consistent. In this sense, consensus as policy operates according to the same logic as Adler's syntopicon, which is to convey the intellectual traditions of a culture and a reference for "comprehending the wisdom and understanding accumulated thus far in all major fields of inquiry" (Adler, 1952a, p. xiii).

3. WP:Consensus is *tertiarily* articulated in terms of the attention gained by issues and conflicts, the civility and behaviour of editors, addressing the presences of no consensus, and finally, that consensus is not determined by numbers, polls, or counting. It is only at this last level that there is a clear thread of deliberative democracy being articulated, one that connects to both Habermas and Dewey's ideas of a public sphere as accessible (Fraser, 1990, p. 63) and founded on communication (Dewey, 1946, p. 211).

What is clear from this analysis of the policy page is that Wikipedian consensus is a composite of competing and conflicting claims about how Wikipedia seeks to encircle knowledge. There is also another conclusion that this analysis provides. This distribution is different from the order of discourse on the talk page. On the talk page, nearly half of the definitions were devoted to the counter-discourse that contested the hegemonic nature of consensus. In contrast, the actual policy articulated counter-discourses as only a fraction of the total, arguably being the least important discursive theme.

This is not an accident. What the talk page counter-discourse articulated was a direct challenge to the legitimacy of consensus as a means to organize Wikipedian knowledge. Of all the issues raised by the counter-discourse, the ones that were added to the policy were ones that privileged unity over difference, such as limiting the use of polls and voting for the purposes of

consensus. Likewise, the concept of “no consensus” was limited to a set of actions of what editors should do when no agreement can be made about an action. In other words, “no consensus” was articulated as an occasional inconvenience between individual editors, rather than an incommensurable and legitimate epistemological condition. Such a position does not offer any room to consider how different *collective* subjectivities may be operating within Wikipedia to contest the values, knowledges, and practices that are attributed to the “Wikipedian” subjectivity. It only provides a framework for legitimating the positions of *individual* editors and administrators. From this perspective, Wikipedian consensus is out of alignment with Fraser, Mouffe, Mansbridge, and Jezierska’s view that consensus must be held accountable to collective concerns that emerge from dissensus. This is due to the fact that despite the internal conflicts between the three orders of discourse, each shares a fundamental belief that consensus is inevitable. As such, Wikipedia’s policy of consensus creates the conditions where dissensus is a concept that lies completely outside of the realm of what is politically sensible and epistemologically coherent.

Frame Analysis: Material Codes of an Interface

After studying the broad field of discursivity found on the talk page and the stabilization of meanings since the 2012 versions of the policy, I can describe how there does not exist a single monolithic meaning ascribed to Wikipedian consensus. Instead, there is a symbolic order where different meanings take precedence over others. This observation is important, but it is not complete. WP:Consensus certainly exists as the codes of procedure that are used to tie performers to the operations of a cultural technique of totalization. But these are not the only codes that mark consensus. Furthermore, the reliance on using linguistic features as traces of a

cultural technique required the unceremonious extraction of meaning from their mediating context. It is time to address these gaps by turning to a frame analysis of Wikipedia's interface.

In assembling a method for studying interfaces, Johanna Drucker came across the semantic overlap between the design practice of producing wireframes and the critical method of "frame analysis." In one approach to frames, wireframes are used to diagrammatically document the material structure of an interface. These diagrams range from existing as exhaustive details of interaction features to abstractly defining the frames that references different types of content spaces (Hay, 2013, p. 7; p. 27). The problem, however, is that wireframing as a design practice tends to reply on a neutral or commercially-oriented "detailed reading of their elements" and the presumption that interfaces simply render "users as consumers" (Drucker, p. 146; p. 177).

Drucker saw the practical value in this method but needed to pair it with more critical understandings of the relationship between humans and interfaces. In particular, she was interested in a theory of interfaces that recognized that "any piece of perceived information has to be processed through a set of analytic frames that are grounded in cognitive experience in *advance* of being read as meaningful" (Drucker, 2014, p. 156, emphasis original).

One type of pairing that met this requirement was Erving Goffman's description of frames — cultural phenomenon that we depend on to "figure out what domain or type of information is being offered and what tasks, behaviors, or possibilities it offers" (Drucker, p. 155). All important to this method of analysis is describing how our subjectivity is shaped through conflicts and compliances with these devices. By yoking Goffman's frame analysis and design's wireframe practice together, Drucker argued that frames are both graphic as well as social constructs. They exist as "a structuring space whose relations create value through position, hierarchy, juxtaposition, and other features in an act of interpretation" (p. 177). This

design-centered approach has the benefit of offering an analytical language that can attend to the specifics of form which might be otherwise overlooked by other discourse analysis methods. This approach has an additional benefit. By asserting that each “interface produces subjects of enunciation” rather than some kind of universal *user* (p. 146), my analysis of consensus as cultural technique is better equipped to engage with Levitas’s ontological mode of utopia. In this context, the two previous analyses of the talk page and policy page are missing this crucial specificity of how media inhabit and create the intellectual frames that not only process knowledge, but also cultivate particular kinds of knowing subjects. The following frame analysis seeks to rectify this gap in understanding the cultural technique of consensus.

Preliminary frame analysis. Wikipedia has two versions of the site, a desktop and mobile version. In terms of sheer numbers, the mobile version tends to receive more traffic (Lafrance, 2016). However, the design of Wikipedia has been described by Wikimedia’s Senior Software Engineer as being “desktop-first” and is the primary version that editors use since it is “feature rich.” In contrast, the mobile version is streamlined to facilitate the experience of “casual readers” (Robson, 2018). Considering the prevalence of editors as subjects of consensus, the desktop version was chosen to represent Wikipedia’s interface.

However, there are many parts that contribute to Wikipedia’s desktop interface and it was not useful to analyze all of them. By this condition, I concentrated only those visual elements that discursively resonated with the consensus policy. This was achieved by using the site’s HTML structure as a means to outline the primary frames and then compare those frames to key signifiers used on the policy page.

Figure 13
HTML hierarchy of
en.wikipedia.org/wiki/Main_Page

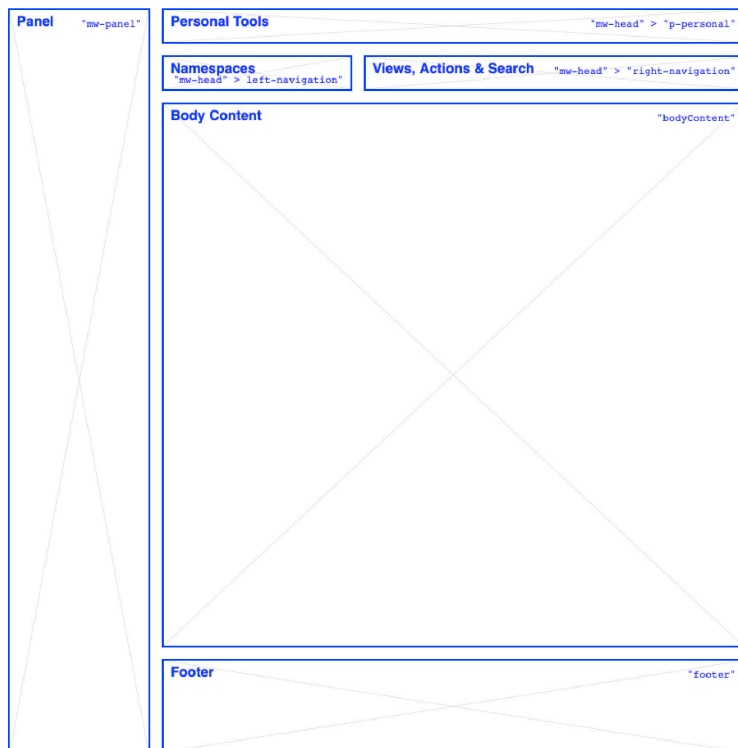
```

<!doctype html> <= j8
<html class="client-js ve-not-available" lang="en" dir="ltr">
  <head></head>
  <body class="mediawiki ltr sitedir-ltr mw-hide-empty-elt ns-0 ns-subject page-Main_Page rootpage-
Main_Page skin-vector action-view">
    <div id="mw-page-base" class="noprint"></div>
    <div id="mw-head-base" class="noprint"></div>
    <div id="content" class="mw-body" role="main"></div>
    <div id="mw-navigation">
      <h2>Navigation menu</h2>
      <div id="mw-head"></div>
      <div id="mw-panel"></div>
    </div>
    <div id="footer" role="contentinfo"></div>
    <script></script>
    <div class="suggestions" style="display: none; font-size: 13px;"></div>
    <a accesskey="v" href="https://en.wikipedia.org/wiki/Main_Page?action=edit" class="oo-ui-
element-hidden"></a>
    <div id="mwe-popups-svg"></div>
  </body>
</html>

```

The process therefore began by reading the hierarchy of HTML source code found on https://en.wikipedia.org/wiki/Main_Page on March 26, 2019 using Google Chrome DevTools (Figure 13). Through this reading, I identified top-level codes used to visually frame the interface: the <DIV> tags for “bodyContent,” “mw-navigation,” “mw-head,” “mw-panel,” and “footer.” Within mw-navigation there were three additional frames: “p-personal”, “left-navigation” and “right-navigation.” The left side contained navigational features concerning namespaces (dedicated spaces that are used to organize and separate different types of pages, like separating an article page from its talk page) and the right provided views and actions that could be applied to that namespace. Given that the site is based on Responsive CSS designs, I used Hay’s responsive wireframe workflow (2013) to create a reference wireframe that represented Wikipedia’s basic navigational frames (Figure 14).

Figure 14
**Wikipedia's navigational
 wireframe for desktop**



By clicking-through the various navigational elements found in these divisions and using a list of namespaces ("Wikipedia:Namespace," 2019) I made a hierarchical list of potential navigational features that create frames of consensus. This list was then compared to the words found on the January 22, 2019 version of the policy page (Figure 15). For the purposes of comparison, I analyzed only those elements that generated a new view of the "bodyContent." This meant excluding features like "New Section," drop-downs for "Alerts" and "Notices," and focusing on namespaces and actions that were articulated as part of the consensus policy ("Article," "Project," "Talk," "Read," "Edit," and "View History"). After this preliminary analysis of Wikipedia's visual frames, I was able to narrow my corpus down to six frames: Article, Project/Policy, Talk, Visual Editor, Source Editor, and History.

Figure 15

Comparison of policy key signifiers (in bold) with HTML hierarchy

Label (and common name) for element	HTML	Policy	Label (and common name) for element	HTML	Policy
• Panel	mw-panel	0	▪ Talk	ca-talk	21
◦ Navigation	p-interaction	0	▪ Project talk		6
◦ Tool	p-th	0	▪ User talk	/wiki/User_talk:	0
◦ Print	p-coll-print_export	0	▪ Template talk	/wiki/Template_talk:	0
◦ Wikibase	p-wikibase-otherprojects	0	▪ Wikipedia talk		0
◦ Language	p-lang	1	▪ File talk	/wiki/File_talk:	0
• Head	mw-head	0	▪ MediaWiki talk	/wiki/Mediawiki_talk:	0
◦ Personal	p-personal	2	▪ Help talk	/wiki/Help_talk:	0
▪ my talk page	pt-mytalk	0	▪ Category talk	/wiki/Category_talk:	0
▪ sandbox	pt-sandbox	0	▪ Portal talk	/wiki/Portal_talk:	0
▪ notice	pt-notifications-notice	16	▪ Book talk	/wiki/Book_talk:	0
▪ contribution*	pt-mycontri	7	▪ Draft talk	/wiki/Draft_talk:	0
▪ watchlist	pt-watchlist	1	▪ Gadget talk	/wiki/MediaWiki_talk:Gadget-	0
▪ alert	pt-notifications-alert	1	▪ Variants	p-variants	0
▪ user page	pt-userpage	0	◦ Right Navigation	right-navigation	0
▪ preferences	pt-preferences	0	▪ Views	p-views	0
▪ beta features	pt-betafeatures	0	▪ Edit*	ca-edit	97
▪ logout	pt-logout	0	▪ Read	ca-view	1
▪ anonymous user page	pt-anonuserpage	0	▪ View history (history)	ca-history	1
▪ anonymous talk	pt-anontalk	0	▪ New section	ca-addsection	1
▪ anonymous contribution	pt-anoncontribute	0	▪ Watch	ca-watch	1
▪ create account	pt-createaccount	0	▪ view source	ca-viewsource	0
▪ login	pt-login	0	▪ Actions	p-cactions	12
◦ Left Navigation	left-navigation	0	▪ Move	ca-move	0
▪ Namespace	p-namespaces	0	▪ Search	p-search	0
▪ Namespace tab	ca-nstab-main	0	◦ Content	bodyContent	8
▪ Article	/wiki/	15	◦ Footer	footer	0
▪ Project page (Wikiproject)	/wiki/Wikipedia:	11	▪ footer info	footer-info	0
▪ Main page	/wiki/Main_page	0	▪ footer icons	footer-icons	0
▪ User page	/wiki/User:	0	▪ footer places	footer-places	0
▪ file page	/wiki/File:	0			
▪ MediaWiki page	/wiki/Help:	0			
▪ Template	/wiki/Template:	1			
▪ Help page	/wiki/Help:	0			
▪ Category	/wiki/Category:	0			
▪ Portal	/wiki/Portal:	0			
▪ Book	/wiki/Book:	0			
▪ Special page	/wiki/Special:	0			
▪ Draft page	/wiki/Draft:	0			
▪ interface page (gadget)	/wiki/MediaWiki:Gadget-	0			

Figure 16

List of Featured Articles and Policies used for composite wireframes

Featured Article	Edits	Version:
Michael Jackson	30,547	https://en.wikipedia.org/w/index.php?title=Michael_Jackson&oldid=896616325
Barack Obama	27,196	Barack_Obama&oldid=896662113
India	24,585	India&oldid=896657383
The Beatles	23,589	The_Beatles&oldid=896756881
Canada	20,878	Canada&oldid=896507840
Germany	19,158	Germany&oldid=896721039
Japan	17,586	Japan&oldid=895896093
Australia	15,910	Australia&oldid=896850728
Lady Gaga	14,879	Lady_Gaga&oldid=896865096
Elizabeth II	13,155	Elizabeth_II&oldid=896865140
Policy	Views	Version:
Verifiability	5,322,799	Wikipedia:Verifiability&oldid=896036451
Username policy	1,927,537	Wikipedia:Username_policy&oldid=895599428
What Wikipedia is not	1,682,159	Wikipedia:What_Wikipedia_is_not&oldid=896742356
No original research	1,626,681	Wikipedia:No_original_research&oldid=887957640
Biographies of living persons	1,322,599	Wikipedia:Biographies_of_living_persons&oldid=893223138
Neutral point of view	1,087,158	Wikipedia:Neutral_point_of_view&oldid=891018500
Consensus	873,479	Wikipedia:Consensus&oldid=893115790
Administrators	758,827	Wikipedia:Administrators&oldid=895535985
Blocking policy	653,728	Wikipedia:Blocking_policy&oldid=895359391
Vandalism	590,732	Wikipedia:Vandalism&oldid=894512831

Data Collection for compositing wireframes. While I had identified the six spaces to analyze, the content of those spaces can change dramatically depending on where one is within Wikipedia. Again, since I was analyzing consensus, I required that the content be representative of Wikipedia's consensus process. I operationalized this requirement by creating composite wireframes composed from the top ten most edited "featured articles" and most visited policy pages (Figure 16). Featured articles can be considered representatives of Wikipedian consensus since they are the highest level of quality an article can achieve and are determined by being "stable" ("Wikipedia:Featured Article Criteria," 2019). As mentioned in the previous two sections, policies are also considered to be reflective of the "community consensus."

Individual featured articles were chosen by using "Wikipedia:Multiyear ranking of most viewed pages" (2019). I used the list of policies listed on the "Template:Wikipedia policies and guideline" (2019) page and calculated which had the most views between July 2015 and April 2019 using <https://tools.wmflabs.org/pageviews>. These dates were chosen due to a limitation of the tool. All twenty pages in each frame (Read, Talk, Edit, History) were then converted to wireframes using the browser extension Wirify (Volkside, 2019) in Google Chrome, saved as .png files, and converted to editable vector files using vector editing software. Visual forms that were consistently used on each of these pages were then selected, copied, and adjusted to create representative composites shown in Figures 18, 19, and 20.

The analysis of each composite was conducted according to Drucker's five parameters for identifying "different forms of visualization" (graphical format, content type, disciplinary origins, structure of meaning, intellectual purpose [p. 65–66]), as well as the enunciated subjectivities that were inscribed in each frame. Their results are summarized in Figure 17 and described in detail in the subsequent sections.

Figure 17
Parameters of analysis
for each frame

Frame	Format	Content	Discipline	Meaning	Purpose	Subjects
Article	Book	Grid	Scholasticism	Associative	Citation	Scholar
Policy	Document	Shortcut	Bureaucracy	Referential	Division	Judge
Talk	Tree	Statement	Computing	Temporal	Refactoring	Closer
History	Chronicle	Accounts	History	Comparative	Tabulation	Chronicler
Edit	Processor	Operations	Publishing	Process	Formation	Editor

The composition of the Read Article Frame (Figure 18, left). The visual space of English Wikipedia’s articles is inherited from expectations about the mercurial form of the book. A quick glance at the composite illustrates that Wikipedia articles are rife with the denizens of the page: paragraphs, headings, footnotes, cross-references, captions, images, tables, and lists. While they harbour signifiers of the book, *the book* is less of an ontologically distinct entity than it is a “meta-medium” that stores diagrams of semantic, computational, and aesthetic information (Fuller, 2017, p. 9). Despite the accuracy of Matthew Fuller’s assessment, the imagination of the book continues to revolve around diagrams of text: the horizontal and vertical arrangement of letters, words, lines, columns, and layout that make up the details of micro- and macrotypographic grids (Hochuli, 2008, p. 7).

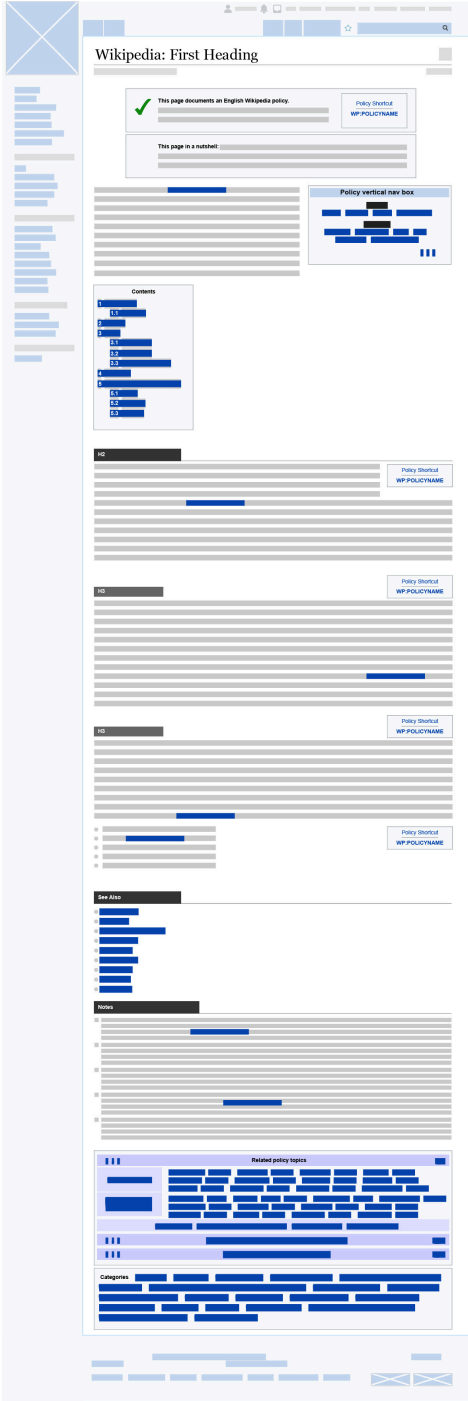
Decisions about how these elements are arranged are not made lightly. During the 2014 reassessment of Wikipedia’s typographic style (Walling, 2014), the designers chose leading, font size, and fonts to ease the “monotony of the page” and to “achieve better balance and cohesiveness for users to efficiently scan the page or engage in long form reading” (Wikimedia, 2014b). Obviously, the Wikimedia designers imagined users to exist not only as *readers*, but as readers who “scan.” For Katherine Hayles, this type of reading is called “hyper reading” which includes pecking, juxtaposing, and switching rapidly “between different information streams [...] among and between different kinds of texts” (2012, p. 69).

Figure 18
Composite wireframes for
Article and Policy frames

Article



Policy



Emphatically, hyper reading is not just a consequence of the twentieth century. Reading a search engine result requires the same reading tactics used by centuries of scholars who sifted through archives (Hayles, 2012, p. 61). Franklin-Brown made a similar assessment when she argued that the polyvocal design of the medieval encyclopedias produced a reader whose “[s]ubjectivity hovers above the page” as “a composite, the author-reader” who is expected to author their own meaning from disparate information (pp. 264–265).

Printers, book designers, and typographers have a tradition of creating a visually deep grid to assist this type of reading subject. For example, type designers often name their font families in terms of their “weight;” typographers describe layouts in terms of “depth” (Bringhurst, 2004, p. 54; p. 289) or as “overlapping planes” that can hover above or sink below one another (Thompson, 2005). Such perceptions of space are also technically encoded into the “z-index” of HTML (World Wide Web Consortium, 2016) and the layers used in design software (Manovich, 2013, p. 142). By adding this depth, the design of a page creates a visual system of similitude that aids a reader’s roving gaze.

While visual weight facilitates this activity, the form of the list manifest this logic, a logic which proliferates on Wikipedia as the page titled “Wikipedia:Lists of lists of lists” (2020) suggests. Liam Cole Young defines the list as an “an operational form of writing” that streamlines as much as it combines and associates disparate information (Liam Cole Young, 2013, p. 498). This is achieved because each list is a “context of citation” that “draws things together and puts them in relation to one another,” which in turn mobilizes the “many voices within the text in order to strengthen its case” (p. 506). This capacity of association could also be extended to other encyclopedic devices: the hypertext link or cross-reference (Zimmer, 2009); diagrammatic images functioning as glosses (Franklin-Brown, 2012, p. 136); or citations that

exist as “a glass to be passed through but not inhabited” (p. 88). In similar language as Young, Franklin-Brown also described that when encountering an encyclopedic text, readers “sift through dissonant voices” and construct their subjectivity “in the space of a mosaic of citations” (Franklin-Brown, 2012, p. 308).

These visual forms are not simply “entry points” for the eye to linger upon or paratextual ornaments designed to service the readability of *the text*. They are epistemological couriers dealing in the goods of disparate intellectual traditions. Their presence within the same visual space is purposefully designed to be read *as if* they belong together. They disrupt the linear authority of the singular author and introduce the “many voices” of expertise and editors into a visual context of citation. Assembled together, the article frame is a visual argument that these diverse knowledges belong together. They are a consensus by composition and visual proximity.

Project/Policy frame and the Policy shortcut (Figure 18, right). While the Project namespace (designated pages that are dedicated to documenting the collaborative activities of Wikipedia) shares some of the visual similarity with its article counterpart, it lacks the same level of visual depth and polyvocality. That is because projects do not generate knowledge through outward trajectories, but by drawing knowledge *into* the Gordian knot of the document. As Gitelman explained, the document is “the kind of knowing that is all wrapped up with showing, and showing wrapped with knowing” (Gitelman, 2014, p. 1). This is a function of how Wikipedia makes a categorical difference between the article and project namespace since projects serve administrative functions and are not “part of the encyclopedia proper” (“Wikipedia:Project namespace,” 2019). Following this, they operate in what the creator of the wiki platform called the “document mode” (Cunningham and Leuf, 2001, p. 332). Project pages are further divided by

the content types of policies, guidelines, process, information, discussion, and historical pages. Each of these spaces have their own expected formats and so further delineation beyond just “Project” namespace is required.

Of these types, it is the policy pages that personify this document mode. Explicitly, they serve to “document the good practices that are accepted in the Wikipedia community” (“Wikipedia:Policies and Guidelines,” 2019). Technically, Wikipedia encapsulates the epistemic function of the document in the form of the “Policy Shortcut.” Signified by right-aligned outlined boxes, these devices are both a short form name to describe a policy section and an anchored link that can be used to direct users anywhere on Wikipedia to a specific section of a policy. Wikipedians invoke the policy shortcut to not only point to appropriate information; they use it like a knife. When social interactions begin to exceed the confines of accepted practices, the shortcut is named as a means to prune and frame behaviour as “Wikipedian.” This attitude of judgment has been observed within the discussions about which articles should be deleted. In this space, administrators play the role of expert interpreters of policy instead of consensus-building facilitators when it comes to the deletion of particular articles (Yam, 2016).

The policy shortcut is a device for dividing; deployed not for decision-making, but for decision-*cutting*. It is in this context that policies can be understood as consensus. When the policy is invoked as a hyperlinked word, Viegas et al. argued that it “is easy for moderators to point users to the precise rules they might be breaking” (2007, p. 9). However, Kriplean et. al. argued against this optimistic reading of the situation. Instead, the policies themselves are open to interpretation as some do not include precise rules (Kriplean et. al. 2007, p. 1). As such, they found “many examples of complex power plays that contributors make to control content and coerce others during the consensus process” (p. 1). This invocation of the rules was used by users

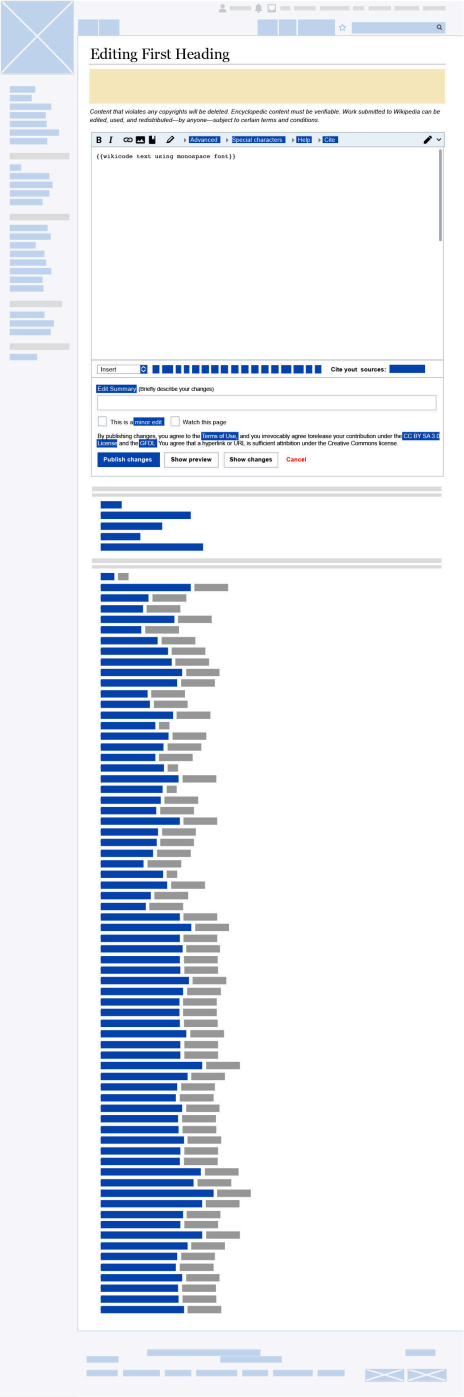
in order to “‘speak in the name of’ something greater than themselves — a principle, the entity Wikipedia — which gives them ‘authority’ in the ongoing interaction” (Gauthier and Sawchuk, 2017, p. 397).

The policy shortcut therefore operates as form of governance that Fraser identified as “protocols of style and decorum” (1997, p. 78) of the public sphere that are used to marginalize subjectivities and actions that are not accepted by the community. The immediate consequence is that the use of the shortcut on a talk page cultivates a binary set of subjectivities. On one side is the user who takes on the social role of a judge who interprets a discursive articulation as either aligned with Wikipedian practices or not. On the other is the judged who are recognized as Wikipedians or discounted on their trespasses against norms. Since policies are manifestations of consensus, it is this meaning of consensus that is embedded in their form.

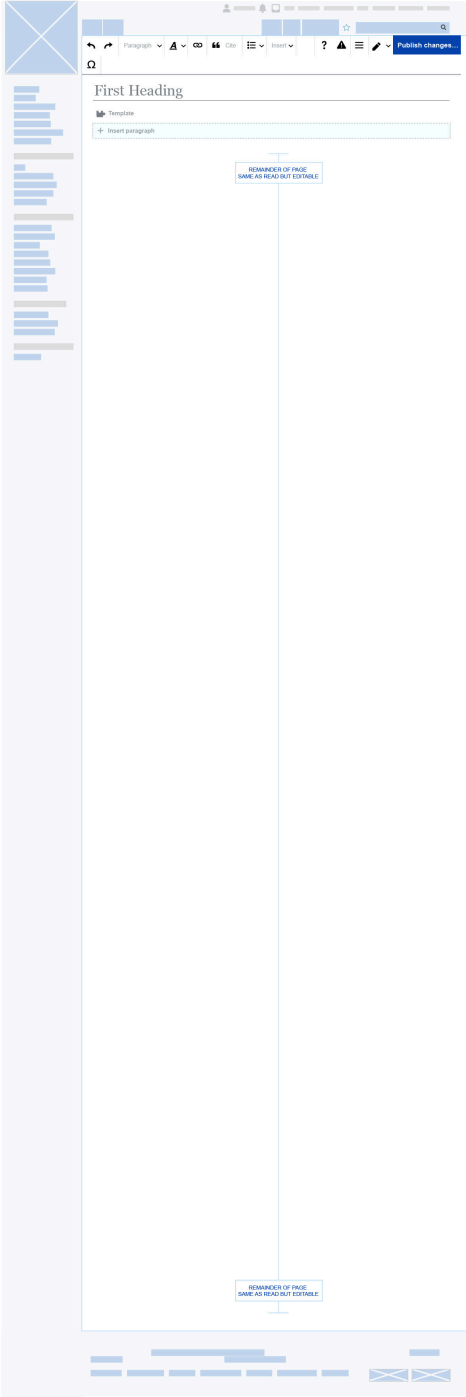
The source and visual edit frame of consensus (Figure 19). From 2001 to 2013, the only way for users to edit a page was to use the Source Editor, an in-browser word processor that only displayed plain text files. The Source Editor can be subdivided into seven consistent sub-frames: A copyright notice, two rows of a toolbar used for formatting, the editable “wikitext,” a toolbar to insert special characters, the edit options box that contain edit summary form, preview page, publish changes, and another copyright notice. Following this is a list of templates, modules, and other wikidata entities that are used on a page. Through these features, users are afforded the general capacity to format, edit, insert monospaced “wikitext” that is subsequently rendered as HTML when the user clicks on the “Publish changes” button.

Figure 19
Composite wireframes for
Source editor and Visual editor

Source editor



Visual editor



After discussions about the gender gap and the accessibility of the mobile version of the encyclopedia, Wikimedia began the creation of its user-friendly interface (Gardner, 2011; Garber, 2012; Cohen, 2014). By 2013, the Visual Editor allowed users to make changes to pages directly instead of editing the maximalist wikitext markup language (Protalinski, 2013). The Visual Editor differed in a few ways. Gone were the multiple frames and the source wikitext. In their place was only a single toolbar located under Wikipedia navigation. Strung along its length were actions (undo, redo, format, style, link, cite, insert characters, help, edit notices, page options, change editor) and ending with a “Publish changes” button. The remaining page is composed of the article being edited. Users could then click on different objects of the article and edit them directly. As a consequence of this limited amount of editing interface, all additional editing operations existed as dialogue boxes that popup when users click on toolbar options.

Despite their differences, both the Source Editor and Visual Editor share the common graphical format of the word processor. Their immediate predecessor was the asynchronous multi-user word processor designed by Ward Cunningham. With the intent of users authoring the same document, Cunningham designed a wiki database based on “flat-text” files rather than encoded HTML (Cunningham and Leuf, 2001, p. 22). These files were minimally formatted using the markup language WikiSyntax (pp. 118–119). Users edited a page by using the “EditPage” link at the bottom of webpage which opened up an inlaid form with the source text available to edit and “save” (p. 19). This conjoined philosophical and technical framework not only privileged writing over reading activities, but the “program wants everyone to be an author” (Cunningham and Leuf, 2001, p. 22). Despite this desire to produce authors, the history of word processing and the publishing industry suggests a different subjectivity at work.

A critical task within printing has been the preparation of a work for publication, instructions or “markup” were handwritten onto to manuscripts. This might include formatting instructions added by “the markup man” (Typo Graphic, 1959, p. 80) or proofreader’s marks (De Vinne, 1916, pp. 322–324) added by a proof-reader, author, editor, or publisher (p. 132). As computers became integral to the mid-twentieth century publishing process, handwritten markup instructions switched from being descriptive instructions to short programmable codes to be inputted into a terminal (Lee, Worral, et al, 1968, pp. 127–128). Taken a step further, programmers began developing proposals (Backus et al, 1960) and experiments (Mathews, 1965) in skipping the handwritten stage altogether by creating a second class of programmed instructions that allowed a program to format and print itself. These efforts culminated in the standardization of a generic markup language emerging at the end of the 1960s (Cohen and Rosenzweig, 2006, p. 88), a genealogical ancestor to XML, HTML and Wikitext.

Contemporaneously with the standardization of a markup language was the development of computational word processors. In the 1960s, electric typewriters were repurposed as the first remote computer terminals. Not only were the characters of the IBM Selectric typewriter used as the foundation of a programming language (Tuttle, 1981), their fixed-width structure offered the affordance of debugging code by distinguishing between code critical characters (Brownlee, 2014). This concern for debugging was also reflected in the layout of similar shaped characters on the early terminal / typewriter keyboards (Dolotta, 1970 p. 28). It is this tradition of programming that the fixed-width fonts used to display wikitext comes from.

This reliance on office typewriters as interfaces with computers had another effect. It belied Cunningham’s assumption that a word processor would create authors. As Matthew Kirschenbaum explained, the history of word processing and printing has been socially and

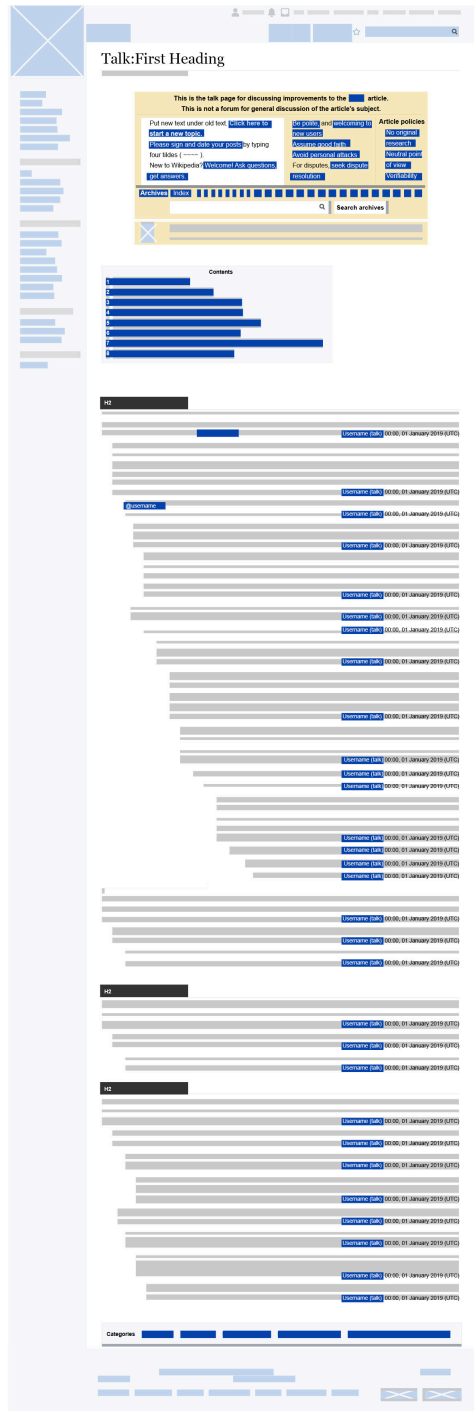
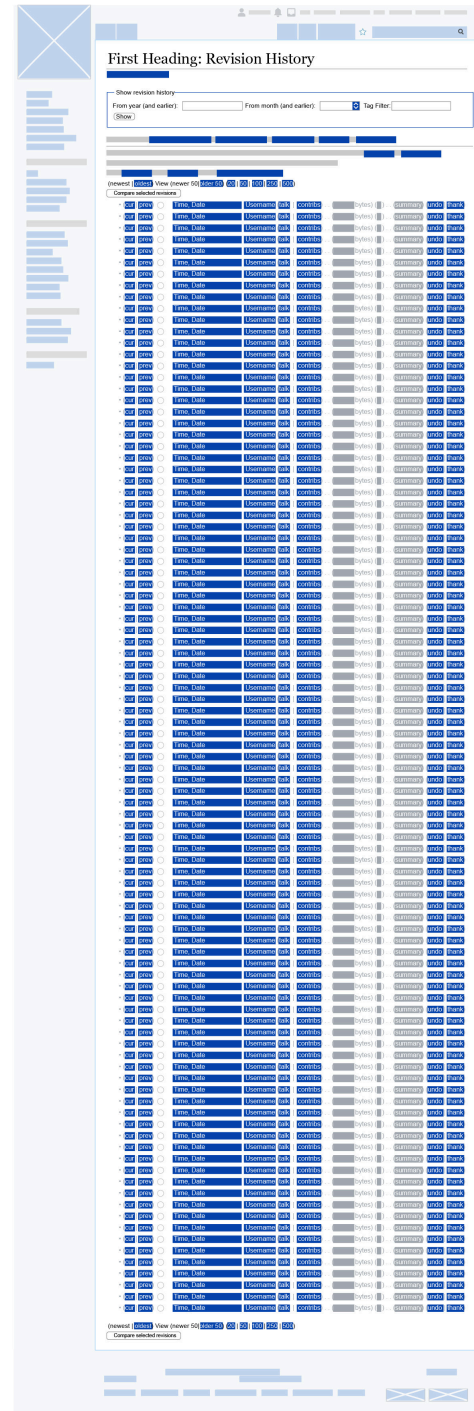
technically structured by facilitating the tasks of office work, not literary authors (2016, p. 16).

This same focus continued both subjectively and technically as Wikipedians consider themselves editors and the actions that the interface affords are encoding, formatting, inserting, and text manipulation of a text that is already present, rather than tools to author an imaginative and original work.

From this perspective, consensus in the edit frame does not emerge as an either explicit agreement or original thought. It is achieved by the continual addition by remote individuals. As Cunningham and Leuf explained, the adding of content itself “can cause the result to drift toward an implied consensus style” (2001, p. 326). The role of the user in this frame is therefore to change consensus by *processing* it. With every click of the “Publish” button, consensus is processed, encoded, and printed.

The refactoring of talk (Figure 20, left). In most of the literature, talk page discussions are the implied location for consensus-building (Benkler, 2006, p. 72; Reagle, 2010, p. 52; Kriplean, et al., 2007, p. 7; Forte and Bruckman, 2008, p. 7). This is achieved by different editors posing questions, opinions, and ideas about a project, article, or topic and then proceeding with making edits to a page (Viégas, Wattenberg, Kriss and van Ham, 2007, p. 5). The assumption that runs along with these arguments is the idea that the technical access to the page allows for creating a “flat” and deliberative space of discourse. Contrary to this imagined affordance, the talk frame is formatted as a hierarchical tree. Each discussion begins with a <H2> heading followed by a “post” paragraph. This post constitutes the trunk of discussion and is then bifurcated by a cascade of indented replies — each terminated by a “signature” with a username link and a timestamp.

Figure 20

**Composite wireframes for
Talk and History frames****Talk****History**

In most cases, the resetting of indentation indicates “the start of a new thread in the discussion” (Laniado, Tasso, Volkovich, and Kaltenbrunner, 2011, p. 178). This spatial configuration creates a hierarchy of temporal meaning: the top discussion and top-left post being the oldest, and the bottom discussion and the bottom-right replies — usually — indicating the newest. In combination, the time and space of this graphical form generates the semantics of *growth*.

The figure of the ever-growing tree has become naturalized within our computer interfaces, although this was not always the case. When Alan Turing envisioned his all-purpose calculation machine in 1937, he organized digital information sequentially in the medium of “tape” (1936, p. 231). For years afterward, the mechanical and cognitive figure of the sequence of tape predominated the structure the programming of early computers (Dijkstra, 1971, p. 117). Edsger Dijkstra would famously contest this arrangement when he outlined how to use “virtual machines” to make a hierarchical operating system composed of ambiguous relationships of control between “directors” and “secretaries” or “slave” and “master” (1971, p. 135). Simultaneously, hierarchical trees were being used to solve the issues of digital file storage (Madnick, 1970, p. 122). These ideas would gain support in the early development of Unix, which in turn, influenced the commercial operating systems that are ubiquitous today (Salus, 1994, p. 2).

With little surprise, experiments in digital communication systems would adopt the tree as an organizational structure. The bulletin board services (BBS) of the late 1970s and early 1980s — built to communicate “‘posts’ announcements, messages, and entire discussions,” — often used the “nonserial scheme” of the tree with its trunk and branches (Rafaeli, 1986, p. 123). It also found a home within usenet and other web forums that used turn-based discussion (Lueg

and Fisher, 2012, p. 57). Likewise, Cunningham's description of his wiki software included a "Thread Mode" that allowed users to comment and "reedit" a post (Cunningham and Leuf, 2001, p. 333).

The figure of the tree solved practical problems of communication, file storage, and memory allocation. But it also manifested a philosophical concern over the limitations of causal sequences versus the endless possibilities of a Borgesian "garden of forking paths." Appropriate to this language, the discussion of the talk page can endlessly grow, and as it does so, the visual complexity signifies forking opinions, details and points of view. Such a structure is a poor signifier for anything described as "consensus." Such a figure is a temporary solution. Wikipedians convert the epistemic uncertainty of this overgrowth of discussion into practical action. Cunningham and Leuf called this evolution of the "Thread Mode" into "Document Mode" as a process "refactoring" (2001, p. 333). This process that Cunningham described perfectly aligns with Hayek's neoliberal theory of knowledge (Hayek, 1990, p. 148): that "the interpersonal process of the exchange of opinion" (Cunningham's Thread Mode) can be refactored into "better knowledge" (Cunningham's Document mode).

Signifiers of a refactored product, rather than discussion threads, are the visual forms of consensus. Across the interface frames, the Article and Project spaces are the clearest forms of refactoring. But they also exist within the talk page itself. For example, on protected or semi-protected pages, unauthorized users can use the edit request template to ask an authorized user to make an edit. If they agree, the authorized user typically replies with the `{{done}}` wikitext tag to render a green checkmark to indicate the edit has been made. Refactoring also occurs when either a participant or an outside editor decides that a discussion is "closed." This status is then refactored as a technical and aesthetic enclosure: the wikitext of the thread is wrapped in an

`{{Archive}}` tag which renders a purple box around the whole discussion. Occasionally, the “closer” will use the template to add a statement about the result of the discussion and whether or not there was a consensus.

But most discussions do not end this way. They simply stop growing without fanfare. To deal with the accumulation of dead (rather than closed) discussions, Wikipedians made a practice of moving old discussions to a talk page archive (Laniado, D., Tasso, R., Volkovich, Y., and Kaltenbrunner, A., 2011, p. 179). In the beginning, this was a manual task with individual users deciding on their own to archive threads based on the unruly length of the talk page. For example, on the WP:Consensus talk page edit history, one user archived discussion when the talk page was “over 300k” (“Wikipedia talk:Consensus: Revision history,” 2019).

In April of 2006, the first iteration of Miszabot, an archiving bot, was created. Bots like Miszabot automatically archive threads by calculating the differences between the current date and the last reply of a discussion thread. If the thread has been inactive for a period of time established by a user, then the bot moves the thread to the archive. At the top of the talk page, links to the archives is listed along with a search box, time period the bot uses for that page, and occasionally an archive index. Consequently, the archive message box is the signifier for refactored discussion. It indicates that an open discussion is now inactive and unchangeable.

Along with the archive message box, there are other “tmbox-notice” boxes that signify refactoring. Some are used for Frequently Asked Questions (FAQ) to describe which common issues have been settled or remain open to discussion. Other boxes are used to indicate that a consensus has been reached about which English dialect is appropriate to use in the page.

Occasionally, some boxes are identified by the Consensus.svg icon and describe the results of previous discussions.

If I extend the metaphor of the hierarchical tree to the entire talk page, then there appears to be five visual forms: roots, trunk, branches and leaves, and fruit. The hidden roots of the tree are the archive page; the trunk is the discussion headings that exist in situ and as the table of contents; and the branches are the discussion and their last replies of a discussion exist as leaves. But of course, according to the logic of refactoring, the tree is only a means to an end: the fruit of consensus exists as message boxes and closed discussion. Visually then, the form of consensus is the box, the enclosure and its subject is the closer (be they bot or human). It is not the discussion itself.

The history frame and chronicling consensus (Figure 20, right). The discipline of history is marked by questions concerning how one should “tell” the past as either “simply recording historical event” or “a high philosophical narration, following the internal relation of events” (Dumfield, 2002, p. 2). In Edward Carr’s *What is History?* (1987) he made it clear that these poles were hierarchically organized, with the “auxiliary sciences’ of history” like archeology and chronology providing the basic facts for the historian to give meaning through narrative (p. 11). Media archaeologists have argued against such a balance. Wolfgang Ernst explained that in “medieval German, the words for counting and narrating were etymologically the same” (pp. 70–71) and in Old English “tellan” was used to mean “to put in order” for both narration and counting (p. 148). By this reasoning, Ernst argued that record-keeping, annals, and archives had equal, if not more, capacity to “tell” culture by “counting rather than recounting” (p. 71). But the importance of this point goes further. He argued that “[k]nowledge is in fact coupled to the very

act of telling, that is, providing a narrative sequence when apparently insignificant facts are being interwoven into a complex reality that cannot be observed directly” (p. 148). Logically, Ernst is making that argument that counting and telling amount to the same thing: knowledge.

The history frame is one such telling, as it deploys the graphical format of the chronicle or “tables concerning time” (Dumville, 2002, p. 1). Formally, the frame begins with a section of options to view the “newest / oldest” and can be subdivided by sets of 20, 50, 100, 250, and 500 revisions. Below that is a button to “Compare selected revisions” which can be used to display the differences between any two versions side-by-side. Following the “mw-history-compareselctedversions” section is the body of the page which is composed of a list of revisions with quantitative and qualitative details about each.

The history frame appears as the most homogeneous frame under analysis. This is due to the lack of interaction individual users have in controlling its content. To this point, each line of a revision includes the same information: its time of creation, the username (both human and bot), total bytes of the page, difference of bytes from the previous version, and an edit summary. If a user is logged in, there are two other options to revert the edit and to thank the user of the version. Technically, each revision line is encoded as a list using the and tags. But in terms of visual form, the list of revisions also functions like a table.

A table, according to Drucker, can “hold information” and has “performative capabilities” to operate on that information (Drucker, 2014, p. 88). Because of this performativity, tables do not just *represent* knowledge, they generate it. In the case of the history frame, this is demonstrated by the calculated byte difference between each version. These sums have been used to generate knowledge about the social behaviours of Wikipedians. For example, bots have been designed to interpret page size to assess whether the edit is an act of vandalism

(Geiger and Halfaker, 2013). Users can also use these counter-vandalism bots/tools or a watchlist to watch out for suspicious activity (Geiger and Ribes, 2010). From the perspective of researchers, the history page has been used to interpret controversy and aggressive editing behaviours (Viégas, Wattenberg, and Kushal, 2004; Yasseri, Spoerri, Graham, and Kertész, 2014; Weltevrede and Borra, 2016; Moats, 2018, p. 11). In these respects, the history page is used as a lens into anti-social activity. As a result, a whole host of subjects are generated from this calculation table: vandals and counter-vandal bots, editing and maintenance bots, watchers, admins, reverts, and thankers.

While most of the interesting research on the history page has been used to trace the lines of controversy and bad faith behaviour, it can also be used to understand the more fundamental relationship between Wikipedia and knowledge. The conceit of the history frame as a chronicle is that knowledge is tantamount to the accumulation of quantified information. As an effect, not only does consensus change and is mutable, as many Wikipedians argued on the consensus talk page, it exists as calculated reversions. What counts as knowledge is often that which is countable over time — a perspective that confirms Wolfgang Ernst’s media theory of knowledge (2012, p. 148–149). It is without coincidence that some of the key signifiers of the consensus talk page included the terms “current,” “previous,” “old,” “new,” or “reverted.” These are the same discursive articulations used to navigate the changes to a namespace. As a consequence, consensus is represented as entries made to the chronicle and its subjects are the chroniclers of this accounting.

Order and antagonisms of frames. In the analysis of the WP:Consensus talk and policy pages, it took a significant amount of work to determine which discourses were apparent and how they

were ordered. This was not an issue with the frame analysis. Because each frame was analyzed in terms of how its system of meanings produced specific subjectivities, each was a self-evident discourse. This characteristic continues forward when I assessed how the different frames (which can properly be described as discourses) are related and ordered in general. This is because the diagram of their relationship is already articulated through Wikipedia's navigation.

Returning to the navigational wireframe and policy comparisons (Figure 10 and Figure 15), the six frames are clustered together into two groups. The first is "left navigation" which contains "p-namespaces" (Article and Project) and "ca-talk" (Talk). The second is "right navigation" which is subdivided into "p-views," "p-actions," and "p-search" with Read, Edit, and View History belonging to "Views." From this division there is a clear antagonism between the left and the right navigation as denoted by the visual space that exists between them.

The order of discourse also follows a similar logic, where their sequential placement is meaningful rather than arbitrary. Following the expectations within English, as one moves top to bottom and left to right, each item is understood as less important. In this context, the order of discourse is as follows: 1) Article and Project share the first position, and then followed by Talk, Edit, and View History. The caveat about this order is that it applies to Wikipedia in general, and not specifically consensus (as was the case in the previous two analyses). The conclusion of the chapter fills in this gap by triangulating how the order of discourse within the talk page, the policy page, and the interface frame resonate with one another and therefore produce the tiered form of Wikipedian consensus.

The Orders of Consensus

What is Wikipedian consensus? Yochai Benkler alluded to its character — before it had coalesced as a policy — when he described the jostling and synthesis of competing opinions through discussion as a “collective output and a salient opinion or observation” (Benkler, 2006, p. 218). However, while my analysis of the WP:Consensus talk and policy page included the discourses of “discussion participants” and “Dialogue,” the meaning of Wikipedian consensus exceeded these boundaries. As I described, the idea of Wikipedian consensus on the talk page has been articulated by a primary discourse that is a combination of three sub-discourses: “process editors,” “Wikipedia users,” and “discussion participants.” This three-part discourse structured most of the meaning of consensus on the talk page. But there were other meanings present, such as the community-centric discourse or the antagonistically and fragmented counter-discourse that attempted to unsettle some of the primary meanings. This included arguing against the idea that consensus could be a policy in the first place.

When I analyzed the policy page, I found that there were some similarities and differences with the first identifications of discourse. Like the talk page, the dominant discourse of the policy page contained three sub-discourses. They differed by being more focused on creating a cohesion between the meanings located within the concepts of “Editing,” “Dialogue,” and “Judgment.” This was followed by a cascade of less prominent discourses — “Hegemony,” “Versions,” “Behaviour,” “Attention” and “Counter-hegemony.” While the talk and policy page shared a common root to their primary discourses, the margins of the meaning of consensus in each space was articulated differently. So while Benkler was correct that the meaning of consensus is connected to the discussion of opinions, it is only a fraction of its meaning. Instead, the meaning of Wikipedian consensus is more accurately an *ordering* of systems of meaning.

Furthermore, these systems are afforded legitimacy through their relationship with Wikipedia's interface.

One way to describe this relationship is to adopt the term “discursive resonance,” a useful term that John Dryzek pitched to replace Habermas’s idealized notion of consensus (2001). In his usage, the term explained how deliberative agreements only become secured as collective actions when they establish “resonance with the prevailing constellation of discourses” (Dryzek, 2001, p. 661). By this description, contesting discourses are able to articulate dominant discourses, without becoming simply, the dominant discourse (p. 661). When these minor discourses resonant with the dominant ones, their re-articulation of discourse is seen as legitimate.

In the context of WP:Consensus, the “constellation of prevailing discourses” includes the codes of consensus ascribed by the interface frames. By this description, those discourses that resonate most strongly with the interface are in turn, amplified and legitimized as part of the aesthetic structure of Wikipedia’s identity. Taking the sonic metaphor of resonance even further, the order of discourse that structures this cultural technique exists as an epistemic *chord* founded on the *tonal root* of the “edit.”

Editors edit consensus; consensus is a composition. There are two ways that consensus is primarily articulated by discourses of “Editing” and “Process Editors,” both resonating deeply with the Edit frame. In magnitudes over others, the first way positions the subject of Wikipedian consensus as the editor (Figure 7). In this context, the editor is a political subjectivity produced by the editing capabilities produced by Wikipedia’s word processing software frames. As a consequence, editors materially encounter consensus by performing operations on the already available source code or object-oriented layout. Their published changes are then understood to

be changes to consensus. From 2007 to 2015, the WP:Consensus acutely described this attitude: “After someone makes a change or addition to a page, others who read it can choose either to leave the page as it is or to change it.”

While the idea that editors edit consensus is directly related to the edit frame, there is a second way that consensus is articulated by “Editing” and “Process Editors.” Here there is a subtle shift in meaning that connects the discourses of “Editing” and “Process Editors” to resonate with the article frame. Articles as well as consensus are considered to be, as the WP:Consensus stated for eight years, “a natural product of editing.” What matters is not the process but the *product*, the published composition, the aggregate of edits configured as a whole. In this articulation, the article frame becomes the representation of consensus, rather than the editable text in the edit frame.

The differences between these articulations of consensus is important. Drawing from the key signifiers, the editor who edits consensus understands it as a function of “changes” and a “process” *because* it is represented in the edit frame. In contrast, since the individual article version is itself uneditable, consensus itself is formally stable; it is “achieved,” “built,” or “formed.” This antagonistic ambiguity between consensus as form and transformation is unresolvable as Wikipedia’s identity and interface rests on being both product (the noun “Article”) and process (the verb “Edit”). Despite these differences, both articulations reinforce what Rosner identified as the dominant paradigms of design: individualism, universalism, objectivism, and solutionism. For example, both articulations are based on the assumption that users are aggregated individuals that are themselves interchangeable because they are imagined as having universal capacities. Furthermore, consensus is understood as a solution to the problem of contested claims of knowledge, rather than one outcome of deliberation and understanding. In

this sense, the design of the edit and article interface reinforces a solutionist approach to navigating the complexities of knowledge.

Consensus is documented by closers; consensus is enclosure. Consensus is articulated by the discourses of “Dialogue” and “Discussion Participants” and resonates with the talk frame. Following the nomenclature of talk, consensus is often articulated as “agreement,” “quality arguments,” which leads to “understanding.” While these articulations align with the deliberative concept of democratic forums, they did not resonate with the interface of the talk page. The only visual form that came close was the edit-request feature and agreement over an edit action, which was only applied in specific situations and not every discussion.

Instead, what is visually communicated is the concept of the dialogue between one-to-many (poster to repliers) or one-to-one (replier-to-replier). Furthermore, such divergent dialogues with individual points of view are only viewed as valuable in so far as they can be “refactored.” It is here that concepts of consensus as talk begin to resonate with the interface. More accurately, it is not “talk” that is important so much as the documentation of talk that codifies consensus. On the talk page, there are two clear visual forms that communicate this documentation. By using the `{{archive}}` tag, an individual user assumes the authority to close a discussion and will occasionally write an explicit comment about the consensus of the discussion. The second form was the `tm-noticebox` that affords an individual to summarize the consensus on divisive topics for the benefit of new readers to the page. In both cases, these are individual acts of authority rather than the collective action normally assumed by notions of consensus. Through these visual forms, the actual agents of articulating talk page consensus are not discussion participants, but individual “admin,” “third opinions,” “neutral parties,” or “closers” who visually and meaningfully enclose talk.

Consensus is anchored by decision-makers; consensus is administered policy. Attached to the concept of administrators and closers above is that of “judging,” “determining,” and “evaluating” consensus. These articulations were identified within the discourses of “Judgment” and “Wikipedia users” and resonate with the Project / Policy frame. As a policy, it has the necessary task of helping Wikipedians designate and distinguish different social practices as either conforming or not conforming to Wikipedian norms. In this capacity, policies doubly function as the documentation of consensus and as an “instrument” or “tool” to make decisions and assess social interaction. Visually, consensus as judgment took the form of the policy shortcut, a portable technique that could be applied and “used” as a rhetorical and administrative device.

Consensus is accumulated by calculators; consensus is a table of time. Discursively, the history frame is the meeting place of the articulations of consensus as product and process. At once, each version independently maintains its own unchangeable time (time stamp) and space (page size) — and yet — it appears as just one step in an accumulative sequence of bytes. In this capacity, the discourses of “Versions” and “Process editors” both resonate with the history frame.

It is this representation of consensus that legitimizes descriptions of consensus as “new,” “old,” “current,” or “reverted.” But these are not just qualitative descriptions, they are quantified. In this capacity, the history table can be used to calculate which version of consensus is new or old. Of course, while human users can engage in this activity, the automated calculation of new, old, and different consensus is the primary realm of bots and algorithms. The automated inscription of consensus in space-time resonates with archiving bots like Miszabot. However, instead of differences of byte size, consensus is assessed by calculating the temporal inactivity of

threads. The consensus (inactivity) signifying that these discussions are no longer valued to the talk page. As the number of archives and article versions is produced, consensus is rendered as a spatial weight: the number of archived talk pages becomes a low-fidelity signifier of the strength of consensus that its associated namespace page represents.

Consensus is that which is common; consensus is hegemony. Consensus is articulated by the discourses of “Hegemony” and “Community community” and resonates with the project / policy frame. Mentioned above, the policy frame provides a specifically visual form to enact judgment and division, the policy-shortcut. This subtractive reading of policy is also entangled in its more usually cited, positive form: policies are there to bind a community. For Kriplean et al., the policy environment was the “shared language” that navigates “the ambiguity of the consensus process” which then “draws the community together” in the presence of “mass participation (Kriplean et al., 2007, p. 1). When a policy is understood as consensus, it is a we-making statement, a description of who Wikipedians are.

Consensus is an encyclopedic inheritance. In many ways, those who proselytized Wikipedia in the 2000s equated discussion with consensus. In doing so, they were engaging with a concept of deliberative democracy that drew from Habermas’s view of a rational public sphere, Dewey’s participation-based Great Community, and Hayek’s competitive open society. The conceit of this approach to consensus was that what makes consensus authoritative is that it is based on the aggregate of rationally debated opinions. Consensus was therefore a *better knowledge* because it had to be achieved rationally. However, this interpretation articulated deliberation as a means for decision-making rather than “understanding” which is the seat of participatory democracy (Jezierska, 2019). This interpretation also overlooked the importance of

tradition and bureaucratic judgment in deciding which actions and statements aligned with the norms of the community.

For example, when it comes to the organization of encyclopedic knowledge, consensus is assumed to be achieved through individual rationality. Wikipedians conceptualize policies and guidelines as the documentation of *already existing practices* (Butler, Joyce and Pike, 2008, p. 1103). This point connects to Adler's understanding that the organization of knowledge is dependent on a collective tradition found within culture. In other words, when consensus coalesces as policy, it is engaging with the authority of tradition, rather than being exclusively a representation of aggregated rationality. Likewise glossed over was the bureaucratic dream of an encyclopedia, one that shares some of Wells's commitments of creating a class of "samurai" who would govern the flows of global knowledge. However, it must be noted that Wikipedian consensus is also articulated by an ontology of individualism, a position that Wells did not tolerate (Rayward, 1999, p. 571).

Community without dissensus. These readings of consensus offer the opportunity to revisit a meaning of what is largely missing from the order of discourse. Missing is the concept of dissensus. To reiterate, this conceptualization I have worked with so far come from Ranciere's description that "political dissensus is not simply a conflict of interests, opinions, or values. It is a conflict over the common itself" (2004, p. 6). It is therefore not synonymous with disagreement between two or more individuals (like what can happen in a discussion thread). In contrast, a dissensus is a collective point of view; a resounding "we" that requires people to identify with concerns and subjectivities that challenge the hegemony of the community. By this formulation, consensus is likewise not just individual agreement over interests, opinions, or values. It is also

not a design solution to resolve the uncertainty that comes with contested knowledge. It is an agreement about what is common, or who and what belongs to the community (Jezierska, 2019, p. 4).

And this is where the language of the neutrality comes into play. As feminist epistemologists have argued that “[i]ndividual epistemic agents are always situated in a socio-historical context that includes a variety of background assumptions and values,” which therefore “requires us to abandon the idea that points of view can be neutral” (Menking and Rosenberg, 2020, p. 16). So when the consensus policy encouraged Wikipedians to adopt a “neutral” and “detached” attitude (“Wikipedia:Consensus,” 2019), it asked them to adopt the cultural norms of *this* community when articulating statements of knowledge. In other words, what is couched in the terms of universality and objectivity is in reality, what is socially designated as common *in this specific situation*.

This is where Wikipedia runs headlong into trouble. By emphasizing the common and consensus as the goal, it has little capacity to deal with the pluralist conditions of contemporary democratic societies; that what counts as knowledge is situated in difference, as much as it is unity. This omission was also felt on the WP:Consensus talk page where counter-discourses were dependent on pilfering other discourses for meaning. Missing were signifiers like *adversary*, *difference*, or *dissensus*, that could be useful in crystallizing an oppositional “we” to contest the meaning of the *Wikipedian* subjectivity. The closest to these ideas was the concern over what happens when there is “no consensus.” So, in this case, Wikipedian dissensus was denied its own status by being articulated by the signifiers of consensus.

When consensus does not naturally emerge, it follows that the problem is with the *individual*, not the community. In such cases, when a user “violates a convention, an experienced

user can refer to an existing policy, serving to socialize the user in acceptable practices” (Kriplean, et. al, 2007, p. 2). If the dispute continues, then it can be escalated up to the point of the arbitration committee and a decision can be made about the *individuals* involved. If the user exceeds the norms of the community, they can be banned (Kriplean, et. al, 2007, p. 2). But what happens when disagreement is not between individuals, but between groups? What happens when one group challenges the assumption that *the Wikipedian* produces a unified subjectivity? What happens when a collective minority challenges common conventions and norms?

From the Wikipedian view of consensus articulated in this chapter, this is incomprehensible. Acknowledging that dissensus exists within Wikipedia would mean that Wikipedian consensus cannot be guaranteed, and therefore upsets the imagined affordance of encircling all knowledge that the encyclopedia is based on. In this capacity, any “we-making” that divides the Wikipedian community is considered suspicious. This is reflected in the fact that the interface and the consensus policy supports individual editorial action, rather than collective action of other subjectivities.

This has political consequences. As Menking and Rosenberg described, efforts to challenge the core beliefs of Wikipedia are “often undermined or incremental, and individuals who disagree with the underlying norms of Wikipedia can be punished for their dissent” like the women who were banned “from discussing the gender gap on Wikipedia” (2020, p. 20). In the next chapter, I will examine the space where this dissent took place. In doing so, I will make an account of how the imaginary and technique of consensus was used in practice to diminish the legitimacy of dissensus, to make difference incoherent, and ensure that the only political action available was to assimilate into the common unity.

7. Troubled Ratios: Practices of Enclosing the Gender Gap

The imagined affordance of Wikipedia as an encyclopedia is the eradication of political difference. It comes from the inherited encyclopedic and philosophical traditions committed to creating a global democratic culture founded on consensus as a means of encircling all knowledge. This ideal was observed within Enlightenment-inspired theories of the public sphere, the twentieth century documentalists, the editors of the *Encyclopedia Britannica*, and neoliberal theories of knowledge, and Wikipedia's five pillars. I concluded that consensus has been an important part of the political imaginary of general encyclopedias for the past century. I followed this thread again in Chapter 6 where I examined the specific ways that the imagined affordance of consensus was embedded within the design of Wikipedia. After conducting this discourse analysis, I concluded that there were six resonate discourses that encoded consensus as a cultural technique of encirclement: edited products and processes of editing; the enclosure of talk; policy shortcuts; tabulated calculations; and hegemonic social norms. Significantly, these different encodings formed an epistemological chord of resonance that privileged the subjectivity of *the editor*, a universal gender-neutral identity that is sustained by the ideas of individualism, rationality, solutionism and committed to community customs.

In line with utopia as method, these chapters excavated the political assumptions and desires that are at the heart of today's most popular encyclopedia. They also explained where these assumptions came from, what they are, and who is imagined as populating its topography.

But I have yet to engage with a second component of the ontological mode. For Ruth Levitas, this mode examines who is included in a utopia and how this vision is sustained by silences about who is excluded (2013, p. xvii; p. 153). This chapter follows this thread by

chronicling how consensus was practiced as an order of discourse, and as a result hegemonically delegitimized and silenced collective challenges in order to maintain consensus.

This analysis begins with a case study of the Gender Gap Task Force (GGTF), a Wikipedian project where its interactions with systemic gender bias was highly publicized. In the context of this research, it serves as a prime example of how Wikipedia's desire for community consensus creates the conditions for limiting the capacity for dissensus to be capable of contesting the common. It does so by chronicling the practices and history of women who challenged the political neutrality assumed of becoming "Wikipedian."

Like the previous chapter, the analysis of the GGTF was conducted as a multiperspectival discourse analysis. It threads together the theoretical terminology of Laclau and Mouffe, the pragmatism of Norman Fairclough's critical discourse analysis, and is combined with the material considerations of Johanna Drucker's frame analysis. However, one important difference stands out. The analysis focuses more directly on Laclau and Mouffe's discourse theory and its purpose of identifying and critiquing the processes of group formation, identity, and hegemony.. After describing the discursive context, the chapter is organized according to the order of Wikipedian consensus describing how consensus and dissensus are drawn into conflict through the composition of the project page (Figures 21–25), enclosures of discussion (Figures 26–31), the invocation of policy shortcuts (Figure 32), the aggregate of edit activity as a chronicle of consensus (Figures 33–34), and finally, hegemony. The data collected for these analyses are inclusive to the period of May 2013 to May 2019. Data collection for the entire discourse analysis occurred in February, May, August of 2019, and January and October 2020. The details of these collections are described in their appropriate sections.

Crucial to this analysis is the means for contrasting dissensus and consensus. But this proves to be particularly challenging. Wikipedian consensus created the conditions where disagreement of any kind is ideally assumed to result in some form of consensus — either by active edits, through talk page agreements, or passively agreeing to content by not editing or commenting. One of the conclusions from Chapter 6 was that there is not a complementary self-sustaining discourse of Wikipedian dissensus. What I find in the process of analyzing the GGTF — much like in Chapter 6 — dissensus operates within the discursive margins of consensus. It attempts to make a “we,” but one that is not an all-encompassing one. It only needs to be different. By working within Wikipedia’s socio-technical apparatus, what counts as dissensus ends up using techniques of consensus as a means to enclose its own meanings, practices, and political desires. At the end of this chapter, I describe how the GGTF’s dissensus was successful in changing aspects of Wikipedia. However, these successes were significantly conditioned by Wikipedia’s desire to maintain a unified community, one that was capable of recognizing these women only as universal and individual *editors*, and not as a separate and unique collective subjectivity of women Wikipedians.

Notes on Privacy. While Wikipedia is open to the public, “individuals may not expect their data to be analyzed” (Wattenberg, 2007, p. 275). This chapter makes an amendment to this position used in previous chapters. Within this analysis I made a conscious decision to name certain users. The controversies over the GGTF were highly public events, with a number of users becoming the focus of several articles in the popular press. Even still, I have limited my use of direct quotations and use of usernames only when it was necessary.

Gender and the Trouble of the Gender Gap. In 2011, Noam Cohen published a *New York Times* article titled “Define Gender Gap? Look Up Wikipedia’s Contributor List.” It reported on the now famous survey that found “that less than 15 percent of its hundreds of thousands of contributors are women” with the remaining per cent being represented by men (2011a). This articulation of the gender gap, one that is commonly used throughout the source materials used for the analysis of this chapter, uses language to describe gender in a very particular way.

In Mimi Marinucci’s explanation about the difference between gender-neutral and gender-inclusive language, she explained that “references to women and men inadvertently exclude people to whom the binary categories of sex and gender do not readily apply, notably transgender and intersex people” (p. 74). As a result, the binary meaning of “gender” used to specify the “gender gap” reinforces a hegemonic understanding of gender as “a basic division of the human world into two distinct *natural kinds*” (p. 75, emphasis original). While these gender roles refer to “constellations of characteristics commonly regarded as feminine and masculine” (p. 102), these characteristics can also be rearticulated through a “queering” and dramatization of the “incoherencies in the allegedly stable relations between chromosomal sex, gender and sexual desire” (p. 79).

This queer conceptualization of gender is clearly articulated by the Art+Feminism collective on Wikipedia. In describing the collective’s relationship with the Wikipedian community, they described their multi-year “campaign to improve content on gender” by training “editors across the gender spectrum in response to the gaps in participation and content” (p. 2). Such collaborations are therefore not just focused on women, but also included collaborations with queer, transgender, and non-binary folks (p. 5; p. 12). In the following study of Wikipedia’s gender gap, this non-binary concept of gender is not commonly articulated.

Instead, the “gender gap” is inferred to be exclusively a question of the spaces, participation, concerns, and representations of women. My analysis of Wikipedia’s gender gap reflects this overdetermination of gender as meaning women, which means that most of my analysis concentrates specifically on the relationship between men and women on Wikipedia. However, it is an articulation that also includes trans women and leads into discussions about the relationship of men with other genders as well. When these discussions do occur, I draw particular emphasis to demonstrate how the hegemonic construction of the Wikipedian identity relates to gender in the broadest sense of the word.

Wikipedia’s Gender Gap

If one returns to the first decade of the twenty-first century, it was assumed by optimistic media scholars — like Axel Bruns, Yochai Benkler, and Henry Jenkins — that digital media would revolutionize society through participation and collaboration. These arguments were animated, as Eric Kluitenberg pointed out, by the assertion that the rough waters of communication could be “normalized” by internet technologies. The internet would ease our ability “for bridging differences in race, gender, age, social class, and culture” (2011, p. 61), which in some ways, it has demonstrably done (p. 62). The caveat of course is that “the persistence of social and cultural divides and the intricate difficulties of communication with the other have turned out to be far more tenacious than originally conceived” (p. 62).

This is precisely the point that the legal scholar Danielle Citron made when she noted that while “[n]ew technologies generate economic progress by reducing the costs of socially productive activities” it also lowers the costs of those that are “socially destructive” (2009, p. 62). This is particularly acute in situations where communities — like Wikipedia — value

anonymity, open access, and libertarian ideologies (p. 66). Despite the liberal claims of freedom, these socio-technical structures provide cover for anonymous users to aggregate as mobs and harass individuals with impunity (p. 68).

Citron provided the important caveat that while “anonymous online mobs could attack anyone” the reality is that “they overwhelmingly target members of traditionally subordinated groups, particularly women” (p. 65). This situation establishes the conditions of inequality as “anonymous groups come together to deny women, people of color, religious minorities, lesbians, and gays access” (p. 68). The “cost” of internet access is therefore not just an economic one. Instead, online mobs raise the price of maintaining an online presence for these groups “by forcing them to suffer a destructive combination of threats,” including sexual threats and “damaging statements” (p. 68) that “make women want to lay low” (p.70). Not only do these mobs “deprive vulnerable individuals of their equal right to participate in economic, political, and social life,” Citron made it clear that the goal has been to “silence victims and stifle public discourse” (p. 81).

In the more recent work by Alice Marwick and Rebecca Lewis, these mobs are reconceptualized as “organized brigades” and “agile groups” (2017, p. 8) who are not only malicious in their attacks, but their attacks are acts to gain notoriety and reputation as they “engage in a cooperative competition to increase harm to their victims, reinforcing social dominance over marginalized groups” (p. 8). What makes these particular groups “agile” is that they are able to draw together an assortment of different networks, broadly known as the “alt-right”, for a common cause.

As the authors emphasize, these networks attract multiple — and conflicting — ideological positions like “white supremacists to libertarians to video game fans to Men’s Rights

Activists” who will dissolve their connections as soon as their common goal of harassment has been achieved (p. 8). Because of this amorphous and temporary assemblage, it is hard to pinpoint who is actually engaged in these activities. In fact, this is the point. As the authors explained, “[a]mbiguity is, itself, a strategy; it allows participants to dissociate themselves with particularly unappetizing elements while still promoting the overall movement” (p. 11). This also plays into the ambiguity at the core of the internet troll, a mercurial role that thrives on confounding victims by playing “with ambiguity in such a way that the audience is never quite sure whether or not they are serious” (p. 7). In both the ambiguity of association and intent, the overall effect of deniability that is easily achieved when posts, messages, and activities are anonymous or semi-anonymous.

Echoing Tkacz’s thesis about the politics of openness being compatible with new enclosures (Tkacz, 2014, p. 33), the access provided by these internet platforms therefore enables enclosures — in this case, for women and marginalized identities. But this is not only a problem for the general internet. It intersects with the history of encyclopedias. When Warren Preece argued that each era’s encyclopedia produces a new people: “whole men for Ancient Greece, pious men for Medieval Europe, and free men for the Enlightenment” (Preece, 1965, p. 798). The creation of new “men” is not just a turn of phrase, but a long-standing trouble that Wikipedia has inherited. As Joseph Reagle commented, the communities that Wikipedia was modeled after — encyclopedias and Free/libre and open-source software — “have been historically male dominated” (2010, p. 93; 2012). The degree of that dominance was quantitatively measured in 2010 when it was reported that 83.9–87.3% of Wikipedians were men (Hill and Shaw, 2013; Glott, Schmidt and Ghosh, 2010). While the Wikimedia Foundation made clear plans to tackle

this situation (Gardner, 2011b), it still came across as a deep contradiction with the encyclopedia's egalitarian dream.

This situation was complicated by the fact that Wikipedia's lack of diversity was not just a quantitative matter. Non-Western knowledges have been obstructed (Featherstone, 2006; Maja Van der Velden, 2011; Vetter and Pettway, 2017); patriarchal language and subject matter within articles have entrenched gendered assumptions (Reagle and Rhue, 2011; Wagner, Graelles-Garrido, Garcia and Menczer, 2016; Jemielniak, 2016); and Wikipedia's conventions operate in ways that "exclude and silence feminist ways of knowing and writing" (Gruwell, 2015). The result has been that there are approximately four times as many articles about men as there are about women (Balch, 2019). The effects of this situation on users was dramatic. During the course of twenty interviews with women Wikipedians, Menking and Erickson (2015), heard that the emotional labour required to negotiate "conflict, being targeted by trolls, or receiving unwanted sexual advances" was not only undervalued, but their experience led to a common assessment that they should "stop behaving like a woman" (p. 3).

Why was this the case? Why was an encyclopedia that started out with the radical politics of producing knowledge through a flattened hierarchy unable to attend to the power structures that are used to subordinate women? There is a common sociological answer that trails such questions: the Wikipedian treatment of women is a reflection of the inequalities that exist within contemporary society (Ehlers, 2018, p. 20). While this is certainly the case, Wikipedia is also not a neutral agent. As Konieczny and Klein aptly described Wikipedia, it "is not just a reflection of the world—it also a tool used to produce it" (Konieczny and Klein, 2018, p. 4629). Shlomit Aharoni Lir also made this point when she argued that Wikipedia's socio-technical systems support "an environment of hegemonic male domination that discourages women from joining

in, contributing and staying active” (2019, p. 11). She based this on the fact that Wikipedia’s negative reputation concerning women, its preference for anonymity, the cultivation of fear of having edits criticized and reverted, all produce a vicious cycle of alienation (Lir, 2019). Jana Gallus and Sudeep Bhatia (2020) expanded the depth to which this occurs. They found that between 2001 and 2015, when both women and men move into positions of power on Wikipedia “female and male authorities are just as (un)emotional in terms of valence in their language use” (p. 128). This change, the authors concluded, “is driven by women who converge to the behavior of their male counterparts as they assume positions of power” (p. 128).

Put together, the concerns about gendered domination on Wikipedia confirm one of the earliest warnings about Wikipedia’s “open” system. In 2005, William Emigh and Susan Herring wrote that if Wikipedia is largely produced by a “few active users” and they work “in concert with established norms,” then the result is likely the erasure of “diversity, controversy, and inconsistency” as well as the homogenization of “contributors’ voices” (p. 5). As such, the fact that women feel coerced into shedding their identity as women when they become *Wikipedian editors* is a unique problem to Wikipedia and nowhere else.

Organizational responses to the Gender Gap. The Wikimedia Foundation, Wikipedia’s parent organization, has recognized this fact. It has responded by increasing women’s participation through edit-a-thons (Sayej, 2018) and funding charities like Whose Knowledge? (Balch, 2019); outreach programs and making the interface user-friendly (Kleeman, 2015); creating a space known as The Teahouse to invite and welcome new users (Morgan and Halfaker, 2018); through efforts to increase the under-representation of important women in typically male-dominated topics (Devlin, 2018; Simonite, 2018); and the creation of a “Community health initiative” to

address harassment on Wikimedia projects (Wikimedia, 2019). Wikipedians also joined users like Rosie Stephenson-Goodknight and Emily Temple-Wood who created and maintained articles about women and women scientists (Wade and Zaringhalam, 2018). Individual editors have also engaged in substantial efforts on their own to reduce the gender gap, with the notable contribution contributions made by Adrienne Wadewitz. She was not only responsible for making 49,000 edits — largely on women authors and women’s history (Cohen, 2014b) — but she was also dedicated to imagining how Wikipedia could be recomposed from a feminist approach (Wadewtiz, 2013a; 2013b; Menking and Rosenberg, 2020, p. 2). Unfortunately, some Wikipedians made Wadewtiz’s concerns all the more immediate. After her passing, a Wikipedia article about her was nominated to be deleted because several editors argued she had not been a notable figure despite numerous mentions in news media, specifically the *New York Times* (Menking and Rosenberg, 2020, p. 2–3).

The interactions concerning Wadewitz’s article are example of the ongoing trouble of the gender gap. To this point, Wikimedia has admitted year after year that they have been unable to significantly increase the number of women who contribute to the site (Huang, 2013; BBC News, 2014; Kleeman, 2015; Wikimedia, “Community Engagement Insights/2018 Report”, 2019). Wikimedia’s own CEO Katherine Maher stated that changing how users approach the notion of editing is an important task. She said that a main motivator for men tends to approach editing as a “individual contribution,” whereas women see it more as a “social action” (Balch, 2019). Even with this knowledge, it remained unclear for the CEO as to how to change the encyclopedia to promote this second approach. Such uncertainty has led to little movement in the gap as the number of current self-identified Wikipedian men —87 per cent: 587,639 men to 118,710 women (Textaural, 2020) — replicates the percentage of self-identified men reported by

Massa and Zelenkauskaitė (2014, p. 91). This is important because this troubling ratio was an early means for measuring the progress; Wikimedia anticipated that it could increase the total number of women to 25 per cent by 2015 (Hussain, 2012).

If a common approach exists with most of these solutions, it is one that assumes that Wikipedia's overrepresentation of men will naturally resolve itself with the increase of the number of Wikipedians who identify themselves as women. This can be encapsulated by Wikimedia's former executive director who said that "[e]veryone brings their crumb of information to the table [...] If they are not at the table, we don't benefit from their crumb" (Cohen, 2011). Some scholars have argued that there are problems with this approach. Some have explained that "[t]here are issues with the quantitative assumption that encouraging more editors from marginalized groups [...] is the only solution to the problem of systemic bias on Wikipedia" (Roued-Cunliffe and Copeland, 2017, p. 74), or that Wikipedia should simply "wait for these thousands of [...] digital citizens standing in the shadows to gradually emerge and adopt new technologies" (Vetter, 2019, p. 5).

Roued-Cunliffe and Copeland argued that it is necessary to address the "problematic" policies (2017, p. 74) and Vetter questioned if it would be better to "rework the project's imagination to make space for various stakeholders who may not speak/write and document in the same way" (2019, p. 5). Riffing on Sandra Harding's famous title, Bryce Peake succinctly summarized these overlapping concerns: Wikipedia had "taken an epistemological problem – a lack of a space of multiple points of view – and attempted an ontological solution – add more women, stir" (Peake, 2015).

Similar concerns about addressing gender gaps as a quantitative issue have been raised in the fields of design, engineering, and technology. Sarah Banet-Weiser argued that it is

“important to have bodies at the table, but their mere presence doesn't necessarily challenge the structure that supports, and builds, the table in the first place” (Banet-Weiser, 2018, p. 12).

Indeed, being at the table is in itself a risk as “[m]arginalized subjects, subjects of difference, are punished and disciplined precisely *when* the spotlight falls on them” (Banet-Weiser, 2018, p. 165, emphasis original). This relates to how Anne Balsamo explained that the mere presence of women does not cause the transformation of “the technologies they experience: there is no guarantee that women will do things differently in their engagement with technologies, as consumers, as players, or designers” (2011, p. 30).

To this point, both Johnna Drucker and Daniela Rosner explained why this is the case. In describing the primary approach to interface design, Drucker argued that these apparatuses are often designed to treat each user as a predictable “mechanized automaton” with the mythical quality of “autonomous agency” (2014, p. 146). What this design approach ignores is the way that the interface structures and enunciates the “positions spoken” (p. 146). Rosner expanded on this idea by pointing out that regardless of gender, many designers operate under a dominate paradigm of designing according to solutionism, universalism, objectivism, and individualism. The result is that this paradigm is not equipped to attend to “those situated actions that are reliant on the environment” and cannot be universalized (2018, p. 14). From a different angle, speaking about Wikipedia specifically, Heather Ford and Judy Wajcman, came to much the same conclusion: Wikipedia’s gendering is “embedded in the infrastructural relations of the technoscientific project itself” (2017, p. 6). It is therefore not just a matter of attracting and retaining more women. Both the subjectivities at the table *and* the design of the table itself need to be questioned.

These arguments about design, tables, and infrastructures find common ground as descriptions of the structural nature of hegemony. They argue that no matter how many women are present, if the apparatus is designed to limit their movements and identities as women, then the problem cannot be adequately solved. This perspective resonates with Cornelia Vismann's understanding of the cultural technique. The table — or for her, the plough — is a tool, and the tool “determines the political act; and the operation itself produces the subject” (Vismann, 2013, p. 84). The question then is, what kind of structure or cultural technique is present? What kind of political subjectivities is Wikipedia producing and by which means?

In the introduction I asserted that encyclopedias are troublemakers; I am describing the thick of that trouble now. The following analyses of the GGTF examine this concern by asking the following questions: What were the cultural techniques that were practiced as a solution to the gender gap? Were they biased toward the assimilation of women's subjectivities or to recognize and include them as an articulation of what it means to be Wikipedian? Depending on how these questions are answered will tell us precisely what kind of epistemological trouble Wikipedia is committed to explore, which unknowns it is willing to interface with, and whether or not its patriarchal history will continue to be inherited.

Wikipedian responses to the Gender Gap (2011–2013). 2011 was a watershed year for discussions surrounding gender and Wikipedia. The Glott, Schmidt, and Ghosh Survey became the flash point that upset the popular imagination about the egalitarian premise of the encyclopedia. But of course, this was not news to women who contributed to the encyclopedia. Five years prior, the “WikiChix” mailing list was created by women Wikipedians who had faced systemic gender bias on the site (Reagle, 2010, p. 92). Within the community, the list was met

with suspicion because it was a space created exclusively for women editors. Originally the list was hosted on WMF servers which made it all the more controversial. The idea of forming a closed group to coordinate Wikipedian actions was considered to be antithetical to Wikipedia's openness by limiting men from participating in the discussion (Ral315, 2006). The WikiChix website countered these claims by explaining that the mailing list was just another channel for communication, "not a replacement"; that its existence was itself a complaint, "so listen up"; and that the need for women to defend themselves and explain bias was itself an obstacle to pursuing the goals of the encyclopedia (WikiChix.org "FAQ," 2007). Eventually, the mailing list was hosted by another server to avoid the controversy it raised (Ral315, 2006).

Following the aftermath of the 2011 survey, Wikipedia's parent organization saw the need to address the issue itself. Acting as Executive Director, Sue Gardner created the Wikimedia-hosted Gender-gap mailing list with the hope that it would "become a space where Wikipedians and non-Wikipedians can share research and information and tactics for making Wikipedia more attractive to women editors." Unlike WikiChix, this mailing list was designed with the Wikipedian principle of openness in mind. Emphasized with allcaps, it was "NOT a women-only list" (Gardner, 2011b). By existing as an open space to air personal experiences and opinions, Gardner hoped that common concerns and issues for Wikipedia's women could be addressed.

Both the WikiChix and the Gender-gap mailing lists benefited by not being hamstrung by Wikipedian social policies and WikiChix was explicitly intended for women and offered the opportunity for women to voice their concerns with one another. However, these off-wiki spaces were limited precisely because they were not on Wikipedia. During these early days, it was identified that new women users were "discouraged by having edits reverted, not feeling

confident in their contributions, not enjoying argumentative or confrontational tones of discussion, and a preference for experiences on other sites that emphasize social relationships and a welcoming tone” (Bouterse, 2012). It was clear that dealing with Wikipedia’s gender gap meant working on it from the inside.

The Teahouse was a 2012 project designed specifically to address these concerns. It had the double-duty to foster “editor development” as well as exist as “a social-learning experience that helps integrate women into the community and support them in getting past barriers to participation” (Wikimedia, 2019d). While lauded as one of the “most potentially impactful retention mechanisms” (Morgan and Halfaker, 2018), the Teahouse’s primary purpose was to ease new editors into the culture of Wikipedia. In other words, it served to turn the casual user into a Wikipedian and acted primarily as a tool of assimilation rather than recognition.

But there is an aspect of The Teahouse that warrants further inspection. It operates as a WikiProject which is composed of a “group of people who want to work together to improve Wikipedia,” typically by editing a specific topic (“Wikipedia:WikiProject Council/Guide/WikiProject,” 2019). Unlike articles or user pages, most WikiProjects must go through an approval process administered by the WikiProject Council. What also marks a WikiProject as unique is that it is a common practice for contributors to sign their names as members on the project page. These four characteristics — as being vetted by the community, existing on-wiki, allowing for the creation of a self-identifying group, and operating as a space for organizing action — offered an opportunity for women to create a unique and legitimate space *within* Wikipedia for women to voice their concerns and act collectively. The space that best represents this is Wikipedia’s Gender Gap Task Force (GGTF).

Three years after it was publicized that nearly 87 per cent of Wikipedians were men (Glott, Schmidt and Ghosh 2010) and the Wikimedia Foundation began efforts to rectify the gender gap (Gardner, 2011b), a Wikipedian woman started a task force to address gender bias in all its forms on the platform. In many ways, it was an effort to attend to women's concerns that were uniquely theirs and not applicable to all Wikipedians. Through a discourse analysis based on critical feminist political theory, I will argue that this vision of the Gender Gap Task Force (GGTF) was imagined and put into practice as both a counterpublic and a space of contestation that challenged the hegemony of Wikipedia's community.

However, after a year of quiet activity the task force's talk page was suddenly flooded by skeptical Wikipedians. Their comments were rife with appeals to neutralize, diminish, and minimize the concerns Wikipedian women raised. These struggles between the two positions could not be contained. As I describe in the course of the discourse analysis, their disputes spilled over into other Wikipedian spaces: into articles, maintenance discussions, user talk pages, noticeboards, the community newsletter, arbitration committees and even Jimmy Wales's talk page. Just after two years of the task force's existence, two key women of the project were banned from Wikipedia, while their detractors would receive far less severe consequences. These decisions were not just a concern to Wikipedians but were brought to public attention by articles about the task force reported on by *Slate* (2014) and *The Atlantic* (2015) as part of a broader moment of contemplation about the nature and damage of online misogyny.

In light of these conflicts, the task force remained resilient and continues to operate as of this writing. It would appear as if the GGTF succeeded in outlasting this initial onslaught. But, in what manner has this success come? Did it develop tactics to defend against hegemony and continue under the original intent as a space of contestation by women? Were editors able to

change Wikipedian culture as women? Or were their concerns as women neutralized and assimilated in the name of the community? Was it enough that they were present at the table? In other words, to what degree did Wikipedia's imagined affordance of consensus cultivate practical hegemonic responses to the gender gap?

In order to answer these questions, the following discourse analysis examines the techniques of consensus that were described in the previous chapter: as a composition of a project, the closure of discussion, the usage of policy, a chronicle, and as a hegemonic discourse. Running parallel to this analysis is an assessment of how the different techniques were used to limit the dissensus of women. By examining these sites of consensus, it is possible to assess the degree to which Wikipedia's dream of community consensus played a key role in cultivated the gap between men and women on Wikipedia. I also demonstrate the need to hold Wikipedia's utopia up to the light of critique in order to see what kinds of subjectivity are excluded and silenced in order to make the utopia whole.

The Gender Gap Task Force

Composing a Project. At the time of analysis, the GGTF described itself as a task force established in 2013 and belonged to the WikiProject Countering Systemic Bias in order “to address some of the problems women face on Wikipedia, whether as editors or article subjects” (“Gender gap task force,” 2019). One way to understand what this means is to examine the task force's project page in deeper detail. In Chapter 6, I described how Ward Cunningham, the developer of wiki software, imagined each wiki document as an expression of consensus (Cunningham and Leuf, 2001, p. 326). This view was similarly found in Wikipedia's own consensus policy, stating that consensus was “a natural product of editing” (“Wikipedia:

Consensus,” 2007). According to these descriptions, the GGTF’s project page can be understood as a composition of consensus from its editors. The following section examines the formal features of this composition which represents how the task force imagined its social function.

Figure 21
Sample of GGTF Project page
2014-08-01

Wikipedia:WikiProject Countering systemic bias/Gender gap task force

From Wikipedia, the free encyclopedia

This is an edit version of this page, as edited by [Dewilgrin](#) (talk) | created at 20:11, 1 August 2014 (created image: a new essay needs). The present address (URL) is a permanent link to this revision, which may differ significantly from the current revision.

([edit](#)) — [Previous revision](#) | [Latest revision](#) (2014) | [Newer revision](#) — ([edit](#))

Gender gap task force: exploring and closing the gender gap on Wikipedia

Welcome to the **Gender gap task force**, a task force belonging to WikiProject Countering systemic bias. A task force consists of a group of editors devoted to the management of a particular issue or topic on Wikipedia. This page has been set up to ease coordination of our efforts.

If you'd like to help out in any way, please add your name to the list of participants.

Contents [hide]

- Scope
- Article selection based on gender bias
- Participants
- Promotional templates
 - 1.1 User box
 - 1.2 Invite others
 - 1.3 Mind the Gap Award
- To do
 - 5.1 Affirmative action measures
 - 5.2 Improve biographies of women
 - 5.3 Improve "Resource", "Policy" and "Help" pages
 - 5.4 Categorization
 - 5.5 Write essays
- Resources
- Related WikiProjects
- Notes

Scope

Further information: *Media:Gender gap*

The aim of the task force is to identify gender bias on Wikipedia (including gender bias in articles, the selection of articles maintained, discussions, editor interactions, policies and implementation of policies), take steps to counter it, and raise awareness of how the gender gap can affect editorial and other decisions.

As WP:BIAS notes, a 2011 Wikimedia Foundation survey found that 8.5 percent of editors were women.^[1] The gender gap has not been closing and, on average, female editors leave Wikipedia earlier than male editors. Research suggests that the gender gap has a detrimental effect on content coverage. Articles of particular interest to women tend to be shorter^[2] and women typically perceive Wikipedia to be of lower quality than men do.^[3]

Article selection based on gender bias

Main article: *Gender imbalance on Wikipedia*

Wikipedia has a longstanding controversy concerning gender bias and sexism which has been associated with the selection of articles which are maintained in the open source encyclopedia.^{[4][5][6][7][8]} Wikipedia has been criticized^[9] by some journalists and academics for lacking not only women contributors but also extensive and in-depth encyclopedic attention to many topics regarding gender. An article in *The New York Times* cites a Wikimedia Foundation study which found that fewer than 13% of contributors to Wikipedia are women. Sue Gardner, previously executive director of the foundation, said that increasing diversity was about making the encyclopedia "as good as it could be." "She previously had set a policy goal for increasing general women enrollment to 25% system wide by 2015, and regarding the presence of women who are administrators at Wikipedia to 25%, and then eventually towards 50%.^[10]

Factors the article cited as possibly discouraging women from editing included the "obsessive fact loving reality," associations with the "hard-driving hacker crowd," and the necessity to be "open to very difficult, high-conflict people, even misogynists."^[11]

Participants

1. [Car](#) (talk) (contribs)
2. [Malk Shabazz](#) (talk) (contribs)
3. [Dewilgrin](#) (talk) (contribs)
4. [Coloboco](#) (talk) (contribs)
5. [Superdolykate](#) (talk) (29.25, 10 May 2013 (UTC))
6. [Gfharu](#) (talk) (contribs)
7. [Samuel](#) (talk) (contribs)
8. [Cassidewind](#) (talk) (contribs)
9. [Dewilgrin](#) (talk) (contribs)
10. [Dewilgrin](#) (talk) (contribs)

Promotional templates

User box

Feel free to place this user box on your user page.

[[WP:WikiProject_Countering_systemic_bias/Gender_gap_task_force|gendergaptaskforce]] which creates

Invitation to join

Invite others to join! To perform a request, insert {{subst:Gender gap TF invitation}} into their talk page. This results in the following welcome message.

We invite you to join **Gender Gap task force**. There you can coordinate with users who are trying to identify gender bias on Wikipedia (including gender bias in articles, in editor interactions, policies and implementation of policies) and take steps to counter it. If you would like to get involved, just visit the **Gender Gap task force**. If you have any questions, feel free to contact me or other members of the task force. Happy editing, *Cassidewind* (*Talk*·*Wiki*·*Talk*) 18:27, 25 July 2014 (UTC)

Mind the Gender Gap Award

To use this award paste the following template with your own message on the uspage: {{subst:Mind the Gap Award}}+Put your message here. ———}}

Mind the Gender Gap Award

Your message here.

To do

For a more comprehensive list, see WP:WikiProject_Countering_systemic_bias/tasks § Women and women's studies.

Affirmative action measures

- Set targets for numbers of women in Wikipedia, actively recruit women editors and administrators, help retain women editors by offering help to issues women face more than do men.
- Other affirmative action-type proposals that might help women effectively deal with bias and continue editing.
- *Promote! Promote! Promote!* Use the templates above and talk up the project to other editors.

Improve biographies of women

- See various articles under WikiProject Countering Systemic Bias Open Tasks list: *Women and women's studies*
- Useful infoboxes to add: infobox engineer, infobox offshoots, infobox artist, infobox scholar, infobox philosopher, infobox scientist infobox person, etc. A full list can be found here.^[12]

Improve "Resource", "Policy" and "Help" pages

- Many women's/gender gap resource pages, like those below, on both Wikimedia.org and Wikipedia are outdated and/or need improvement.
- Many policy pages need to deal better with issues of concern to women, particularly *Wikipedia:Crivty*, *Wikipedia:No personal attacks*, *Wikipedia:Harassment* and *Wikipedia:Dispute resolution*.
- Many "Help" pages need improvement so the language is clearer and less unnecessarily technical.

Categorization

Main page: *Wikipedia:Category:Ethnicity, gender, religion and sexuality*

- Ensure that categories are used in accordance with the guideline above. Promote changes in the FA and GA criteria to ensure that associated articles are correctly categorized. (Note: There is a main *Category:Women* and thousands of categories that have "Women" in their titles. There also are a couple thousand categories with "female" in the title.)

Write essays

- Write one or more essays on the problems women editors face, how Wikipedia's dispute resolution processes can help and how those processes can be improved. Consider ideas from this *"gender biasness"* page on working in community with *meow!*
- Write essay on functional v. intentional sexism.

Resources

- *Gender Gap at Wikimedia* page has many links to articles, research, discussion and action items. Some of the most relevant are below.
- *Wikifeminism's Collaborative* which includes *Wikifeminism* blog at *Wikimedia*!
- *Gender gap strategy* 2013a! has related strategies
- *Gender Gap email list* *debate*!
- *Women on Wikipedia Month*!
- *Wikipedia:Editor Feedback* Gender gap discussions page
- *Wikipedia:Wikimedia's History Month*
- *Wikipedia:Workshop for Women* in Wikipedia how to run workshops and who is doing them
- *Wikipedia:Taskforce* A great place for new users to get questions answered
- *Wikipedia's main Help page*
- *Wikipedia:Dispute resolution* explains various Wikipedia processes
- *"Telling Wikipedia" 20* page brochure in downloadable PDF format

Related projects to other communities These will have useful information, but aren't necessarily organized by or run for Wikimedia communities.

- *Wikipedia:Women*!, a Facebook page
- *Geek Feminism Wiki*!, a Wiki site
- *GeekFeminism*!, a blog
- *The Asia Initiative*!, a non-profit working to increase participation of women in open technology and culture
- *Women Write Wikipedia: A How-To Wiki*!

Related WikiProjects

- *Wikipedia:WikiProject Feminism*
- *Wikipedia:WikiProject Gender Studies*
- *Wikipedia:WikiProject Women artists*
- *Wikipedia:WikiProject Women's History*
- *Wikipedia:WikiProject Women scientists*
- *Wikipedia:WikiProject Women of psychology*
- *Wikipedia:WikiProject Women's sport*

Notes

- ^[1] "Crisis Survey Report", April 2011^[12], Wikimedia Foundation, accessed 7 January 2011.
- ^[2] "Shaping Debby K. Lam, et al. "WP Contributor: An Exploration of Wikipedia's Gender Imbalance". *Wikimedia* 11, 5-5 October 2011.
- ^[3] S. Lee and H. Kwon, "Gender differences in information behavior concerning Wikipedia", *an interdisciplinary information science* 1^[13], *Library & Information Science Research*, 2010, 2010, pp. 212-205.
- ^[4] "Cassell, Justice (February 4, 2013). "Telling Years Behind the Science". *New York Times*.
- ^[5] "P. Juan Cohen, "Telling Gender Gap" Look Up Wikipedia Contributor List". *The New York Times*. Found at *The New York Times*, January 31, 2011.
- ^[6] "Wikipedia's Women Problem". *Mybooks*. com. 2013-04-29. Retrieved 2013-11-19.
- ^[7] "Wikipedia's Women Problem". *Mybooks*. com. 2013-04-29. Retrieved 2013-11-19.
- ^[8] "Dunn, Gaby (2013-05-01). "Times Women List". *Daylight*. com. Retrieved 2013-11-19.
- ^[9] "Zandi, Deanna. "Yes, Wikipedia is sexist". *Forbes*. com. Retrieved 2013-11-19.

This page was last edited on 19 October 2008, at 22:55 (UTC).

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By collecting the history data from the current version (“Gender gap task force,” 2019) and examining the usernames, this consensus was composed of the edits of 209 individual users: 152 only made 1 edit, 54 made 2–12 edits, and 3 users made more than 8 edits to the project page. These three were Obiwankenobi (23), Carolmooredc (74), and SlimVirgin (82) — with SlimVirgin being responsible for creating the project page on May 7, 2013.

In order to analyze the composition of the GGTF project page as this consensus, I used the history feature to sample one version every fifty versions. Starting with SlimVirgin's first edit, I collected a total of eleven different versions and then downloaded PDF files of each project page using the browser called Opera. During the first pass I familiarized myself with the data by coding visual features that differed from version to version. On the second pass I refined my themes and collected data concerning the content structure of each page, its design, and the frequencies of repeating forms of content. These were collected as a means to characterize the consensus of the project through its composition and hypertextual citations.

Composition of navigation. Figure 21 displays one sample that serves as an example of the project's structure. Each version typically began with a navigational "tab header" which included links to internal sections of the page (such as Scope, Participants, Resources, and Related WikiProjects), a link to a subpage called "Media" or "Media and Research," as well as external links to the Gender gap mailing list and other Wikimedia initiatives (Figure 22–23: Tab header). This project navigation therefore enfolds these external spaces and communities into the meaning of the task force.





Figure 22
Project page frame features
May 2013 – February 2015

Project page Version	Tab Header	Content Structure	Lede Section
2013-05-07		<ul style="list-style-type: none"> 1 Scope 2 Participants 3 To do <ul style="list-style-type: none"> 3.1 Todo items for members of {{{taskforce}}} task force 3.2 Todo items for anyone 4 Guidelines <ul style="list-style-type: none"> 4.1 Tagging and assessment 4.2 Categories 4.3 Templates <ul style="list-style-type: none"> 4.3.1 Userbox template 4.3.2 Infobox template 4.3.3 Stub templates 5 Featured/Good content 6 Resources 	<p>{{{Wikipedia}}}{{{projectname1}}}{{{Navigation}}} Welcome to the {{{taskforce}}} task force of {{{Wikipedia}}}{{{projectname1}}}{{{{{projectname1}}}}}.</p>
2014-06-28		<ul style="list-style-type: none"> 1 Scope 2 Participants 3 To do <ul style="list-style-type: none"> 3.1 Improve biographies of women in the professions 3.2 Revise categorization guidelines 3.3 List of categories that need to be de-ghettoized <ul style="list-style-type: none"> 3.3.1 Deghettoization algorithm 4 Notes 	<div>Gender bias task force</div> <div>a task force to counter systemic bias</div> <div>Shortout WP:GBTF</div> <p>Welcome to the Gender bias task force, a task force belonging to WikiProject Countering systemic bias. A task force consists of a group of editors devoted to the management of a particular issue or topic on Wikipedia. This page has been set up to ease coordination of their efforts.</p> <p>If you'd like to help out in any way, please add your name to the list of participants.</p>
2014-07-23		<ul style="list-style-type: none"> 1 Scope 2 Selection based on gender bias 3 Participants <ul style="list-style-type: none"> 3.1 User box 3.2 Invite others! 4 To do <ul style="list-style-type: none"> 4.1 Improve biographies of women in the professions 4.2 Categorization 4.3 Write essay 4.4 Possible affirmative action preference 5 Related WikiProjects 6 Notes 	<div>Gender gap task force: exploring and closing the gender gap on Wikipedia</div> <div>MIND THE GAP</div> <p>Welcome to the Gender gap task force, a task force belonging to WikiProject Countering systemic bias. A task force consists of a group of editors devoted to the management of a particular issue or topic on Wikipedia. This page has been set up to ease coordination of our efforts.</p> <p>If you'd like to help out in any way, please add your name to the list of participants.</p>
2014-08-01	<ul style="list-style-type: none"> Scope Talk Article Selection Participants Promotional templates Todo Related WikiProjects Gender Studies Portal 	<ul style="list-style-type: none"> 1 Scope 2 Article selection based on gender bias 3 Participants <ul style="list-style-type: none"> 3.1 User box 3.2 Invite others! 3.3 Mind the Gap Award 5 To do <ul style="list-style-type: none"> 5.1 Affirmative action measures 5.2 Improve biographies of women 5.3 Improve "Resource", "Policy", and "Help" pages 5.4 Categorization 5.5 Write essays 6 Resources 7 Related WikiProjects 8 Notes 	<div>Gender gap task force: exploring and closing the gender gap on Wikipedia</div> <div>MIND THE GAP</div> <p>Welcome to the Gender gap task force, a task force belonging to WikiProject Countering systemic bias. A task force consists of a group of editors devoted to the management of a particular issue or topic on Wikipedia. This page has been set up to ease coordination of our efforts.</p> <p>If you'd like to help out in any way, please add your name to the list of participants.</p>
2014-08-29	<ul style="list-style-type: none"> Scope Talk Article Selection Participants Promotional templates Todo Related WikiProjects Gender Studies Portal 	<ul style="list-style-type: none"> 1 Scope 2 Article selection biases based on gender 3 Participants <ul style="list-style-type: none"> 3.1 Promotional templates 4.1 User box 4.2 Invite others! 4.3 Mind the Gap Award 5 To do <ul style="list-style-type: none"> 5.1 Affirmative action measures 5.2 Improve biographies of women 5.3 Improve "Resource", "Policy", and "Help" pages 5.4 Categorization 5.5 Write essays 6 Resources 7 Related WikiProjects 8 Notes 	<div>Gender gap task force: exploring and closing the gender gap on Wikipedia</div> <div>MIND THE GAP</div> <p>Welcome to the Gender gap task force, a task force belonging to WikiProject Countering systemic bias. A task force consists of a group of editors devoted to the management of a particular issue or topic on Wikipedia. This page has been set up to ease coordination of our efforts.</p> <p>If you'd like to help out in any way, please add your name to the list of participants.</p>
2014-09-29	<ul style="list-style-type: none"> Scope Talk Article Selection Participants Promotional templates Todo Related WikiProjects Gender Studies Portal 	<ul style="list-style-type: none"> 1 Scope 2 Participants 3 Promotional templates <ul style="list-style-type: none"> 3.1 User box 3.2 Invite others! 3.3 Mind the Gap Award 4 To do <ul style="list-style-type: none"> 4.1 Measures 4.2 Improve biographies of women 4.3 Improve resource, policy and help pages 4.4 Categorization 4.5 Write essays 5 Resources 6 Related WikiProjects 7 Notes 	<div>Gender gap task force: exploring and closing the gender gap on Wikipedia</div> <div>Shortout WP:GGTF</div> <div>MIND THE GAP</div> <p>Welcome to the Gender gap task force, a task force belonging to WikiProject Countering systemic bias. A task force consists of a group of editors devoted to the management of a particular issue or topic on Wikipedia. This page has been set up to ease coordination of our efforts.</p> <p>If you'd like to help out in any way, please add your name to the list of participants.</p>
2015-02-02	<ul style="list-style-type: none"> Scope Talk Participants Media Resources Related WikiProjects Gender Studies Portal 	<ul style="list-style-type: none"> 1 Scope 2 Participants <ul style="list-style-type: none"> 2.1 Current WikiProject Gender Gap Task Force members 2.2 Inactive WikiProject Gender Gap Task Force members 3 To do <ul style="list-style-type: none"> 3.1 Measures 3.2 Improve women related articles 3.3 Improve resource, policy and help pages 3.4 Categorization 3.5 Write essays 4 Resources <ul style="list-style-type: none"> 4.1 Resources lists 4.2 Links 4.3 Promotional templates 5 Related WikiProjects 6 Notes 	<div>Gender gap task force: exploring and closing the gender gap on Wikipedia</div> <div>Shortout WP:GGTF</div> <div>MIND THE GAP</div> <p>Welcome to the gender gap task force (GGTF), one of the task forces of WikiProject Countering systemic bias. A task force consists of a group of editors devoted to the management of a particular issue on Wikipedia. This page has been set up to ease coordination of our efforts.</p> <p>If you'd like to help in any way, please add your name to the list of participants.</p>

Figure 23

Project page frame features

April 2015 – March 2019

Project page Version	Tab Header	Content Structure	Lede Section
2015-04-09	<ul style="list-style-type: none"> Scope Talk Participants Media and Research Address the Gender Gap Related WikiProjects Gender Studies Portal 	<ul style="list-style-type: none"> 1.Participants 2.To do <ul style="list-style-type: none"> 2.1.Measures 2.2.Improve women-related articles 2.3.Improve resource, policy and help pages 2.4.Essays 2.5.Categorization 3.Resources <ul style="list-style-type: none"> 3.1.Resources lists 3.2.Links 3.3.Non-Wikimedia communities 3.4.Promotional templates 4.Related WikiProjects 5.Notes 	<p>Gender gap impacts both contributors & content</p> <p>Fewer female contributors = less content, lower quality, systematic bias</p> <p>lower retention 8-16% of active editors, 22-30% of newcomers</p> <p>less coverage Articles on topics of interest to women are absent or abbreviated</p> <p>lower quality Articles about notable women are absent or not linked to</p> <p>little progress Despite media attention, community dialogue, small scale initiatives, WMF commitments</p> <p>See: <i>Articles about Wikipedia's gender gap</i> and <i>Meta:Address the gender gap</i></p> <p>Further information: <i>Gender bias on Wikipedia</i></p> <p>Welcome to the gender gap task force (GGTF), one of the task forces of WikiProject Countering systemic bias. If you'd like to help, please add your name to the list of participants.</p> <p>According to New York Magazine in 2014, "Wikipedia famously bears one of the starkest gender gaps in contemporary culture."^[1] Estimates of the percentage of Wikipedians who are female range from 8.5 to 16.1 percent.^[2] The aim of the GGTF is to examine and address the factors that contribute to the presence and absence of women, whether as article subjects, editors or readers. Issues include editor interaction and dispute resolution, how admin and the Arbitration Committee are chosen, how policies are written and enforced, which articles about women are created and deleted, and how those articles are written and sourced.</p> 
2015-11-07	<ul style="list-style-type: none"> Talk page Participants News and academic articles about the gender gap Gender gap mailing list WikiWomen's User Group Related WikiProjects Gender studies portal 	<ul style="list-style-type: none"> 1.Participants 2.To do <ul style="list-style-type: none"> 2.1.Measures 2.2.Improve women-related articles 2.3.Improve resource, policy and help pages 2.4.Essays 2.5.Categorization 3.Resources <ul style="list-style-type: none"> 3.1.Resources lists 3.2.Links 3.3.Non-Wikimedia communities 3.4.Promotional templates 4.Related WikiProjects 5.Notes 	<p>Further information: <i>Gender bias on Wikipedia</i> and <i>Meta:Address the gender gap</i></p> <p>Welcome to the gender gap task force (GGTF), one of the task forces of WikiProject Countering systemic bias. If you'd like to help, please add your name to the list of participants.</p> <p>According to New York Magazine, "Wikipedia famously bears one of the starkest gender gaps in contemporary culture."^[1] Estimates of female Wikipedians range from 8.5 to 16.1 percent.^[2] Wikipedia "shares many characteristics with the hard-driving hacker crowd," according to Joseph Reagle of Harvard's Berkman Center for Internet and Society, and is "open to very difficult, high-conflict people, even misogynists."^[3] Issues discouraging women include a perception of Wikipedia as sexist; a perception of it as sexual, particularly because of the inclusion of pornography; lack of confidence; less spare time; problems with the editing interface; the belief that editing is tedious; and fewer opportunities to develop social relationships than on other websites.^{[1][3]} Despite significant evidence to the contrary, certain commentators have denied that the gender gap is a problem, citing efforts to highlight it as "feminist ideology."^[4]</p> 
2016-12-13	<ul style="list-style-type: none"> Talk page Participants Gender gap articles Gender gap mailing list WikiWomen's User Group Related WikiProjects Gender studies portal 	<ul style="list-style-type: none"> 1.Participants 2.In memoriam 3.Templates 4.To do <ul style="list-style-type: none"> 4.1.Measures 4.2.Write articles 4.3.Write essays 4.4.Improve resource, policy and help pages 4.5.Categorization 5.Resources <ul style="list-style-type: none"> 5.1.Resources lists 5.2.Links 5.3.Non-Wikimedia communities 5.4.data:art - Gender Bias on Wikipedia 6.Related WikiProjects 7.Notes 	<p>Further information: <i>Gender bias on Wikipedia</i> and <i>Meta:Address the gender gap</i></p> <p>Welcome to the gender gap task force (GGTF), one of the task forces of WikiProject Countering systemic bias. If you'd like to help, please add your name to the list of participants.</p> <p>According to New York Magazine, "Wikipedia famously bears one of the starkest gender gaps in contemporary culture."^[1] Estimates of female Wikipedians range from 8.5 to 16.1 percent.^[2] Wikipedia "shares many characteristics with the hard-driving hacker crowd," according to Joseph Reagle of Harvard's Berkman Center for Internet and Society, and is "open to very difficult, high-conflict people, even misogynists."^[3] Issues discouraging women include a perception of Wikipedia as sexist; a perception of it as sexual, particularly because of the inclusion of pornography; lack of confidence; less spare time; problems with the editing interface; the belief that editing is tedious; and fewer opportunities to develop social relationships than on other websites.^{[1][3]} Despite significant evidence to the contrary, certain commentators have denied that the gender gap is a problem, citing efforts to highlight it as "feminist ideology."^[4]</p> 
2019-03-09	<ul style="list-style-type: none"> Talk Members Media Gender gap mailing list WikiWomen's User Group Related WikiProjects 	<ul style="list-style-type: none"> 1.Participants 2.In memoriam 3.Templates 4.To do <ul style="list-style-type: none"> 4.1.Measures 4.2.Write articles 4.3.Write essays 4.4.Improve policy and help pages 4.5.Categorization 5.Resources <ul style="list-style-type: none"> 5.1.Resources lists 5.2.Links 5.3.Non-Wikimedia communities 5.4.data:art - Gender Bias on Wikipedia 6.Related WikiProjects 7.Notes 	<p>Further information: <i>Gender bias on Wikipedia</i> and <i>Meta:Address the gender gap</i></p> <p>Welcome to the gender gap task force (GGTF), one of the task forces of WikiProject Countering systemic bias. The GGTF was started in 2013 to address some of the problems women face on Wikipedia, whether as editors or article subjects. If you'd like to help, please add your name to the list of participants.</p> <p>According to New York Magazine in 2014, "Wikipedia famously bears one of the starkest gender gaps in contemporary culture."^[1] Wikipedia "shares many characteristics with the hard-driving hacker crowd," according to Joseph Reagle of Harvard's Berkman Center for Internet and Society, and is "open to very difficult, high-conflict people, even misogynists."^[2] Estimates of Wikipedians who are female have ranged from 8.5 in 2011 to 16.1 percent in 2013.^{[3][4]}</p> 

Composition of project scope. Following the tab header is the introductory section and a table of contents. The first version of this section began as a verbatim copy of the Wikipedia's template for creating a task force (Figure 22). By June of 2014, the project page started with a custom HTML title. A month later it was accompanied by an image called *Mind_the_gap1.jpg* which was uploaded by the user SarahStierch, credited to London Student Feminists, and was described as “‘Mind the Gap’ goes feminist” (“File:Mind_the_gap1.jpg,” 2013). The content of the image is a remix of an iconic sign from the London's Underground, but it substituted a red circle with the symbol for women. This image was also used in templates to promote the GGTF through invitations — a graphic that users could place on their userpage to announce that they are a member of task force. It was also used in graphics used as an award (Figure 21) which is a Wikipedian custom to acknowledge and recognize the volunteer contributions in a particular area of the site (Ashton, 2011).

The project page's scope section also included a remix of the Howard Miller's famous World War 2 propaganda poster, a poster that became popularly associated with American feminism beginning in the 1980s (Kimble and Olson, 2006, p. 536). In this parody work by Tom Morris, the phrase “We Can Do It!” is replaced with “We Can edit!” (“File:We_Can_Edit.jpg,” 2013). This combination of title, *Mind_the_gap1.jpg*, scope section, and *We_Can_Edit.jpg* changed very little up to February 2015.

In April 2015, this design was significantly altered (Figure 23). In this version the heading “Scope” was removed but retained the wikitext `{{anchor|scope}}` identifying that this first paragraph described the scope of the project. At the same time the “Mind the Gap” image was replaced with an image taken from Wikimedia's *Grantmaking Quarterly Review* (Wikimedia, 2014a) and includes the impacts of the gender gap on Wikipedia's quality as an

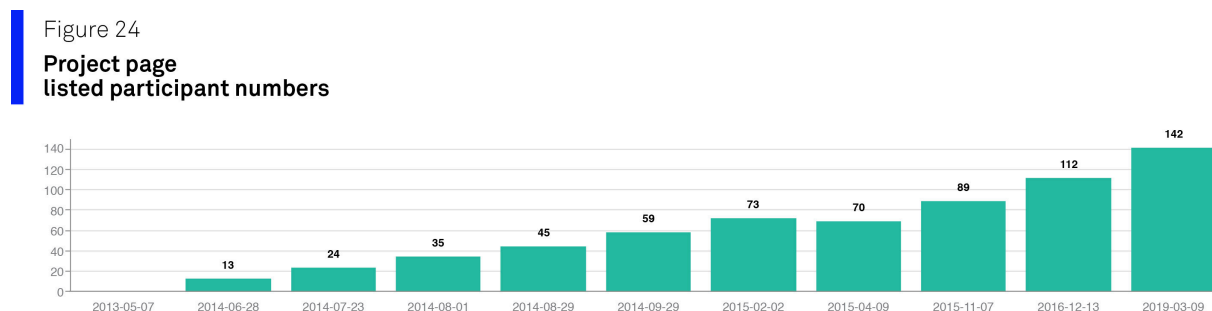
encyclopedia. In this redesign *We_Can_Edit.jpg* was similarly moved up into the scope paragraph. But this moment of design was fleeting.

By November of that same year, this visual introduction to the task force was reduced to a scope paragraph with two links and was placed beside a new image, a photo of a Pompeian fresco depicting a woman holding wax tablets and a stylus (“File:Pompei_-_Sappho_-_MAN.jpg,” 2013). As the filename of the image suggests, the woman is often identified as Sappho, an ancient Greek poet that nineteenth-century Anglo-American feminists invoked as a means to explore and re-imagine the concept of “Woman” (p. 234). However, historians have argued that it is unlikely that this fresco actually depicted the famous poet (Bergmann, 2018, p. 142). With the exception of some changes to the text, the Pompeian woman became the face of the GGTF for the next four years. Based on these aesthetic choices of representation, the design of the task force project page represented a history of feminist iconography and signifiers of women.

Composition of hyperlinks. The meaning of the task force was also composed of its use of hyperlinks. In April 2015, the scope section linked to the Wikipedia pages that described what a “task force” is and its parent WikiProject “Countering systemic bias.” In the scope section, the project referenced encyclopedic articles for Joseph Reagle and the Berkman Center for Internet and Society; and at least up to April 2015, this section also included links to Jimmy Wales and Sue Gardner. In terms of external references, this section included between 3-10 links, with the version for May 2019 containing seven links describing the reality of the gender gap on Wikipedia and included two academic sources, three news sources, a link to a blog post by Sue Gardner, and a link to the famous 2011 “Wikipedia Editors’ Survey” that catalyzed the issue of the gender gap. External links were treated as footnotes at the end of the page, a technique used

on Wikipedia’s articles to assure verifiability on content that is “likely to be challenged” (“Wikipedia:Citing sources,” 2019). As such, these external links to academic, journalistic, Wikimedian sites were used to verify the reality and the problem of Wikipedia’s gender gap.

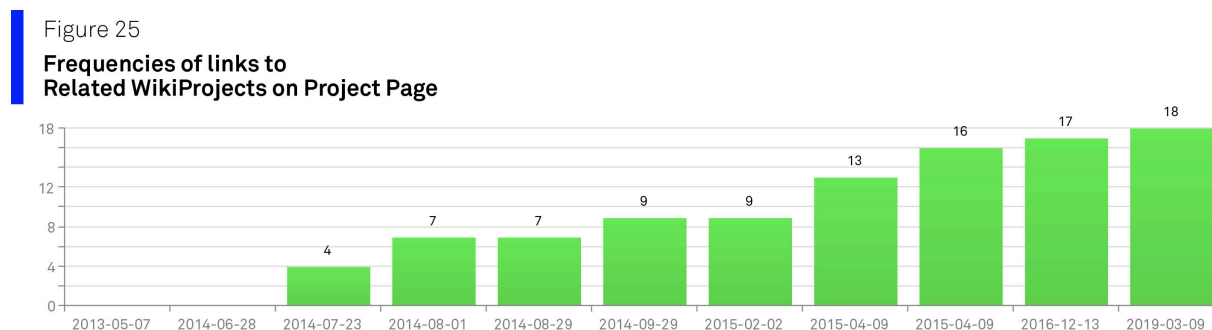
Within the pages sampled, the introductory paragraph always contained the statement: “If you'd like to help, please add your name to the list of participants” (Figures 22 and 23). With the exception of one instance, the “Participants” list was located directly after the scope paragraph. Users could edit this section and “sign” their usernames to the project which created a direct hypertext link to their userpage. Figure 24 shows the number of entries made to the “Participant” sections collected. Over the course of the project, the number of participants grew to 142, with a small dip in April 2015.



Following the participants section was usually the “To Do” section which included various bullet points and links to different areas of attention. Despite a number of individual edits to this section, the overall nature of the tasks remained the same. The sample recorded on 2015-11-07 (Figure 21) displays the typical agreed upon tasks that the project members were supposed “to do:” establish measures to evaluate progress of closing the gap; “improving” articles about women, policies, help and resource pages; writing essays; and categorizing articles. Most of these tasks included links to other spaces on Wikipedia where this work could be completed.

This section therefore operated as a hub rather than a directory of projects that were maintained by the task force itself.

In addition to the Notes section of reliable sources at the end of the page, there was also a section dedicated to Resources and “Related WikiProjects.” Just as the “Participants” section grew overtime, so too did the number of WikiProjects that were dedicated to editing articles about women (like WikiProject:Women scientists or WikiProject Women’s History) and topics such as WikiProject:Feminism and WikiProject:Gender Studies. As Figure 25 shows, 2014 listed 4 projects and by 2019 there was 18. In the sample taken from November 2015, a sidebar template for “Affiliates of WikiProject” was also added and linked to many of these same projects. This feature remained on the page up to the point of analysis in 2019.



Results of the analysis of the Project page. Overall, there is a clear pattern of composition involved with the Gender Gap Task Force. There was a view that the task force should verify the existence and problem of Wikipedia’s gender gap through links to Wikimedia communities, initiatives, and research as well as external news and academic sources. The “to do” list and links of related WikiProjects directed users toward places where the gap could be discussed and reduced through editing articles about women and improving policies.

What is necessary to clarify is that these features do not stand out as particularly adversarial or counter-discursive in and of themselves. Improving the encyclopedia and its community, using reliable sources to establish facts, expanding a base of collaborating editors, writing articles, and clarifying policies are all part of the Wikipedia's impossible desire to encircle knowledge through community consensus as expressed through its five pillars.

Even the feminist iconography is not thoroughly adversarial. The “Mind the gap” image provides a cheeky politeness about the issue and both the “We Can Edit!” and the Pompeian woman articulate the ideas of doing, editing, writing, and thinking — all characteristics that are valued within the subjectivity of the editor that serves as the basis of Wikipedian consensus. However, it is clear that these images are not gender-neutral depictions of *all editors*, they have been chosen to specifically represent *women editors*. This is confirmed by two long standing edits to the project that can be understood as articulating “gender-inclusive language” (Marinucci, 2010, p. 74).

On June 30, 2014, SlimVirgin added to the “To do” section the task of writing “an essay on the problems women editors face” (“Gender gap task force,” 2014a). Nearly a month later Carolmooredc also added that “Many policy pages need to deal better with issues of concern to women, particularly. Wikipedia:Civility, Wikipedia:No personal attacks, Wikipedia:Harassment and Wikipedia:Dispute resolution” (“Gender gap task force,” 2014c). What is significant is that both edits make direct reference to the specific issues that women face as *women editors* and not applicable to all editors. Where the adversarial nature of the project comes into play is specifically Carolmooredc's edit that suggests that women have a legitimate epistemological claim for altering policy. In other words, the collective subjectivity of a minority group of editors

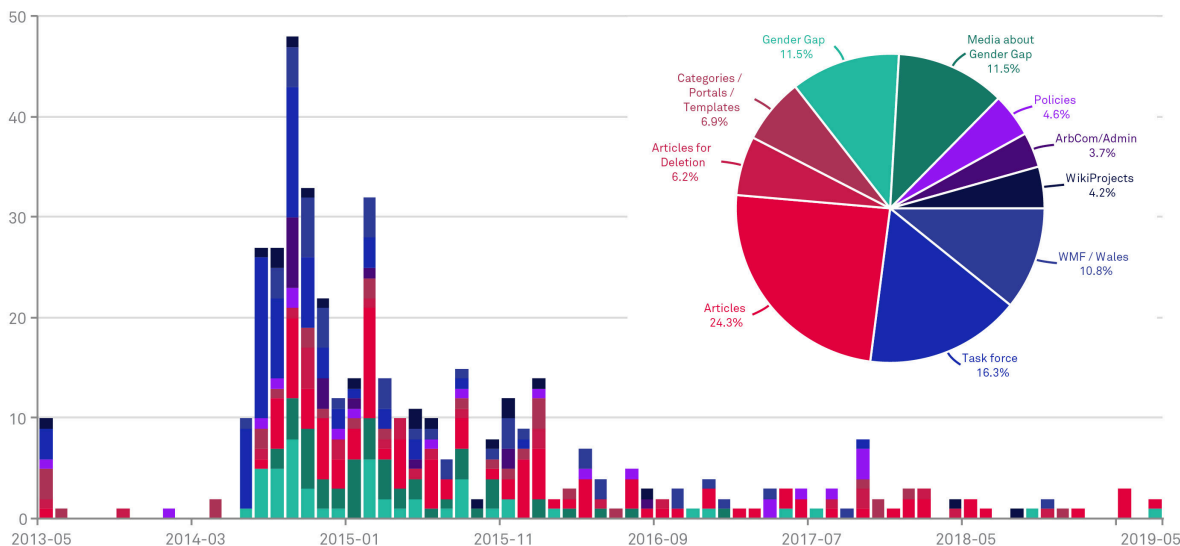
should have a consequential impact on the *entire* community. This is a clear statement of dissensus because it becomes “a conflict over the common itself” (Rancière, 2004, p. 6).

Closing discussion. In order to further understand how this conflict over the common expressed itself, it is necessary to analyze the talkpage, a space that Yochai Benkler alluded to when he wrote that Wikipedians are committed to “self-conscious use of open discourse, usually aimed at consensus” (Benkler, 2006, p. 72).

Talk page discussion topics. This analysis included a close reading of all comments posted to the GGTF project talk page, including the talk page archives, which contained 3520 signed comments by 268 unique usernames. During this process I passed through the data several times and coded the content of every topic heading and its first comment in order to assess which topics articulated the concerns of the GGTF. Figure 26 illustrates the frequency and the per cent of all 443 threads in terms of four major themes: editorial-based discussions (red), discussion of groups and organizations (blue), topics dedicated to the gender gap (green), and topics about administration (purple). These themes were further subdivided into 10 other categories (Figure 26).

The immediate feature of Figure 26 is that between June 2014 and September 2015, 293 topics were created. This 16-month span represented 66 per cent of all the topics created during the six years under analysis. Of these 293 topics, 70 per cent of topics were dedicated to four subthemes: the task force (66), articles (57), media about the gender gap (41) and the nature of the gender gap (40).

Figure 26
Timeline and percentage of all
talk page discussion topics



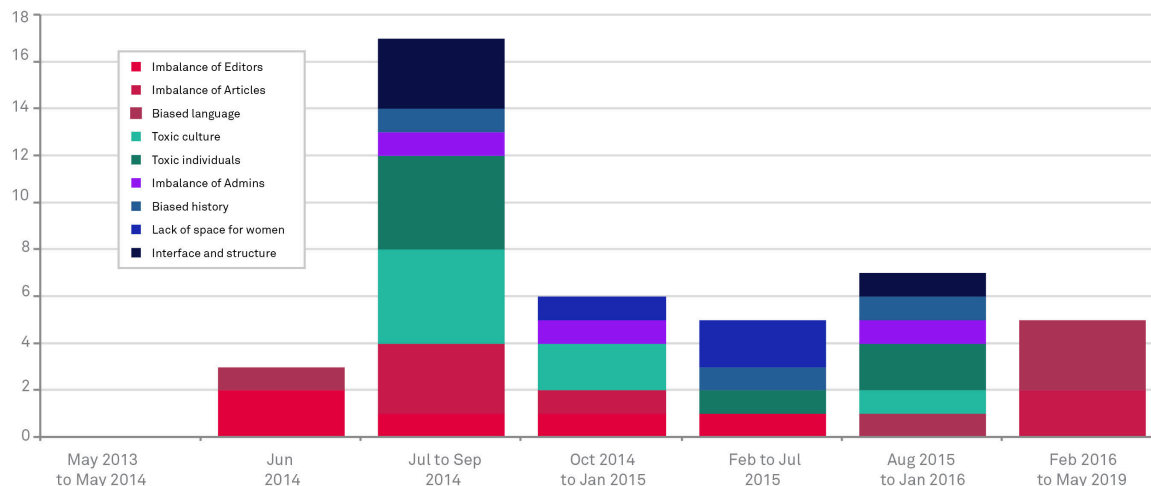
This analysis of topics was extended to a third layer by examining the 43 subtopics about the gender gap (Figure 27). Through the analysis of these headings, the gender gap became identifiable through a number of themes: the gender imbalance of editors, admins, and articles; toxic culture and toxic individuals; biased language and biased historical sources; issues with Wikipedia's interface; and a lack of space for women. This suggests that the discussion of Wikipedia's gender gap was multifaceted and that the meaning of the gap itself was fluid and not enclosed by one particular meaning.

In view of both Figures 26 and 27, the majority of all topics were created between June 2014 and September 2015. But from October 2015 to May 2019, the topic of the gender gap was articulated only nine times. Topics about media pertaining to the gap (9), policies (10) and the Wikimedia Foundation (16) were similarly limited. The lowest frequencies during this period were discussions about Arbitration (3) and the Task Force (2). What stands out however, is the

contrasting frequencies of topics concentrating on editorial activities associated with articles (59) and “articles for deletion” (10).

Figure 27

Timeline of 43 thread topics defining the gender gap



As such, while the period between June 2014 and September 2015 represented diverse topics occurring at an intense pace, the subsequent tail shows that the talk page dramatically slowed down the number of topics created per month and simultaneously shifted to a new ratio of topic content discussions about articles (69) and all other topics (40).

Talk page notice boxes. The intensity of topic creation during 2014 and 2015 was matched by visual and computational techniques to shape, enclose, and archive discussion — all signifiers that I identified as acts of consensus (see Chapter 6). This was observed in the discursive closures that were enacted by various templates used on the talk page itself. These templates, or notice boxes, were collected by sampling every 500th version to the project talk page of the 4779 separate versions. A number of the notices collected were based on templates that had their own versioning history. To ensure that the versions of the templates I analyzed

were the ones that had been visible at the time of the sample, I took the additional step of matching the template version date to the version that existed just before the talk page sample.

During the first year of relatively low inactivity these templates had no customization (Figure 28, 2014-06-31). This version of the “talk header” came with the default information of how to start a thread, add a comment, and sign it. It also reminded users to “Be polite, and welcoming to new users,” “Assume good faith,” and “Avoid personal attacks.” Over the course of the use of a custom talk header, its colour and corner radius had changed, and it was adorned with the “Mind the Gap” and Pompeian woman images. Its text was also customized to welcome users to use the GGTF talk page while “maintaining a friendly space” (Figure 28). In some versions of the talk header, it was accompanied with the complementary warnings of closing and archiving off-topic discussions as well as blocking access to Wikipedia “up to one year, article or topic bans, and revert restrictions” at the discretion of administrators (“Wikipedia:General sanctions,” 2014). As a result of these features, the talk header was simultaneously welcoming, helpful, and threatening.

Beyond the talk header, other boxes were used at the top of the talk page: a project shortcut, archive boxes, a tab header navigation bar, and a notice box (Figure 29). In December 2014, the talk page included a specialized notice concerning “discretionary sanctions” that could be imposed on users. In February of 2015 the tab header template that was used on the project page was also added to the talk page. Another type of box was that was used to search the archives and knowing when inactive threads were being archived (Figure 29). But this box also served for a period as a space to link to the to a number of arbitration decisions and once hosted the *We_Can_Edit.jpg* image (Figure 29).

Overall, these various changes to the talk page notice boxes demonstrate the multiple social, technical, aesthetic, and political purposes that they served. For example, they functioned to socialize users toward acceptable behaviour; to assist in searching past discussions which included those outside of the project space; to remind users that their actions may result in punishment; and to associate the talk page with feminist iconography. Additionally, they expressed the consensus that the talk page was a contentious space and that disputes within the GGTF were connected to arbitration cases that were important for understanding past discussions.

Figure 28

Talk page notice boxes:
{{Gender gap task force/Talk header}}

2014-06-31

This is the **talk page** for discussing improvements to the **WikiProject Countering systemic bias/Gender gap task force** page.

- Put new text under old text. [Click here to start a new topic.](#)
- Please **sign and date** your posts by typing four tildes (~~~~).
- New to Wikipedia? [Welcome! Ask questions, get answers.](#)
- Be polite, and welcoming to new users
- Assume good faith
- Avoid personal attacks
- For disputes, [seek dispute resolution](#)

2014-08-29

- Welcome to the **GGTF**: the **gender gap task force**. Please **sign up** if you'd like to help. Shortcut WT:GGTF
- The talk page is for friendly discussion about anything related to closing [Wikipedia's gender gap](#), including asking for help with articles, AfD, and so on.
- Add new posts to the end or click [here](#) to start a new topic.
- Sign your posts** with four tildes (~~~~).
- Please read [maintaining a friendly space](#). Uncivil contributions will be archived or closed.
- This page is **subject to discretionary sanctions**.



2014-09-12

- Welcome.** This is a discussion page for issues related to the gender gap on Wikipedia. Please take a look at the [task force page](#), and consider signing up if you'd like to help. All constructive suggestions for how to close the gap are welcome!
- Please be civil, respectful and stay on-topic. Off-topic threads are likely to be closed.
- Add new posts to the end of the page. Click [here](#) to start a new topic.
- Please **sign and date** your posts by typing four tildes (~~~~).

Shortcut WT:GGTF

MIND THE GAP

- Chronological archives: no archives yet ([create](#))
- Archives by topic: [Categorization](#)
- Threads older than 30 days are automatically archived.

Search archives

2014-10-25, 2014-12-03

- Welcome.** This page is for people to collaborate positively and respectfully on closing the gender gap on Wikipedia.
- Please **sign up** if you'd like to help.
- Add new posts to the bottom. Click [here](#) to start a new topic.
- Sign and date** your posts by typing four tildes (~~~~).
- Off-topic or uncivil threads will be closed or archived early.

Shortcut WT:GGTF

MIND THE GAP

- Chronological archives: no archives yet ([create](#))
- Archives by topic: [Categorization](#)
- Threads older than 20 days are automatically archived.

Search archives

2015-02-08, 2015-02-13 (minor change)

- Welcome to the gender gap task force (GGTF)**, a place for editors to collaborate on closing the [gender gap on Wikipedia](#). This talk page is intended as a place for friendly and constructive dialogue on anything from the causes of the gender gap to requests for help with articles. In particular, it should be a place where new women editors feel comfortable posting.
- Please **sign up** if you'd like to help.
- Add new posts to the end, or click [here](#) to start a new topic. **Sign and date** your posts with four tildes (~~~~).
- Off-topic or uncivil threads will be closed or archived.

Shortcut WT:GGTF

MIND THE GAP

- Chronological archives: no archives yet ([create](#))
- Archives by topic: [Categorization](#)
- Threads older than 20 days are automatically archived.

Search archives

i This page is **subject to discretionary sanctions**.

2015-10-26

- Welcome to the **gender gap task force (GGTF)**. Please **sign up** if you'd like to help. Shortcut WT:GGTF
- The talk page is for friendly discussion about how to close [Wikipedia's gender gap](#), including asking for help with articles, AfD, etc. Off-topic or uncivil contributions will be archived or closed. See [maintaining a friendly space](#).
- Add new posts to the end or click [here](#) to start a new topic.
- Please **sign** your posts with four tildes (~~~~).
- i This page is **subject to discretionary sanctions**.



2016-12-12

- Welcome to the **gender-gap task force (GGTF)**. Please **sign up** if you'd like to help. Shortcut WT:GGTF
- The talk page is for friendly discussion about how to close [Wikipedia's gender gap](#), including asking for help with articles, AfD, etc.
- Add new posts to the end or click [here](#) to start a new topic.
- Sign your posts** with four tildes (~~~~).
- Please read [maintaining a friendly space](#). Uncivil contributions will be archived or closed.
- This page is **subject to discretionary sanctions**.



2019-05-22

- Welcome to the **GGTF**: the **gender gap task force**. Please **sign up** if you'd like to help. Shortcut WT:GGTF
- The talk page is for friendly discussion about anything related to closing [Wikipedia's gender gap](#), including asking for help with articles, AfD, and so on.
- Add new posts to the end or click [here](#) to start a new topic.
- Sign your posts** with four tildes (~~~~).




Figure 29
Talk page notice boxes: initial design
archives, tab header, ds/talk notice

Initial design
2013-05-08

Shortcut
WT:GBTf

2014-06-31

Skip to table of contents

This is the talk page for discussing improvements to the WikiProject Countering systemic bias/Gender gap task force page.

Put new text under old text. [Click here to start a new topic.](#)

Please sign and date your posts by typing four tildes (~~~~).

New to Wikipedia? Welcome! Ask questions, get answers.

Be polite, and welcoming to new users

Assume good faith

Avoid personal attacks

For disputes, seek dispute resolution

Archives: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

Search archives

Please read the associated Gender gap task force page before posting here. Constructive suggestions for dealing with the gender gap welcome.

Shortcut
WT:GGTF

{{Template:WikiProject CSB/Gender gap task force/Tab header}}
2015-02-08

ScopeTalkParticipantsMediaResourcesRelated WikiProjectsGender studies portal

2015-03-17

ScopeTalkParticipantsMedia and researchAddress the Gender GapRelated WikiProjectsGender studies portal

2015-10-26

TalkParticipantsMediaWikiWomen's User GroupRelated WikiProjectsGender studies portal

2016-12-12

Talk pageParticipantsGender gap articlesGender gap mailing listWikiWomen's User GroupRelated WikiProjectsGender studies portal

2019-05-22

TalkMembersMediaGender gap mailing listWikiWomen's User GroupRelated WikiProjects

{{archives}}
2014-06-31

Archives

2013 Archive
2014 Archive
By topic:
Categorization
(merging/deleting/populating)

Search archives

2015-10-26

Archives

1, 2, 3, 4, 5, 6, 7, 8, 9, 10
11, 12, 13

By topic: Categories and gender

Also see:

GGTF arbitration (Oct – Dec 2014)

Gamergate arbitration (Nov 2014 – Jan 2015)

Lightbreather arbitration (May – July 2015)

Search archives

Threads older than 30 days may be archived by MiszaBot I.

2016-12-12

Archives

1, 2, 3, 4, 5, 6, 7, 8, 9, 10
11, 12, 13

We Can [edit]!

Archives by topic

Categories and gender

Related arbitration cases

Chelsea Manning (Sept – Oct 2013)

GGTF (Oct – Dec 2014)

Gamergate (Nov 2014 – Jan 2015)

Lightbreather (May – July 2015)

Enforcement 1 (June – Aug 2015)

Enforcement 2 (Oct – Dec 2015)

Search archives

Threads older than 30 days may be archived by MiszaBot I.

2019-05-22

Archives

1, 2, 3, 4, 5, 6, 7, 8, 9, 10
11, 12, 13

By topic

Categories and gender

Gender-related arbitration cases

Search archives

Threads older than 60 days may be archived by MiszaBot I.

{{Ds/talk notice|topic=gg|style=long}}
2014-12-03

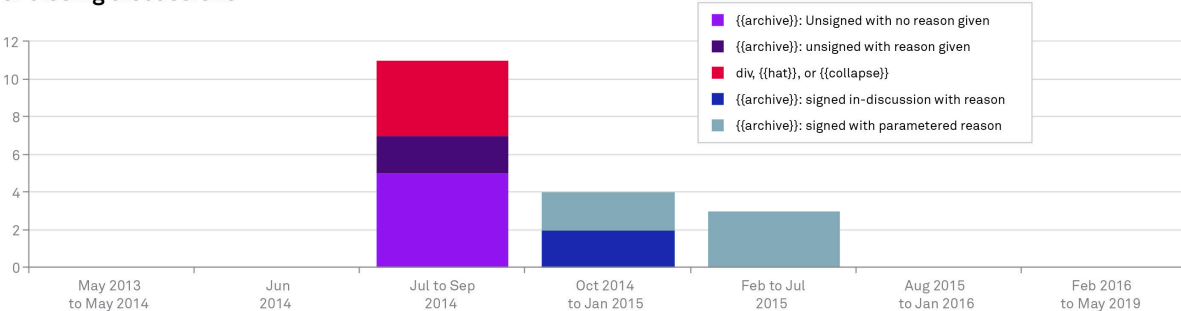
The Arbitration Committee has authorized uninvolved administrators to impose discretionary sanctions on users who edit pages related to (a) GamerGate, (b) any gender-related dispute or controversy, (c) people associated with (a) or (b), all broadly construed, including this page.

Provided the awareness criteria are met, discretionary sanctions may be used against editors who repeatedly or seriously fail to adhere to the purpose of Wikipedia, any expected standards of behaviour, or any normal editorial process.

Talk page closed discussions. When the talk header warned that off-topic threads would be closed or archived, it was not an empty threat. During the close reading of the talk pages, I identified 18 separate occasions where discussions were closed (Figure 30). For the first year no discussions were closed, and then, eleven instances were identified between July and September of 2014. Seven of these used the `{{archive}}` wikitext template to close discussions and varied on whether the user signed their name to the action. Four more used other templates and HTML to close discussions. From October 2014 to July 2015 the technique of using `{{archive}}` became the chosen means of closing discussions and each of these users, who closed the discussion gave the reason for doing so. No additional closures were made after July 2015. This swell of closing discussions corresponded with the same period of intense topic creation observed in Figure 26.

In addition to analyzing how and when discussions were closed, I also examined the content of each decision for the closure. By relying on the `{{archive}}` wikitext and in-discussion comments of each closer, I was able to assess that only 3 closed discussions were closed because of a consensus: 1 from a survey and 2 from an informal assessment of the aggregate of individual opinions. One was closed for an unspecified reason while another that was an act of self-redaction. The remaining discussions were closed due to a mixture of discussions that were off-topic (3), off-topic due to wrong venue (4), engaged in personal attacks (1), and a combination of off-topic and personal attacks (4). From these examples, closing discussions was used primarily as a technique to set limits on the scope of topics and what counted as acceptable conduct. In other words, it was used to quarantine discussion that was outside of the purposes of the GGTF rather than part of informal deliberation or a formal decision-making process.

Figure 30
Talk page methods
of closing discussions



■ Closed discussion using “boilerplate” HTML template

The following discussion is an archived discussion of a **requested move**. **Please do not modify it**. Subsequent comments should be made in a new section on the talk page. Editors desiring to contest the closing decision should consider a **move review**. No further edits should be made to this section.

The result of the move request was: page **moved**. *Armbrust* *The Homunculus* 11:21, 8 July 2014 (UTC)

■ {{hat}} wikitext template with explanation as a comment within the discussion.

Collapsing for space [show]

I was mistaken about the scope of this project, and I'm sorry.--*Obi-Wan Kenobi* (talk) 00:17, 1 July 2014 (UTC)

■ Unsigned {{archive}} wikitext template, using the undefined commenting parameter.

The following discussion is closed. **Please do not modify it**. Subsequent comments should be made on the appropriate discussion page. No further edits should be made to this discussion.

No more personal remarks please

■ Unsigned {{archive}} wikitext template

The following discussion is closed. **Please do not modify it**. Subsequent comments should be made on the appropriate discussion page. No further edits should be made to this discussion.

■ Signed {{archive}} wikitext template using the “reason=” parameter for comment.

The following discussion is closed. **Please do not modify it**. Subsequent comments should be made on the appropriate discussion page. No further edits should be made to this discussion.

Please see Wikipedia talk:WikiProject Countering systemic bias#Improving coverage of areas impacted by Boko Haram violence --Guy Macon (talk) 23:43, 13 January 2015 (UTC)

Although the information available on Northeastern Nigeria, and on the refugees in neighboring countries fleeing violence by *Boko Haram* is somewhat limited, there is still much that could be done to improve the Wikipedia articles about this geographical area. It's rather distressing to see that despite all the tweets about "Bring Back Our Girls", neither Wikipedia nor major news outlets have made it a priority to assemble the basic encyclopedic information about this part of the world. --*Djembayz* (talk)

Djembayz posted this comment two places. I suggest that we centralize discussion at Wikipedia talk:WikiProject Countering systemic bias#Improving coverage of areas impacted by Boko Haram violence. --*Guy Macon* (talk) 23:31, 13 January 2015 (UTC)

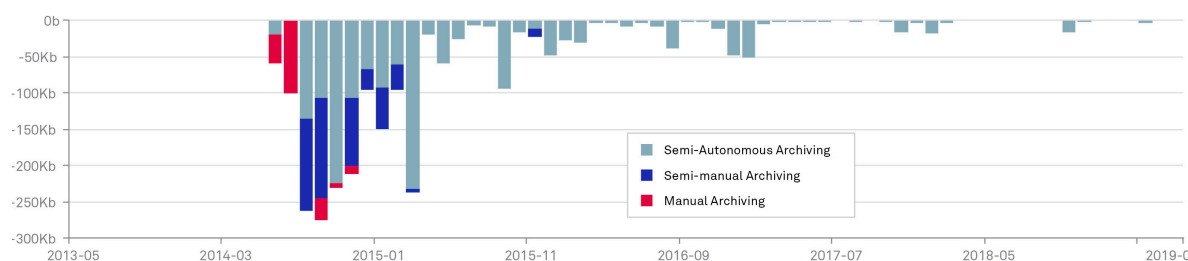
The discussion above is closed. **Please do not modify it**. Subsequent comments should be made on the appropriate discussion page. No further edits should be made to this discussion.

Talk page archives. The end result of closing discussions was that it announced that no other comments should be added to the thread, but it left the discussion available for other users to read on the current talk page. Archiving was used for a similar purpose, but instead of leaving the discussion visible, it was used to completely remove thread discussions from the talk page. In Chapter 6, I also identified that archiving is an act of consensus as it is a judgement passed on the currency of a discussion thread and its usefulness for editors.

This technique was analyzed by examining the edit summaries for deductions in bytes made to the talk page. Within the edit summaries examined, it was common for users to summarize their archiving edits with the word “archive” as well as other information about the purpose of the edit. From these edit summaries I identified three different kinds of archiving techniques: manually archiving discussions by cutting and pasting discussions into the archive page; using the semi-manual archiving script OneClickArchiver to archive individual discussions; and semi-autonomous archiving performed by the bot named Lowercase sigmabot III (Figure 31). It must be noted that while manual and semi-manual archiving of individual threads was left up to the discretion of the user, Lowercase sigmabot III automatically archived threads by identifying them by their section heading and then calculating how long they have been inactive. If the period of inactivity exceeds a set period, the thread (or section) is archived (“Help:Archiving a page,” 2014). This period of inactivity is a parameter that can be set by users and the example given of the help page is 90 days.

Figure 31

**Talk page bytes archived
and method used**



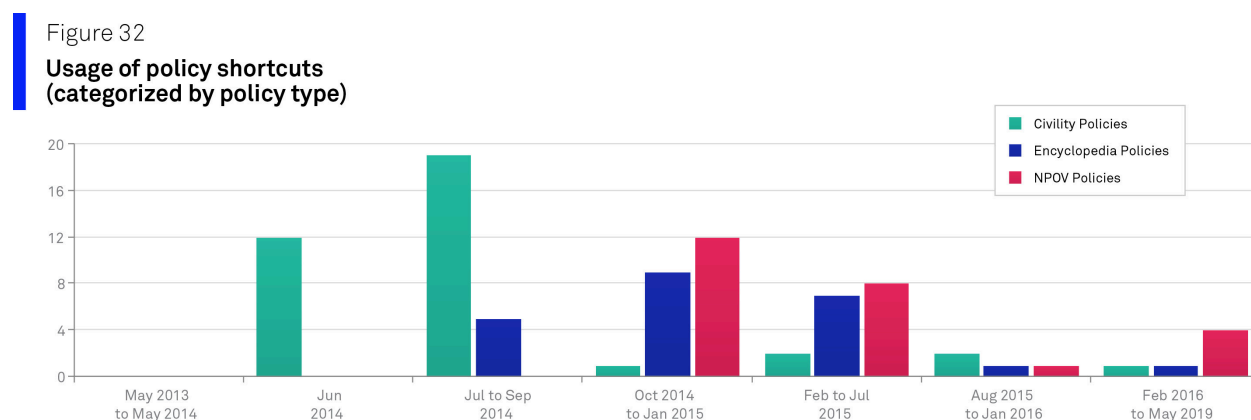
The first acts of archiving occurred in June 2014 and included both a manual and semi-automated archiving action. Over the course of the next nine months, only two months used all three techniques while the rest used a combination of the two, usually relying on the semi-manual archiving or a bot. This graph also indicates that after March 2015 the process became

almost completely the domain of Lowercase sigmabot III. Of the 315 times archiving was used, manual archiving was conducted by only six users for a total of 8 times; the OneClickArchiver was operated 40 times by one user and 3 other times by another; and Lowercase sigmabot III ran 264 times. In total, there were seven GGTF users who judged whether a thread was representative of current discussion on the project's talk page, thus invoking the same kind of authority that a closer of a discussion.

Results of talk page enclosures. What is fascinating about the instances of closing discussions and archiving threads was they had a clear beginning and end of use — one that follows the rise and fall of topic creation described in Figure 26. The reasons and contexts for these actions will be examined in a later analysis that provides a chronicle of the conflicts that the GGTF encountered on its talk page. For now, it is enough to contrast the number of participants on the talk page to those who engaged in formalizing consensus in terms of talk headers designers, self-identified closers of discussions and archivers. Between May 2013 and May 2019, there was a total of 267 unique usernames signed to comments on the talk page. In that same time, only 14 users engaged with closing practices. Of that fourteen, 10 did so only once, and 2 did so less than five times. Carolmooredc identified herself as the closer of a discussion 2 times and manually archived discussion 3 times. SlimVirgin, the founder of the GGTF was the most prolific practitioner. She closed discussions 3 times, edited the talk page header 38 times, and archived 40 times. Considering that both SlimVirgin and Carolmooredc were the top editors for both the project page and enclosing the meanings of the talk page, they can be recognized as serving critical positions in maintaining the design and organization of the GGTF's political activities.

Policy Cutting. Chapter 6 described how Wikipedians use essays, guidelines and policies as an invocation of community consensus. This cultural technique was replicated within the GGTF talk page. To understand what kinds of social interaction these policies were attempting to enforce, I conducted a content analysis of the corpus of the talk page archives. I began by using the program AntConc and the query “WP:*” to search for policy shortcuts.

The first pass of the corpus removed extraneous instances where WP:* was used for links to non-policy related pages. Pass 2 required examining the context of each instance to distinguish between moments where the policy was being used as a topic of discussion versus one being directed at an individual’s actions. The third pass coded the instances for whether they were shortcuts that appeared as part of a larger policy or were a supplement to that policy, guideline, or essay. After connecting each shortcut to its parent policy, I assessed which of Wikipedia’s five pillars they were created to maintain. These categories were then compiled to represent policy usage by month (Figure 32).



Between June and September 2014, shortcuts were predominantly dedicated to policies used to enforce the Wikipedia’s pillar of civility and to a lesser degree the pillar of Wikipedia as an encyclopedia. Between October 2014 and July 2015, the balance of shortcuts shifted in favour

to policies that dealt with neutral point of view (NPOV), secondly to the pillar of Wikipedia as an encyclopedia, and third to the pillar of civility. From August 2015 to May 2019 the invocation of shortcuts fell dramatically and of this lowered frequency, there was a focus NPOV. Placed together in a sequence, there was a shifting emphasis that begins with socializing user conduct, then moved toward shaping the encyclopedic character of articles.

As for the actual policies, guidelines, and essays themselves, most were spread quite widely in terms of individual use: 31 policy shortcuts were invoked only once. The exception to this observation was WP:CANVAS, WP:NOT, and WP:NPOV. WP:CANVAS was invoked 10 times and was the most commonly found policy shortcut. At the time of its usage, the policy stated that “When notifying other editors of discussions, [...] keep the message text neutral, and don't preselect recipients according to their established opinions,” and emphatically ends with the demand “Be open! (“Wikipedia:Canvassing,” 2014). When it came to policies attached to the pillar of Wikipedia as an encyclopedia, there is a small point of clarification. Most of the shortcuts used are part of the broader policy of WP:NOT or “What Wikipedia is not,” a policy that presents the premise that “Wikipedia is an online encyclopedia and, as a means to that end, an online community of individuals interested in building and using a high-quality encyclopedia in a spirit of mutual respect. Therefore, there are certain things that Wikipedia is not” (Wikipedia:What Wikipedia is not,” 2014). When each of the associated shortcuts of that policy page are collected together, WP:NOT was invoked 13 times. WP:NPOV was the next most frequent policy to be used, with 6 instances and conveyed the idea that “Articles must not take sides, but should explain the sides, fairly and without bias” (Wikipedia: Neutral Point of View,” 2015).

Results of policy shortcut usage. The frequencies of these three policies position them as markers of the beginning, middle, and end of the talk page's use of policy shortcuts. Because of this, there is a theoretically interesting connection. WP:CANVAS spells out that users are imagined as being ideal contributors of consensus when they are free from social pressures and are operating based on their own rather than in relation to closed groups. Instead, users must "Be Open!" At the same time, WP:NOT demands that users must stay within the discursive enclosure of the encyclopedia and not push beyond its boundaries of definition. And finally, WP:NPOV requires users to treat the content of the encyclopedia apolitically. These three policies therefore capture the impossible desire of encircling knowledge through consensus. They did so by maintaining a community that was unified (WP:CANVAS) in its political subjectivity (WP:NPOV) so that it is capable of sorting humanity's knowledge (WP:NOT). And here I see them invoked in the context of the GGTF, where the project page described its role as being for women who were expanding the horizons of the encyclopedia by asserting that the structure of encyclopedia has political and epistemological consequences for women editors. By examining the policy shortcuts, it becomes clear that there is a schism between the community consensus as represented by policies and the GGTF.

Chronicling the spaces between consensus and dissensus. Wolfgang Ernst argued that media are crucial to our perception of the relationship between time and knowledge. He argued that what counts as knowledge, is knowledge told through counting (Ernst, 2012, p. 143). It comes to us, he wrote, as sequences of narrative "when apparently insignificant facts are being interwoven into a complex reality that cannot be observed directly" (p. 148). In Chapter 6 I followed this argument when I explained that Wikipedian descriptions of "current," "previous," and "new"

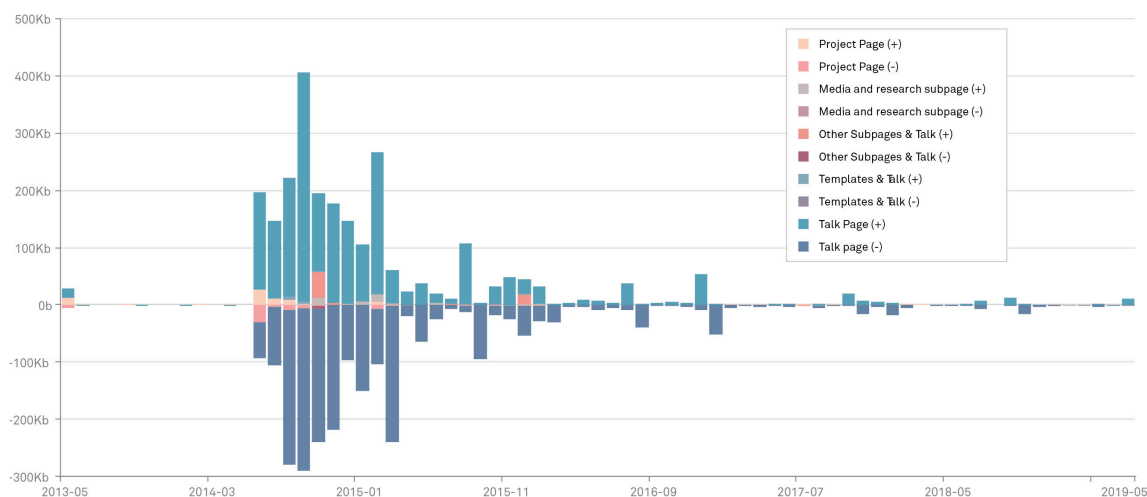
consensus were intimately related to the capacity to visit the chronicle of changes to the wiki. As such, by relying on the media of the history page, Wikipedians have become attuned to thinking of consensus as a phenomenon precisely through the techniques used to record, store, and retrieve what is imagined to be consensus. The analysis of the GGTF space and the use of compositions, closed discussions, archives, talk headers, and policy shortcuts serve to confirm this position.

Now that these various techniques have been reviewed as features of discourse, it is time to see how they operated together in practice; how they related the encyclopedia's impossible desire of encircling all knowledge through community; and how community consensus was instrumental in limiting the dissensus of the GGTF. In order to do so, I follow the trend of other Wikipedia researchers who studied the encyclopedia's capacity to store and view incremental changes to its content as a means to describe sociological patterns of controversy (Viégas, Wattenberg and Kushal, 2004; Moats, 2018). As an amendment to this method, David Moats argued that this analysis also "invites us to ask how the issue formed and became controversial" (Moat, 2018, p. 12). I take this same methodological approach in this section, but instead of graphing controversy between individuals, I chronicled contestations over the meaning of the task force that expressed itself as a conflict between the consensus of the Wikipedian community and the dissensus of the GGTF.

Equipped with the data of the previous analyses, I combined the history page information from the network of the GGTF's pages. This not only included the project page and its talk page, but also the task force's subpages and templates. Each page's history was then collected in a text file and reduced to only data about the month, year, and the number of bytes for each version. All

edits were categorized by the page they came from and compiled together to show the total number of bytes added or subtracted per month from the start of the project until the month of data collection for the analysis (May 2013–May 2019).

Figure 33
History of GGTF editing activity
(bytes added and subtracted)



The resulting graph in Figure 33 points to two important features about the GGTF’s activity. The first is its shape which begins with a period of very low (sometimes non-existent) activity for the first year, then a peak of activity rising in September 2014, then a descending slope of activity until February 2015 when it peaks again. Then it decreases sharply with one last peak in July 2015. Afterwards, editing activity resolves into a small wave and finally peters out.

The second point is that this shape is overwhelmingly structured by increases and decreases in bytes made to the project’s talk page. No other facet of the project comes close in terms of activity. Even with that being said, the project page had a bump in activity starting in June 2015, and spikes of activity on the GGTF’s “Projects,” “Related Resources” and its “Media and Research” subpages during the months of October 2014, February 2015, and January 2016.

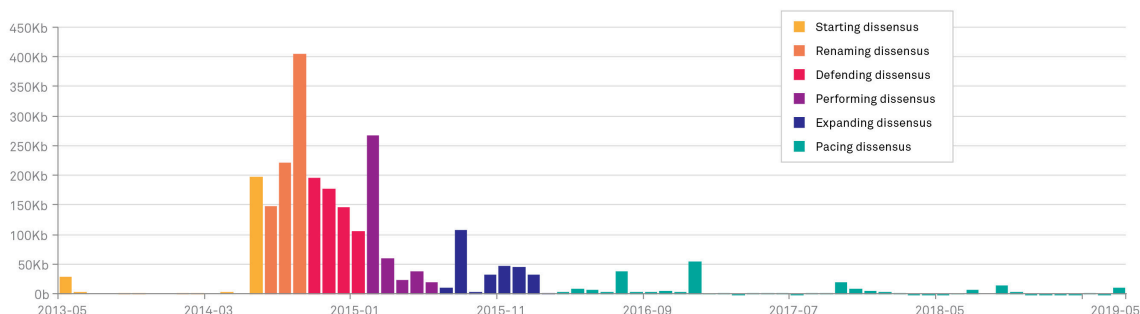
With a view of this shape of activity, I conducted a close reading of the talk page and its archives to understand how this shape related to conflicts within the GGTF space. The corpus was collected by visiting the talk page and downloading the HTML files for all thirteen archives (starting in May 2013) plus the current talk page as of May 2019. A total of 443 discussion threads were collected and analyzed. During the first pass of the close reading, I coded the text according to theoretical and emergent “themes” that I encountered (Jørgensen and Phillips, 2002, p. 124). This pass was conducted concurrently with the first passes that were required for Figures 26, 27, and 30. On the second pass of the analysis, I identified recurring themes that could not be understood through the talk page alone. It was therefore necessary to investigate this “intertextual chain” of texts and citations (Jørgensen and Phillips, 2002, p. 73–74).

This analytical step follows David Moats acknowledgement that his discourse analysis of Wikipedia led “outside the nominal boundaries of Wikipedia to the collection of news sources, press releases, and documents” and required moving beyond assuming “the platform as the natural boundary of the study” (2018, p. 14). In relation to this insight, my analysis took the shape of a hyper reading which included following links within comments as well as “search queries (as in a Google search), filtering by keywords, skimming, hyperlinking, ‘pecking,’” and “juxtaposing” (Hayles, 2012, p. 61) for communication events mentioned on the talk page. From these searches I read news articles, academic sources, Wikipedia arbitration decisions, noticeboards, user pages, and Wikimedia pages. This process also drew my attention to different features of the GGTF’s project that served as important topics of debate. I continued this reading of intertextual sources until I had a grasp of the controversies being alluded to on the GGTF talk page. On the third pass I refined ad hoc themes of conflict and mapped them to the editing activity from Figure 33. During this process I identified several distinct periods where there was

a dramatic change in the frequency of editing actions between two months. After narrowing in on the point of rupture between one period and another, I made one final pass through the GGTF's pages, secondary sources, and comments to identify moments of discursive closure (Jørgensen and Phillips, 2002, p. 29) about the meaning of the GGTF. Figure 34 maps these moments of dissensus and consensus to the task force's editing activity. The following subsections cover each period as the task force started the project, and then renamed itself, defended itself, increased its performance and ability to expand into other areas, and then set its own pace.

Figure 34

**History of GGTF editing activity
(by period of dissensus)**



May 8, 2014 — *The Dissensus of Starting.* The Countering Systemic Bias WikiProject (CSB) is a project that was created in 2004 and originally intended “to reduce Wikipedia’s inherent structural biases by providing easier access to 'less-travelled' articles” (“Countering systemic bias,” 2004). Nine years later, a Wikipedian named SlimVirgin made a request on the WikiProject’s talk page. She argued that while there are WikiProjects for feminism and gender studies, these projects “focused on articles within its topic area.” In alignment with the CSB’s goals, she proposed the idea of creating “a task force to deal with gender bias *in all its forms*, wherever it appears on Wikipedia” and had approached the talk page because she had been “advised that the first step is to gain consensus from other CSB members.”

(“Wikipedia talk:WikiProject Countering systemic bias/Archive 14,” 2013, my emphasis).

This is the first act of articulating what would become the Gender Gap Task Force. What is important to note about SlimVirgin’s proposal is that she was inspired to do something about gender bias *beyond* editing articles. Her proposal for the Gender *Bias* Task Force (later, the Gender *Gap* Task Force) was discussed over the course of two days by five commentors, one of which was Carolmooredc (“Wikipedia talk:WikiProject Countering systemic bias/Archive 14,” 2013). With what followed as a positive reception, SlimVirgin interpreted this as a consensus to proceed by copying Wikipedia’s {{taskforce}} template and made the first version of the project page (Figure 22, 2013–05-07). It was only after this edit that she returned to the discussion and thanked the commentors for their input, announcing that she had “gone ahead and started creating the page at WP:GBTf” (“Wikipedia talk:WikiProject Countering systemic bias/Archive 14,” 2013).

This was the first consequential act of “we-making” of the task force. Noticeably, it was achieved informally by only six participants who shared a common interest in contributing to the CSB. The commentors offered suggestions and no one disagreed with the proposal. There was also no formal deliberative statement that announced that a consensus had been achieved; SlimVirgin took it upon herself to judge the situation. With no objections to her edit, the discussion was transformed into a document. This moment stands as a clear example of how Wikipedian consensus has been imagined operating in terms of taking the “rough consensus” (Reagle, 2010, p. 102) of discussion and “refactoring” it into a consensus that manifests as a document (Cunningham and Leuf, 2001, p. 333; 326). It was the ideal put into practice.

After two editors signed on as participants, the next version of the project page included the task of revising a policy concerning categories. This issue was brought to the public attention by Amanda Filipacchi of the *New York Times*. She noticed that women listed under the category of “American Novelists” were being recategorized as “American Women Novelists.” The consequence was that it created a list of men-only “American novelists” (Filipacchi, 2013). This situation can be understood as an example of “linguistic bias” (Marinucci, 2010, p. 72) which might “draw attention to sex and gender with expressions such as ‘male nurse’ and ‘female cop’, which imply that it is unexpected and therefore worthy of comment for a man to become a nurse or for a woman to become a police officer” (p. 73). In this case the default of meaning of a novelist is assumed to be associated with men. This particular issue served as the interest of a few GBTF members over the next — relatively quiet — year for the task force.

On June 28th, 2014, SlimVirgin began making substantial edits to the project page, removing four kilobytes worth of content concerning gendered categorization. On her edit she left a note describing her rationale: “tightened, tidied” (“Gender Gap Task Force,” 2014b). This started a quick “edit war” between SlimVirgin and Obiwankenobi who tried to overwrite one another’s edits. This spilled over into the talk page and drew the attention of several participants. The discussions on this date also included heated debates about an affirmative action proposal for protecting edits made by women. This led into a discussion of whether or not the goal is “*visibility* of women on WP” and how this identification would or would not impact trans women and trans men (“Archive 2,” 2015).

While some of the initial interactions were directed at assessing the primacy of categorization within the task force’s scope and gendered language, the underlying schism was quickly laid bare by Carolmooredc. She surmised that “this task force can and should be used for

problem solving the problem of not enough female participation in en.Wikipedia. It's not just a place to link to techno-solutions" ("Archive 2," 2015). Another user directly opposed this definition, writing "'gender bias' doesn't mean 'under participation of women'" ("Archive 2," 2015).

In light of this fundamental misreading of her vision for the task force, SlimVirgin felt the need to outline her original intention. She explained that she "set this project up for women to track and discuss whatever bias they saw on Wikipedia, whether in articles, policies, behaviour, etc." and that she "was hoping this could become a safe space for quiet, positive collaboration [...] a place for women to discuss these issues" ("Archive 2," 2015). Again, SlimVirgin articulated her unique vision for the task force, but expanded on what she meant. She envisioned — like the gender-gap mailing list and the WikiChix — a place to discuss the concerns and issues of women. But what differed was that this space would exist on Wikipedia. In the parlance of feminist theory, she imagined the GBTF as a counterpublic, an enclave of resistance, and a space of contestation.

These political connections would not go unnoticed. "[Y]our continued referencing of 'women' is unhelpful" Obiwankenobi wrote. "You can have off-wiki women-only mailing lists if you like, but especially in a place where many editors don't even declare their gender, attempting to suggest that a space or project or collaboration is primarily for women goes against the aims of the project, and suggests that men can't be part of the solution, it's exclusionary" ("Archive 2," 2015). These statements would be drawn into adjacent arguments. The first being that the project should concentrate on content rather than address the low participation of women. The second was that the meaning of "gender bias" — and subsequently the task force —

meant a bias against women *and* men. This argument assumed that all exclusion, but especially the exclusion of men, is politically and epistemologically dangerous to Wikipedia.

In one argument that advocated for addressing biases against men, the commenter gave the example of the category “Women by continent” which did not have complementary categories for “the male gender, to say nothing of other genders and gender expressions such as trans*, two-spirit, etc” (“Archive 2,” 2015). Despite the non-binary description of gender, the focus of the full comment was on a lack of representation of men. This same argument would resurface several months later on the topic “Shouldn’t everyone be treated equally” where one user suggested that in order to ensure articles were not being sexist, the same measures used to describe women should be used for describing men (“Archive 9,” 2015). One user contested this approach by stating “it’s fallacious to try to apply issues affecting women and gender minorities to men because the reality is that they are **not** equal in Western society. We should give due weight [...] to anti-woman and otherwise sexist bias present on Wikipedia” (“Archive 9,” 2015).

Banet-Weiser describes these types of situations as a tactic of popular misogyny that performs a kind of “mirroring” where “politics and bodies are distorted and transfigured so that men—heterosexual, white men—are the ones who appear to be injured by widespread inequities and structural disparities” (p. 45). This is also connected to a neoliberal understanding of subjectivity. As Sarah Banet-Weiser explained, “[t]his insistence on an equal playing field is crucial to the logic of neoliberalism,” where “[t]he individual, not gendered or raced but merely a ‘person,’ is the key subject in this logic. If all individuals are equal, there is no need for specificity of identity; indeed, insisting on this very specificity is precisely what is causing the injury” (2018, p. 62). In these discursive situations, declaring oneself as a woman editor sets up

the visibility of difference and turns the default “editor” into a gendered editor, and therefore removes the myth of a socially universal “person.”

The speed and boldness of the women’s next moves were a testament to the necessity to reclaim the meaning of the task force from these assimilating discourses; a concerted act of dissensus. After a day of edit-warring followed by a day of heated discussion, the third day brought a series of decisive actions. SlimVirgin and Carolmooredc agreed that in order to increase the participation of women the task force should consider the “[e]xpanding use of the project” by providing links to resources and articles to increase knowledge of the issues women faced; reviewing the civility and harassment policies; researching the interactions between women and administrative boards; learn from the successes of other WikiProjects; and promote the work of women’s projects and women editors (“Archive 2,” 2015). In other words, the GGTF was not just going to be a space for collaborating on content about women.

To avoid further misunderstanding, SlimVirgin suggested that the Gender *Bias* Task Force should be renamed the Gender *Gap* Task Force. A survey was started on June 30th and took place over the course of the next eight days. While this discussion happened, Obiwankenobi apologized for being aggressive and in an act of contrition, made his last comment to the task force. They stated that they “should have listened more and spoken less” (“Archive 5,” 2015). It was an offer of making room for women to determine the shape of the project.

As the survey continued, Carolmooredc followed through with a proposal to have the discussions about categorization “archived manually” because the “project cannot be overwhelmed with discussions about Wikipedia technical topics” (“Archive 2,” 2015). Typically, “[w]hen the discussion grows heated, the length of the talk page can exceed the length of the

article many times over, so that older discussions must be archived” (Sumi et. al., 2011, p. 1). This is because “[b]ulky talk pages may be hard to navigate, contain obsolete discussion, or become a burden for users with slow Internet connections” (“Help:Archiving a talk page,” 2014). But Carolmooredc’s reasons were social rather than utilitarian. She expressed a concern that these threads would give the wrong impression of the task force to potential new members. She eventually followed through with this move on July 6th, creating three different archives: 2013 Archive, 2014 Archive, Categorization (Figure 29, {{archives}} 2014-06-31).

July 8, 2014 — *The Dissensus of Renaming.* After nine days of deliberation, a total of nine users came forward to support the proposal for renaming the project and redefined the scope of the task force. Two opposed — with Obiwankenobi later striking out their opposition — and one deferred opinion. On July 8, 2014, a non-involved administrator used custom HTML to close the discussion and announced that the result was to move the task force to the name “Gender Gap Task Force” (“Archive 2,” 2015). In what can be perceived as an act to reinforce the task force’s change in name, SlimVirgin added the “Mind the Gap” image to the project page, a clear symbol that the task force was about the gap and it concerned women. Over the course of the previous nine days, the task force had been remade through the redesign of the project page, the discussions of the task force’s name, and the archival efforts. They used Wikipedia’s software affordances to enclose the meaning of the space to the best of their ability. Their enclosure made their differences as a collective of women visible.

During this phase of development, the project page received other features, such as a tab header and a revised list of “To Dos.” (Figure 22, 2014-08-01); one that was similar to the list that Carolmooredc had proposed. These new tasks included affirmative action measures; improvements to biographies of women; improvements for the “Resource,” “Policy,” and “Help”

page; categorization; and to write essays. The members also added a “Mind the Gap Award” and other promotional templates as a means integrate the GGTF into their Wikipedian identity and to recruit others to do the same. By these measures, the July 2014 versions of the project page aesthetically represented the new name and the new lists of tasks and scope. Yet, even with clear directions about what the task force had decided to do about the gap, the very premise of the task force was being questioned by a new group of editors.

From the moment that the first edit war started in June to the end of July, the membership of the project almost tripled from 13 to 36. By the end of September, it increased to 59. Over these three months some users questioned whether the gap had any discernible impact on the quality of “WP’s content” (“Archive 4,” 2015). Still more asked if there were better statistics (“Archive 3,” 2015) or surveys (“Archive 4,” 2015), and then argued that since there were none, any act to close the gap was baseless (“Archive 4,” 2015). As a result, task force members were forced to constantly parry these epistemic doubts.

For those who agreed that the gap was an issue, there was an ongoing debate concerning what the gap actually was and what caused it. As Figure 27 displays, the gender gap was variously described in terms of toxic individuals, a toxic culture, historical bias, and dealing with the interface. Others understood it primarily as a quantitative gap in the number of articles about women / women’s topics or the number of women admin and editors. These discussions were particularly difficult for the task force because the effect of the skeptics and the problem-definers polite and open discussion was recognized by other users as disruptive. For example, one politely worded skepticism argued that the task force should not deal with the low participation of women because “[o]n average, males and females have different interests [...] But Wikipedia’s

job isn't to somehow change the global culture so that females are exactly as interested in things like technology as much as males are" ("Archive 3," 2015).

When Eckert and Steiner studied skepticism about Wikipedia's gender gap, they found that "people denying that it was a problem or repudiating attempts to ameliorate it, reflect a broader backlash against women, and particularly feminism" (2013, p. 286). This holds similarities to online mobs who "overwhelmingly target members of traditionally subordinated groups, particularly women" (Citron, 2009, p. 65), or organized online brigades that strategically use the ambiguity of their alliances as a means for denying the malicious intent of their activities (Marwick and Lewis, 2017, pp. 7-8). This ambiguity was also the playground of Wikipedia's trolls who actively disrupt discussions "whilst presenting the veneer of acceptable civility" (p. 28) and are therefore capable of sabotaging "an otherwise productive discussion" (p. 15).

This context of anti-feminist skepticism, online mobs that target women, and troll tactics put Wikipedia in a difficult situation. Wikipedia's policy of assuming that other users are acting in good faith "warns against ever attributing an editor's actions to bad faith 'even if bad faith seems obvious'" (Reagle, 2010, p. 62). This rule is qualified by the idea that "one can always judge on the basis of behavior rather than assumed intentions" (p. 62). But this is precisely the concern that Zizi Papacharissi had with online communications. Some messages that are demonstrable "polite" are also uncivil because the intended effect of the message is to "deny others rights, threaten democracy, or use antagonistic stereotypes" (p. 279). Access, ambiguity, and politeness therefore become the tools that are available to deny women space on Wikipedia.

This was the trouble that the task force found themselves in. The discussions *as a whole* carried disruptive effects, they took up space and time to answer questions about whether the gap was real or not. But some messages were polite and had the appearance of creating an open

discussion. By politely asking questions, using reason, and asking for evidence of a position, they were following the social rules and norms of Wikipedia.

After noticing the theme of commentors asking for “evidence” of the gap, Carolmooredc suggested that these individuals just wanted to be “spoon fed” the information and estimated that it would take “10 or 15 hours necessary to put it together in a nice paragraph or section or essay for you to slurp down” (“Archive 3,” 2015). This statement captures another effect of trolls in an open community. Linguistic researcher Claire Hardaker used the term “sealioning” to describe this “process of killing with dogged kindness and manufactured ignorance by asking questions, then turning on the victim” when they become annoyed and retaliate (Stokel-Walker, 2018). Carolmooredc’s terse response captures the intended effect of asking such questions.

With the combined skepticism about the gap and the flexibility of its meaning, the key members of the group had to shift their discursive tactics. Contributors attempted to draw detractors into an agreement about the gap as a problem, often by broadening the type of people that it affected. For example, Carolmooredc made the case that “[t]his issue doesn’t affect only women. It also affects people of ethnic or racial minorities [...] older people, experts, academics, etc” (“Archive 4,” 2015). And while the gender gap can be considered an intersectional problem, it was often redefined as a problem for both men and women, harkening back to the earlier demands for inclusiveness and equality. As one editor stated, “[t]he things that drive off female editors from wikipedia are [the...] same behaviors [that] drive off male editors as well” (“Archive 4”, 2015). Under this articulation of the gap, the problem was not actually between men and women, but either between civility and incivility, or inexperienced and experienced Wikipedians. Within this

rhetorical frame, the solution was to create a culture that was supportive of new users who, as one user only tangentially noted, “might be women” (“Archive 3,” 2015).

By agreeing that the gender gap was in fact *primarily* a friendliness gap by both ungendered and self-identified members of the task force, the political specificity of gender was eroded away. Editors were quick to gain support for their solutions to this kind of problem. It was hard to disagree with supporting greeting spaces like The Teahouse, making the interface friendlier, and reinforcing the behavioural guideline of not “biting the newcomers,” which encourages experienced Wikipedians to be patient with new users who mean well, but are unfamiliar with how Wikipedia works (“Wikipedia:Please do not bite the newcomers,” 2014). In fact, these efforts can be seen to solve some of the issues that Shlomit Lir (2019) identified as contributing to how new woman users feel alienated by the site’s socio-technical structure. However, these solutions to the gender gap did not address the gap directly. Their positions suggest that the gender identity of welcomed users was a secondary or inconsequential concern.

Beyond being skeptical about the reality of the gap, re-defining the gap as primarily a content issue, or providing solutions that were of a benefit to the entire community, detractors of the GGTF also framed the task force as a political and closed social group; two characteristics that contradicted Wikipedia’s principles of neutrality and openness. Because the GGTF was created from the premise of changing aspects of Wikipedia so as to close the gender gap, participants were presumed to be collectively in favour of editorial actions that increased the number of articles about women. As such, when editors notified the group that a biography of a woman was going to be deleted, these actions were policed as suspicious and marked as violating WP:CANVAS (“Archive 2,” 2015) and WP:NOTAFORUM (“Archive 2,” 2015). These policies are part of a larger set of policies that are invoked to move behaviour toward Wikipedian civility

(Figure 32). With the original intent of the GGTF to support women's collective action, it was automatically at odds with the bias toward individualism articulated in these policies. Again, like politeness, rationality, and asking questions, the invocation of these policies is part of Wikipedian culture and a means of maintaining the stability of the community (Kriplean, et. al, 2007, p. 2).

Despite the relative adherence to Wikipedia's social policies, some comments and threads were considered to be "personal attacks" and "wikihounding" ("Archive 2," 2015); a type of stalking that consists of a harasser repeatedly confronting and questioning a user's edits on multiple pages ("Wikipedia:Harassment," 2020). For example, one seemingly innocuous thread started by announcing "I just added my name to the participants list ("Archive 2," 2015). It was immediately noted that this user had been following a woman editor from talk page to talk page. The animosity between the two users was immediately established and tensions escalated quickly. As a result, threads that once had valuable discussions about the scope of the project devolved into a swift stream of disruptive comments. Lines were drawn; sides were taken.

A number of good faith members recognized that the social cohesion of the task force had to be protected from this divisive activity. Carolmooredc requesting input as to the best way to handle disruptive threads ("Archive 2," 2015). She put forth the options of a talk page header concerning civil discussion, moving discussions to an archive page, applying a hidden archive template to discussions, and closing discussions. In the end, all options were used as a means to stop discussions from turning into personal attacks, going off-topic, and taking up space (Figures 28–31). However, despite aesthetic efforts to improve the project page and create social norms around closing discussions that would be acceptable to all parties involved, the task force's

social cohesion was effectively destabilized. In the next month, the conflict escalated to a fever-pitch.

After months of conflict, Carolmooredc took the next accepted step within the Wiki-process of deliberation: she brought the issue to the attention of the Administrators Noticeboard/Incident (WP:ANI, or ANI). Briefly described, ANI is a discussion forum to address “urgent incidents and chronic, intractable behavioral problems” (“Wikipedia:Administrators noticeboard/incidents,” 2019). On September 4, Carolmooredc requested that an administrator provide a “closing discussion” concerning the disruptive actions of Eric Corbett, Two kinds of pork, and SPECIFICO (“IncidentArchive853,” 2014). The discussion turned into a request for the three users to voluntarily refrain from editing GGTF pages. This request was not voluntarily adopted and Two Kinds of Pork counter-proposed to “Warn Carolmooredc” because she attempts to “silence those that disagree with her.” This proposal was closed with eight “oppose” opinions. Then Neotarf proposed that Eric Corbett, Two kinds of pork, and SPECIFICO should be banned from the GGTF page. This proposal was closed after five “supports” and seven “oppose” opinions.

The 150th comment that ended the discussion is particularly revealing. The user opposed the motion to ban the three users because that amounted to the “suppression of opposing views.” The real issue, in their opinion, was that “there’s no such thing as a male or female editor. We are simply *editors* period” and that there would not have been an issue in the first place “if *all* editors had chosen to hide [their real life] genders from Wikipedia” (“IncidentArchive853,” 2014, emphasis original). The closing administrator judged that there was “no consensus” and offered “that all parties should sort the issue out for themselves like ‘rational adults’” (“IncidentArchive853,” 2014).

The ANI judgment was seen as unsatisfactory and subsequently brought to the attention of Wikipedia's founder Jimmy Wales. He agreed with the suggestion that the conflict should be escalated to Wikipedia's Arbitration Committee ("User talk:Jimbo Wales," 2014). A case was subsequently filed by Robert McClenon and it named the following involved parties: Eric Corbett, Two kinds of pork, SPECIFICO, Carolmooredc, Neotarf, and Sitush ("Interactions at GGTF," 2019).

The Arbitration Committee (ArbCom) is composed of a panel of community-elected Wikipedia users who "act as a final binding decision-maker primarily for serious conduct disputes the community has been unable to resolve" ("Wikipedia:Arbitration/Policy," 2014). They oversee requests for arbitration and open cases based on the collective discretion of a majority vote. If opened, evidence is provided by the community including the involved parties, and committee decisions are structured according to salient principles, findings of fact, and remedies and rulings ("Wikipedia:Arbitration/Policy," 2014).

Between September 8th and the 24th, 2014, the seven parties each wrote a statement concerning the interactions at the GGTF, explaining why an arbitration case should or should not be opened ("Interactions at GGTF," 2019). Two Kinds of Pork was concerned that GGTF participants believed "that the project should be owned by, run by, and for women only. No one believes (or should) that any project should be owned or run by one set of editors with specific traits. This project is not just supposed to benefit women, because closing the gender gap benefits *everyone*" (emphasis original). SPECIFICO thought there was a real concern with the GGTF because "[f]orum shopping, canvassing, and meat puppetry appear to have polluted community processes." While Carolmooredc's statement began with saying that the case should

not be opened, the disruption of the GGTF talk had created the effect of making it “impossible to discuss in a serious and collaborative fashion what we think the scope, goals and projects of the task force should be” (“Interactions at GGTF,” 2019).

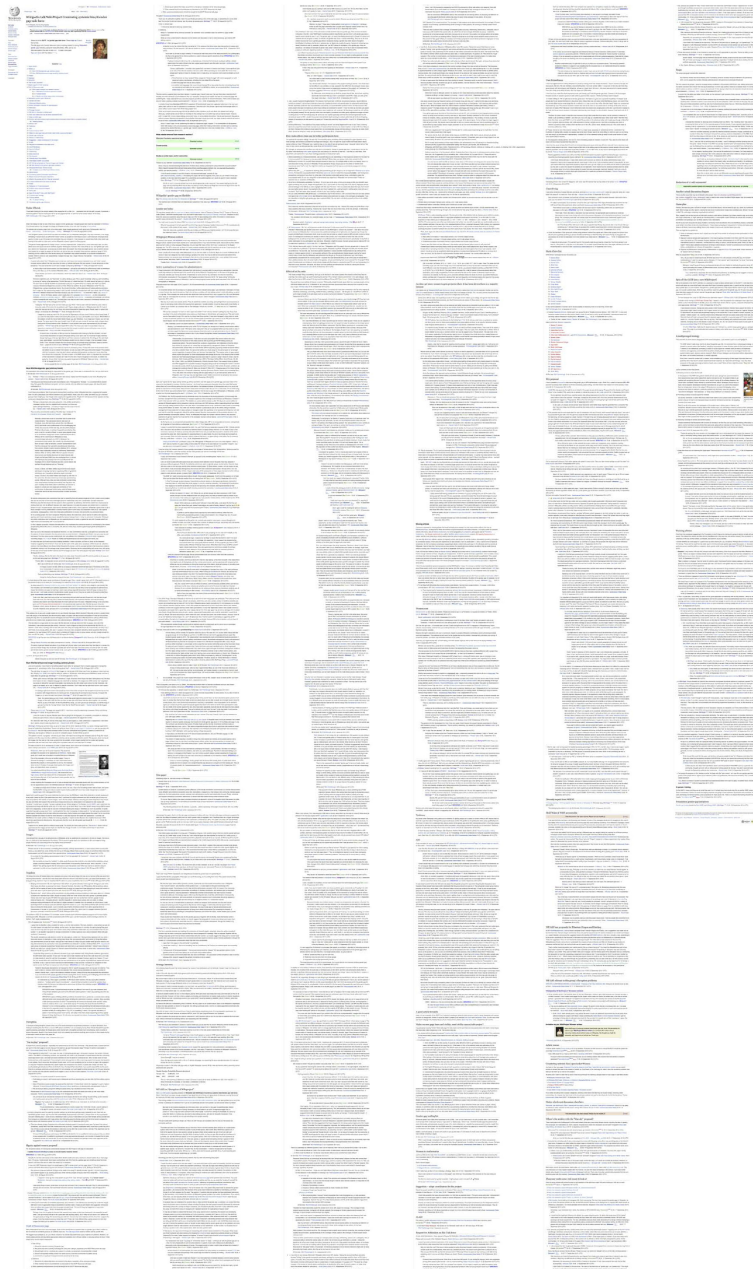
After the statements were listed, 11 arbitrators deliberated on the merit of opening a case. Newyorkbrad stated that this case turned on whether or not questioning the existence of the gender gap “represents participation in the task force’s work or a derogation of it” (“Interactions at GGTF,” 2019). Salvio’s opening statement argued that the GGTF was unique because the task force was “political in nature” and can “have an impact over Wikipedia in its entirety.” This led to an argument that criticisms of the task force should be welcomed, specifically to “prevent the Task Force from becoming an echo chamber.” Der Wohltemperierte Fuchs made note that the issue was “fractious” because of the clear dividing line between “what the wider wiki community views as its goals and what the GGTF views as *its* goals.” According to these statements, the primary reason these arbitrators saw merit in opening the case was not due to the misconduct between individuals. Instead, it was the conduct of a dissenting social group that was challenging the consensus about what the community held as its goals.

During this same period, the interactions on the GGTF worsened. This caught the attention of the committee members who amended their statements with notes that “toxic” behaviours solidified their support of arbitration (“Interactions at GGTF,” 2019). On September 24th, the GGTF’s talk page reached its largest size through the entire period under study. It contained a total of 521 comments, with all but one being posted within the span of the previous thirty days (Figure 35). Through a legion of comments that took up space as they sought to deny, disrupt, disorient, and limit the creation of a space that could address the concerns of Wikipedia women, this date of the GGTF talkpage serves as an example of how the “mobilization of the

open” gives rise to and hides its closures (Tkacz, 2014, p. 33). The GGTF had been spammed by an anti-feminist backlash.

Figure 35

Talk page on the date of highest recorded byte size (24-09-2014)



October 3, 2014 — *The Dissensus of Defending*. So far in this telling of the GGTF, the task force made decisions about the group through “rough consensus,” editing the composition of its project and talk pages, as well as having consensus (or not) judged by an uninvolved administrator on the Administrators’ Noticeboard. Each of these situations are described as part of the Wikipedia’s consensus policy (See Chapter 5). Before describing the GGTF’s case, it is necessary to make the connections between the meaning of Wikipedian consensus and the Arbitration Committee, a task that requires some explaining.

In the 2019 version of the consensus policy sampled for Chapter 5 (Wikipedia:Consensus,” 2019), the policy provides a section called “Consensus building” which explains ways to structure discussions to “resolve disputes.” Under this same section, it states that “the Arbitration Committee (ArbCom) may rule on almost any behavioral or policy-interpretation aspect of a dispute.” By this structure of the policy, ArbCom is a means to *build* consensus, especially in situations with “intractable disputes,” but its decisions are not *representative* of a consensus. This distinction is confirmed by the long-standing policy statement that “[c]onsensus on Wikipedia does not mean [...] the result of a vote,” which is precisely how ArbCom makes decisions.

So how exactly does the Arbitration Committee contribute to the consensus building process? The committee has at its disposal the ability to make the following kinds of binding decisions concerning user conduct: It can block (technically restrict access) to Wikipedia entirely or specific pages; it can prohibit (ban) users from editing the site, specific pages, or a topic; limit the number of accounts a user can have; limit the number of reverts they can make; or any other restrictions deemed necessary (“Wikipedia:Arbitration,” 2014). As a result, if the Arbitration Committee is part of the “consensus building” process, then it does so through these means.

This is precisely how Wikipedia maintains its impossible desire to encircle knowledge in its most incommensurable situations. It creates the conditions where consensus is always possible, not because Wikipedia is open, but because it has the capacity to exclude individuals whose positions and actions prevent compromises from occurring. Once their interaction is removed from the situation, consensus is once again guaranteed. The Arbitration Committee is therefore a critical component of Wikipedia's encyclopedic system of organizing knowledge. It can decide which users can and cannot contribute to the encyclopedia, and therefore contribute to the meaning of Wikipedia's community and social norms which encircle and filter knowledge. Such a task is necessary. But it also means that in a space where dissensus is incomprehensible, groups that challenge Wikipedia's social norms and community consensus are a target.

The GGTF's ArbCom case opened with a majority vote of 7 to 4 ("Interactions at GGTF," 2019). The typical procedure after opening a case proceeds with involved and uninvolved parties presenting evidence for two weeks, followed by a week of deliberating the case in the Workshop space, and then another week of proposing, debating and voting on the decisions of the case ("Wikipedia:Arbitration Committee," 2014). For this first stage, twenty users met this request and submitted 443 pieces of evidence in total ("Interactions at GGTF/Evidence," 2015). This evidence often took the form of a description of the conduct of a user and then a link to a "diff" which is "a web page displaying the difference between one version and another of a Wikipedia page" ("Help:Diff," 2014).

When comparing the list to all users who contributed to the GGTF, four of the twenty whom provided evidence were not involved with the task force. This points to the heavy involvement of GGTF discussants in preparing the evidence of the case. Likewise, by counting

the number of username signatures on the arbitration's Workshop and Proposed decision subpages where deliberation on the case occurs, the case respectively accumulated 276 and 543 comments. This substantial activity by the GGTF corresponded with the sharp decline in activity on the task force's own pages (Figure 33). As such, the arbitration committee's vote to open the case represented a decision that reverberated throughout the GGTF. It announced that the politics of the task force were to be judged according to the conduct of two of its members: Carolmooredc and Neotarf. In response, the task force shifted the mode of activity from discussion to evidence gathering and defense.

During this shift in orientation, GGTF members also embraced other editorial activities that served to defend the task force. Carolmooredc created a media page with a list of academic and news articles that confirmed the existence and the concerns of the gender gap ("Media and Research," 2014). By creating a link on the tab header, the page served as a direct response to the trolls who used the "sealioning" technique of politely asking for evidence. A number of members also began writing a "Women's rights in 2014" article inspired by an editorial article (*The Guardian* view on a year in feminism: 2014 was a watershed, 2014) ("Archive 8," 2015).

But both efforts were called into question by detractors. The subpage of links was perceived as being too extensive because it bordered on violating policies about linkfarms and making Wikipedia into a soapbox ("Archive 6," 2015). Similarly, the women's rights article was also questioned on whether it represented a neutral point of view, violated the policy of original research, or used reliable sources ("Archive 8," 2015). These actions suggested that the shifting discursive tactics from denying the social cohesion of the group to denying the epistemic premise of their editorial actions, whether it was about the gender gap or encyclopedic content (Figure 32).

After the evidence was submitted, discussed, and the proposed decisions voted on, the committee announced their decision on December 1. Despite the political concerns about the GGTF described in the preliminary decision, the “Findings of fact” only focused on the “interpersonal disputes among editors” specifically on the GGTF project (“Interactions at GGTF,” 2019). Carolmooredc was found to have made personal attacks, unsubstantiated claims, and unnecessary comments about editors. She was also found to have voted three times to keep articles from being deleted based on the fact that they were about women — a reason that is not accepted for keeping an article (“Wikipedia:Deletion policy,” 2014). For this conduct she was banned from topics about the Gender gap and banned from Wikipedia indefinitely. Neotarf faced the same punishment for casting aspersions, being passive-aggressive, making unfounded accusations and demonstrating a “battleground” mentality. The disrupters on the other hand were served with the less severe sanctions: they were topic banned, prohibited from using abusive language, administered a warning, and an interaction ban. These punishments were based on incivility, personal attacks, “creating a biography on Carolmooredc whilst in dispute,” displaying a battleground mentality, “passing negative comment” within the arbitration itself, being disruptive, and baiting users (“Interaction at GGTF,” 2019).

The results of the arbitration had been felt by the GGTF. SlimVirgin reflected that the problem with the arbitration was how it ruled on cases where harassment was involved. She wrote on the GGTF talk page that “ArbCom has a long history of failing to recognize harassment and the effect it has on the target,” noting that people were “swarming around Carol, and how she was becoming increasingly stressed by it” (“Archive 6,” 2015). Another member of the GGTF

confirmed this and said that Carolmooredc had been “baited” and harassed on “the case pages itself” which led to a “rant” on the proposed decision page (“Archive 6,” 2015). The result, one user said, was obvious. As a target of harassment, Carolmooredc ended up “lashing out” because of the pressure (“Archive 6,” 2015). In fact, Carolmooredc had been upfront about this several months earlier. “There’s no doubt” she said, “that the seemingly polite people can be disruptive and infuriating and even lead to others getting in trouble for losing their tempers with them and getting in trouble for incivility. (It’s happened to me a couple times, for sure.)” (“Archive 2,” 2015). And it had happened again, but this time in front of the arbitration committee.

One user offered a solution to the GGTF’s problems one day after Carolmooredc was banned. The user self-identified himself as a man who agreed “with many of the principles of feminism” but cautioned that because the task force was “couched in terms of feminist studies,” he thought it “turns a lot of women away from the project” and that “[i]t may be helpful to keep discussion of principles and goals as general and inclusive as possible” (“Archive 6,” 2015). This statement is a textbook example of “tone policing” where a troll is “pretending to be an ally” but “they dislike the tactics of feminists because they’re too militant. If only they’d be more polite, the concern troll argues, they’d get further with their goals, when in reality, the likelihood is the troll holds a totally opposing viewpoint” (Stokel-Walker, 2018).

The problem of anti-feminist trolls on Wikipedia was not unique to the GGTF. At the same time as the task force’s arbitration was being heard, the committee was also deliberating on user conduct concerning the #gamergate controversy (“Case/GamerGate,” 2015) — a Wikipedia page that detailed the events of Gamergate which was “an online movement that used the strategies and tactics of participatory culture to target feminist media critics and game

developers” (Marwick and Lewis, 2017 p. 8). As Marwick and Lewis explained about Gamergate, its participants were threatened by the rise of popular feminism and “asserted that feminism—and progressive causes in general—are trying to stifle free speech, one of their most cherished values” (p. 8). By comparing the names of those involved with the #Gamergate arbitration, the list of usernames on the GGTF talkpage, and the listed members of the GGTF at the time of the case, I found that six of the twenty-seven involved parties of the #Gamergate arbitration were also non-member discussants of GGTF talkpage, with an additional five presenting evidence in the case. When that arbitration was closed in January 2015, the committee ruled remedies for four of the six named GGTF users: two admonishments, and two bans from the topics related to Gamergate (“Case/Gamergate,” 2015). By the end of January, the task force members had been involved in two arbitrations.

The on- and off-wiki response to these arbitration decisions centered on how the committee dealt with issues affecting women Wikipedians. As the *Washington Post* reported, “opponents of the [#gamergate] ArbCom decision accused the group of failing to support women more aggressively” (Dewey, 2015). Writing for *Slate*, David Auerbach argued that “[w]ith the Arbitration Committee opting only to ban the one woman in the [GGTF] dispute despite her behavior being no worse than that of the men.” He argued that “it’s hard not to see this as a setback to Wikipedia’s efforts to rectify its massive gender gap” (Auerbach, 2014). This, he further explained was due to the fact that “[i]n practice, administrators tend to protect those they know [...] while disciplining unfamiliar editors and ideological opponents.” In February, Wikipedia’s internal newsletter covered the same ground, pointing to the fact that the gender composition of the committee had been eleven men and one woman (Go Phightins!, 2015).

Politically speaking, Carolmooredc was crucial to the maintenance, design and scope of the task force's challenge to change the Wikipedia's community so that it integrated the concerns of women. She was responsible for 36 of the 178 discussion threads from June to December of 2014 — which was twice as many as the next most frequent poster, SlimVirgin. Carolmooredc was also responsible for the most edits (73 of 252 total) to the project page. If the GGTF represented a political group attempting to challenge community consensus, as the statements of the arbitration preliminary decision recognized, then Carolmooredc was the most obvious target. By removing her dissenting presence from Wikipedia, the committee was doing its prescribed duty of consensus building.

February 4, 2015 — *The Dissensus of Performing*. In the wake of the two arbitration cases a new expression of dissensus was emboldened by these events. On February 4th, SlimVirgin revised the talk page header to clearly indicate that the talk page “should be a place where new women editors feel comfortable posting” (Figure 28, 2015-02-08). Up to this point, the talk header described users with the gender-neutral term “editors.” But here she used the gender-inclusive term “women editors.” On the same day, SlimVirgin used the OneClickArchiver to archive a closed discussion that began with a complaint that the We_Can_Edit.jpg used on the project page “invites suggestions that the woman must be stupid because she thinks editing is a matter of brawn instead of brains” (“Archive 8,” 2015). On the 8th, SlimVirgin added a new image from Wikimedia's *Grantmaking Quarterly Review* (Wikimedia, 2014a) with the words “Fewer female contributors = less content, lower quality, systemic bias” (Figure 23) as well as the tab header template to the talk page (Figure 29, Tab Header, 2015-02-08). Near the end of February, she also started writing the essay “Writing about women” which eventually contained many of the concerns about how to deal with gendered

content, language, and images that had been raised in GGTF talk page topics (“Wikipedia:Writing about women,” 2015). This activity of archiving, making changes to the project page, creating pages, creating discussions and updating features on the talk page resembled the same activities members engaged in during the discussion about changing the task force’s name back in July 2014. There was a compositional shift underfoot, although this time it was not announced with a survey or a majority ruling. It was in the performance of the collectivity itself.

A month earlier, a GGTF discussant named Lightbreather created an experimental space that exploited an unforeseen but non-violating loophole around userpages. At the time, the guideline for userpages stated that “Policy does not prohibit users, [...] from removing comments from their own talk pages” (“Wikipedia:User pages,” 2015). This allowed Lightbreather to create a subpage of her userpage and was able to control and moderate the content herself. She called it the “Kaffeeklatsch” and intended to test “a women-only space” where members were asked to sign a pledge that they are a “woman (cisgender or trans-woman, of any sexual orientation)” (“Kaffeeklatsch,” 2015a).

This idea was attached to her proposal to Wikimedia for creating a strong version of what the GGTF had been first envisioned as: “An on-wiki area for women only (those who identify as women) to recruit, encourage, and support other women editors” (Wikimedia, 2015). In February, the Kaffeeklatsch became the subject of a “Miscellany for deletion” debate. She explained that Kaffeeklatsch served “as an experiment” of how her IdeaLab proposal could work that stayed within the social policies of Wikipedia (“Wikipedia:Miscellany_for_deletion,” 2015). The topic was posted to the GGTF talk page and users weighed in. The votes for deletion reasoned that this space could be seen to violate WP:CANVAS,

WP:NOTASOCIALNETWORK, that “community consensus holds ultimate judgement over userspace” and that it violated the principle that Wikipedia is an encyclopedia “that anyone can edit.” Votes for “keep” stated that the page did not prevent anyone from editing the encyclopedia, and that the invocation of those policies were speculative and not based on what the space was actually doing (“Wikipedia:Miscellany_for_deletion,” 2015). Lightbreather then returned to the IdeasLab page and wrote that after the backlash over Kaffeeklatsch, it might be better for her proposal to be under the control of the WMF. This would also allow it “to support women across Wikimedia projects and not just women Wikipedians” (Wikimedia, 2015). During an arbitration case that she was involved in, Lightbreather subsequently removed the content of Kaffeeklatsch from her userpage (“Kaffeeklatsch,” 2015b).

What Lightbreather’s and SlimVirgin’s efforts suggest was that they were pushing at the margins of what was socio-technically acceptable within community norms. With the renewed momentum came a continuous stream of disruptive comments on the talk page. One misogynist statement explained that “Wikipedia attracts less women because of the requirement to use masculine-only qualities in dealing with the technical details of the system” (“Archive 9,” 2015). Another statement argued that there has been “no evidence lately that women’s voices here are being drowned out by those of the men” and that disagreements about what counts as sexist content “means that there need to be further discussion and open minds on *both* sides” (“Archive 9,” 2015). The denial of the problem that women were describing and the demands for openness continued to cause tensions.

Those tensions would contribute to the author of that last comment, Karanacs, filing an ArbCom case against Lightbreather in April with the premise to examine “widespread

misconduct,” especially on the topic of Gun Control (“Case/Lightbreather,” 2019). After a majority vote of 9 accepts, 1 decline, and 2 others, the case was opened on May 3, 2015. 433 points of evidence were provided by 21 users, 12 of which were discussants at GGTF. In the process of submitting evidence, some of it included targeted off-wiki sexual harassment but the identity of the harasser was inconclusive. However, due to the investigation of this harassment, another GGTF discussant, Two Kinds of Pork was found to be engaging in off-wiki harassment unrelated to the case and was blocked from Wikipedia. For the majority of the arbitrators, the harassment and Lightbreather’s conduct were two separate matters. The evidence brought against her was extensive and resulting in a unanimous decision that Lightbreather should be banned from the topic of gun control, have a limited capacity to revert other’s edits, and she was limited to editing only articles, her userpage, and their respective talk pages (“Case/Lightbreather,” 2019). The most contentious decision was to ban her from the site in a 9 to 4 vote. While some arbitrators saw it as the only option, GorillaWarfare opposed it. She argued that “I think that some consideration must also be given to the abuse that Lightbreather suffered during this case. It’s a difficult balance—we do not want to sanction and accuse someone of conduct that carries serious real-world legal repercussions unless we are incredibly certain, but we (well, I at least) also do not want to siteban someone who refused to stay quiet about the harassment” (“Lightbreather/Proposed decision,” 2016). In defense of Lightbreather, SlimVirgin argued that the proposed decision to ban Lightbreather gave the impression that “women who are being baited are expected to keep quiet or stop editing. LB’s main flaw was that she refused at each and every point to shut up about it” (“Talk:Lightbreather/Proposed decision,” 2016).

Lightbreather’s situation aligns with Danielle Citron’s description that “instead of slowing down an online mob, counter-measures may sustain the life of the attacks. The very

purpose of many online attacks is to force victims off the net; the mobs are likely to respond with particular venom against a victim who not only stays online but tries to fight back” (2009, p. 105). In view of the role that harassment played in this case, the “Remedies” also included inviting the community to “create and maintain a page containing practical advice and guidance on dealing with serious harassment” and to assist the WMF in improving safety policies (“Case/Lightbreather,” 2019). On July 17, 2015, the case was closed.

In the months following Lightbreather’s case, the only woman on the panel during arbitration explained her position on the decisions. In an article for *The Atlantic* GorillaWarfare described how “biases appear in the committee’s decision-making” because of the fact that “ArbCom members are mostly male.” However, she provided the caveat that “I don’t think anyone on the Arbitration Committee is intentionally trying to keep women and other minorities out of Wikipedia, but I do think that the decisions sometimes have that effect.” By the time the article had gone to print, the committee had elected a second woman (Paling, 2015). As a result of this specific article, Lightbreather’s Kaffeeklatsch was restored because it now had “historical interest” (“Wikipedia:Requests for undeletion,” 2015).

July 16, 2015 — *The Dissensus of Expanding*. The decision concerning Lightbreather was the second time that a vocal and active woman from the GGTF was banned from Wikipedia. On July 16, one day before the close of the case, members of the GGTF and other users began drafting a policy on sexual harassment (“Archive 10,” 2015). Four days later, SlimVirgin announced that the WMF had created “a new user group for women and allies, the WikiWomen’s User Group” (“Archive 10,” 2015). In line with the intent that Lightbreather had expressed in January for a WikiProject:Women, this space was open to women on all of

Wikimedia projects and designed to be a space to “collaborate on projects, discuss issues, and socialize with each other” (Wikimedia, 2019c).

Additionally, there already existed a WikiProject:Women that was started in 2013 and had only one edit (“Wikipedia:WikiProject Women: Revision history,” 2020). But over the course of July and August 2015, this page was edited 320 times largely by three users: Encyclopædius, Ipigott, and Rosiestep. Of the three, Rosiestep had been commenting on the GGTF for the past year. In October 2015, the WikiProject described itself as “a group of editors who aim to improve Wikipedia’s coverage of women’s topics” and “brings Wikipedia users of all genders, sexual orientations, geographic locations, and personal backgrounds together” (“Wikipedia:WikiProject Women,” 2015). This space became an umbrella project for a host of other WikiProjects related to editing topics about women. This included the WikiProject:Women in Red, “launched with the main aim of creating more articles about women” which was started on July 18, 2015 by Victuallers, another GGTF member (“Wikipedia:WikiProject Women in Red,” 2015). These actions show that GGTF members were branching out, creating, and expanding into a network of dedicated projects. They were making up and taking up new spaces of their own.

The project page also underwent its own aesthetic changes that reflected that the task force was in the process of changing. On August 20th SlimVirgin removed the Grantmaking image, and a day later she replaced the “We can edit” image with the image of the Pompeian woman (“Gender Gap Task Force,” 2015). She also made a minor but crucial edit to the talk page header on the same day, removing the description of “women editors” from the talk header’s sentence that stated that the talk page “should be a space where new women editors feel comfortable” (“Talk header,” 2015). Three days later she edited the archive box on the talk page

so that it contained links to the three arbitration cases that had involved GGTF participants and disrupters (“Wikipedia talk: Gender Gap Task Force,” 2015). In this sense, the archive box did not just have a technical function of locating old discussions. It was being used to the organizational history of the task force.

As these transformations were happening, SlimVirgin also posted a link to an article subtitled “Misogynist Infopolitics and the Hegemony of the Asshole Consensus on English Wikipedia,” which was written by Bryce Peake (2015) who had been a contributor to the GGTF talk page between September and October of 2014. The response to this article was immediately celebratory. However, some members of the GGTF were uncomfortable with this response. With the topic headline “Incivility,” one user expressed that “I find it very disappointing that people are ‘doing a little dance’ when the community are referred to as ‘Assholes,’” adding that “it only serves to exacerbate the situation to call it that” (“Archive 10,” 2015). While this statement connects incivility with impoliteness, others suggested that it was an apt description of Wikipedia and that the topic heading was “tone policing a very visible callout about very visible behavior and it’s ridiculous in the face of the rampant sexism (and racism, and transmisogyny) that has driven women (and men, and nonbinary folk) away from Wikipedia (“Archive 10,” 2015). After a number of denials about sexism, the discussion largely turned into a constructive discussion about how to change the cultural and social atmosphere of the encyclopedia.

Despite the fact that new projects were taking off and there was additional discursive energy to address the gap, the activity of the task force itself was noticeable lower, leading to only a small swell of commenting after July (Figure 33). In December, the overall effect of the previous months was noticed by one user who asked “Why isn’t the GGTF more active? [...] isn’t this exactly what the detractors wanted? For us to give up?” While they provided an

inspiring message of hope for rekindling the task force, the next three years would tell a different story (“Archive 11,” 2018).

March 24, 2016 — *The Dissensus of Pacing*. In February 2016 only two new threads were created and neither of these turned into a discussion (“Archive 11,” 2018). This level of inactivity had not been seen since April of 2014. At the same time, the task force’s list of participants climbed incrementally, reaching a total of 100 members on March 24, 2016 (“Gender Gap Task Force,” 2016) and gaining another 47 participants during data collection for this research in May 2019 (Figure 24). But this increase did not translate into the same trouble it encountered in June 2014. When the GGTF reached its 100th signed participant in 2016, the intensity of the past two years was behind them and it would not return during the next four.

This slower pace of the task force was reflected in changes made to the talk header which was less of a warning than welcoming of “friendly discussion about anything related to closing Wikipedia’s gender gap, including asking for help with articles, AfDs, and so on” (Figure 28, 2016-12-12). The new tempo was also reflected by the fact that the automated archive period was extended to a lengthy 60 days which was up from 20 days in 2014 (Figure 29, {{archives}} 2019-05-22).

Occasionally, the talk page was punctuated with an energetic topic, as was the case in July and December 2016, as well as October 2017. In the July instance, a discussion about developing a policy on sexist imagery broke out. Two discussants objected to using feminist discourse to define sexism, with one stating that it struck them “as being way too compact and difficult to interpret” (“Archive 12,” 2018). However, given the different scenarios, SlimVirgin and other users argued that this language would help clarify the subtleties of the issue. In December there was a long thread about the WMF asking the community for ideas about the best

way to pursue inclusivity and safe spaces. This thread then turned into a discussion about how to report harassment (“Archive 12,” 2018). In October 2017, eight topics were created with one lengthy discussion about the ethics of including sexual assault allegations within biographies of living people (“Archive 12,” 2018). While these discussions were the most active, most of the other were short discussions of links to related news, initiatives, and related WikiProjects. Other times — and overwhelmingly more frequent — short discussions were dedicated to talking about editing articles (Figure 26). The task force was working but the overall dynamic had changed.

Despite six years of tumultuous interactions, harassment, project disrupting discussions, three arbitration cases, and two vocal women being banned, the task force survived an anti-feminist backlash against efforts that highlighted feminist views and the concerns of women. It had also turned into a networked hub and incubator for other projects and articles, including the WikiProject Women, ideas about off-wiki spaces for women, an essay on writing about women, amendments made to the harassment policy, the starting point for edits to legions of articles about women, and a social network of women and allies dedicated to improving the encyclopedia and setting the groundwork for more to join.

Obviously, these are successes and successes that must be celebrated. But there is a question that remains. What sort of encyclopedia was Wikipedia six years later? What can be said about women Wikipedians and how they fit into the impossible desire of encircling all knowledge through community? What type of people populate this encyclopedic utopia after the Gender Gap Task Force?

Open to All: The Assimilation of the GGTF

What stands out in the chronicle of the GGTF's history of dissensus was that it was disrupted by trolling, harassing, and misogynist statements that attempted to raise the cost of contributing to Wikipedia. As Citron (2009), Marwick and Lewis (2017), and Banet-Weiser (2018) described, these types of activities happen across online platforms. But what makes these situations particular to Wikipedia was that its anti-feminist backlash and the sabotage of the GGTF was supported by Wikipedia's political design — the very one that was imagined to be able to *increase* participation and the democratic capacities of producing encyclopedic knowledge.

Given the breadth of the chronicle of the GGTF, it is time to engage more directly with how this political design interacted with consensus, dissensus, and hegemony. In 2013, when SlimVirgin first approached the WikiProject Countering Systemic Bias, she described how she saw there was more to be done about gender bias beyond being “focused on articles.” She suggested there should be “a task force to deal with gender bias in all its forms” on Wikipedia. (“Wikipedia talk:WikiProject Countering systemic bias/Archive 14,” 2013). By the end of June 2014, it was clear that such a project was controversial and was being sabotaged by anti-feminist efforts that represented the community consensus that Wikipedia is an “open” space. The task force responded by using techniques of consensus as a defensive bulwark to create a space for women's differences to be recognized and made meaningful. This included archiving threads that redirected the scope of the task force, closing discussions that were disruptive, shaping discussion through talk page design elements, and using the project page to present the GGTF as a feminist and women-oriented space. The August after Lightbreather's arbitration case closed, it appeared that these efforts had worked and the dream of addressing the gap in all forms was gaining momentum. Task force members contributed to a sexual harassment policy, an off-wiki

space dedicated to women and supported by the WMF, and there was a burgeoning WikiProject network dedicated to articles about women. Furthermore, women and allies were using queer and feminist articulations of gender-inclusive language as a means to counteract the gender-neutral and discursive appeals for equality. All of these efforts further enclosed and fixed the meaning of the gender gap within a feminist framework. But these successes were also being channeled toward a response to the gender gap that was compatible with the consensus of the community.

Just like the gender gap mailing list, the WikiWomen User Group existed as part of Wikimedia, not Wikipedia. But when women argued for their own space *on* Wikipedia in order to build alliances amongst themselves, they were met with hostility and demands for openness. SlimVirgin saw this when she described the GGTF as a friendly place for women and she was told that this unfairly excluded men (“Archive 2,” 2015). When women attempted to act collectively to change the level of representation of women in articles, the policy of canvassing was invoked to limit women from working together *as women* interested in concerns that may concern them (Figure 32). When the interactions at the GGTF were considered for arbitration, it was argued that without the voices of men present to criticize women’s comments, it would become an “echo chamber” (“Interaction at GGTF”, 2019). When Lightbreather attempted to create women only spaces, the responses to her proposals chilled her intent to start one on Wikipedia (Wikimedia, 2015).

From the perspective of encyclopedic knowledge, the GGTF as a women-only space threatened the imagined equality between all editors that served as the basis to ensure that consensus was always possible. This situation stemmed from the political imaginaries that influenced Wikipedia's political design. As Chapters 5 and 6 demonstrated, Wikipedia's pillars of civility, freedom, and neutral points of view attempted to replicate a governing rationality of a

community. Within various articulations, this community was expressed as a consensus achieved through Habermasian deliberation, Hayekian exchanges between individuals, or Deweyian forms of participation. The conceit of all three positions is that consensus is not just one outcome of encountering others. The primary goal is to create an all-encompassing, non-coercive community. It is within this process that Wikipedia asserts its ability to curate and manage the vast flows of humanity's knowledge. All the contentious differences are imagined to be filtered out by its community members.

However, if groups of editors could be considered to be distinct from one another, and required different political acts to maintain equality, then the encyclopedia would necessarily lack the capacity to encircle all knowledge through a politically unified community. It would become something else. As one user wrote during the ANI dispute, "there's no such thing as a male or female editor. We are simply *editors* period" ("IncidentArchive853," 2014, emphasis original). The real threat to the encyclopedia of a women-only space was that it would effectively transform Wikipedia's community into a social form that was not identifiable by what it held in *common*. In contrast, if Wikipedia's imaginary was informed by feminist political theorists, the creation of a network of alliances and collectivities would not have been understood as a problem. If anything, the move to create a space of contention to form dissensus would demonstrate Wikipedia's *commitment* to the democratization of knowledge.

Within this framing, the GGTF was not an echo chamber. Its democratic function is grounded in its status as a counterpublic which is a discursive arena "where members of subordinated social groups invent and circulate counter discourses" (1990, p. 67). The transformation of this arena into a women-only space would subsequently produce what Jane Mansbridge called an "enclave of resistance," which provides "partial protection [...] from

hegemonic norms and thought” (2017, p. 106) where its members could construct their identities, political strategies, and ideas (p. 105). So long as the counterpublic and the women-only spaces were committed to the type of civility that Zizi Papacharissi described — “a respect for collective traditions of democracy” (2004, p. 270) — then such spaces would increase Wikipedia's democratic potential, not decrease it.

However, by allowing such a space to exist, Wikipedia would no longer have a common subjectivity that all editors could resort to when differences of opinions were otherwise incommensurable. There would be no guarantee of consensus. Again, critical feminist political theorists argue that if democratic understanding and governance are the goal, then this is a necessary condition. Chantal Mouffe was clear about this when she wrote that “every consensus exists as a temporary result of a provisional hegemony” (2000, p. 104). Further to this point, Katarzyna Jezierska argued that consensus is only “one possible outcome of deliberation,” and certainly not its goal (2019, p. 20). From this perspective, the subjective differences that are legitimated through dissensus should inform the processes that emerge from Wikipedian encounters with one another, instead of being diminished. However, the analysis of the GGTF demonstrated how dissensus was understood as antithetical to the political imaginary of Wikipedia.

Closing off opportunities to create separate spaces for women on Wikipedia was one effect of trying to keep the community unified. Another effect was redirecting the task force’s activity away from changing Wikipedia’s social norms. This was seen when the gender gap was redefined as a gap between experienced and inexperienced users, or a gap between friendly and unfriendly Wikipedians (“Archive 3,” 2015). But this also took the form of discussions and

comments that reinforced the idea that editing articles is the most appropriate activity for closing the gap. Two Kinds of Pork suggested that “This project looks like it focuses on two areas.” One is the focus on the biographies of living people (BLP) and “[t]rying to focus on writing more BLPs about women is about all that can be done.” The second was addressing the “gender gap on Wikipedia” which he described as getting more women to join Wikipedia, but “women aren’t more likely than men to write articles about women” (“Archive 3,” 2015). In both instances, Wikipedia’s problem was conceptualized as a lack of articles about women.

This perspective was carried over into responses to users who tried to change Wikipedia’s culture. For example, Djembayz captured this experience when they tried to stop users from using “sexualized language” and they were told “that something else is really a problem instead, and that I should just move on, be quiet, and write biographies of women” (“Archive 6,” 2015). Months later, the same issue arose after Lightbreather’s case was closed.

“There is a lot of discussion on this page about improving behavioral guidelines, and changing the tone of discussion. While this is important, it does tend to rub a lot of people the wrong way. What if we tried to focus on the other end of the problem, that of skewed content. There are drives of various kinds [...]. Why not one here as well? One could create a list of articles about women which are in need of improvement, and offer barnstars to users who undertake this, for a certain time period. Surely nobody could object to this?” (“Archive 10,” 2015)

One user rebutted by saying that “if anything can be done about the problem it will have to be done through policy reforms aimed at affecting the culture of Wikipedia.” The original poster responded that their plan for editing articles addressed the gender gap “in a way that doesn’t have the opponents of this task force kicking and screaming” (“Archive 10,” 2015). In this case, this comment was not only an act of tone policing; it argued that changing the culture and the policies of the community would be met with severe resistance. This combination of stopping any possible establishment of a woman-only space on Wikipedia, the threat of intense

resistance to policy changes, and the contrasting acceptability of editing articles about woman provided a clear channel of political action that would be the least costly to woman who wanted to be involved in closing Wikipedia's gender gap. In other words, so long as women wanted to contribute as encyclopedic editors, the costs of participation would be low. But the costs of changing the structure and the processes of Wikipedia would be high, as Carolmooredc and Lightbreather's harassment and arbitration cases attested to.

This helps to explain the types of preferred interventions that emerged after 2015, such as how discussions from 2016 onward largely focused on articles (Figure 26). It also partially explains the continuing success of projects operating under the WikiProject:Women. As of May 2020, these project had 234 members ("Wikipedia:WikiProject Women/Members," 2020), and a total of 1431 articles that ranged in quality from "Good" to "Featured" ("Wikipedia:WikiProject Women in Green," 2020), meaning they met the criteria of being well written, verifiable, neutral, stable, provides broad coverage of the topic, and illustrated ("Wikipedia:Good article criteria," 2020). And in keeping with the pressures to keep spaces about women "open" the WikiProject:Women described itself as welcoming "of all genders, sexual orientations, geographic locations, and personal backgrounds together" ("Wikipedia:WikiProject Women," 2015).

The shape of the GGTF after the backlash speaks to something very specific about how women's concerns and demands for change were shaped by hegemony. Vetter and Pettiway (2017) described that some queer feminist interventions interrogate Wikipedia's policies and "dominant knowledge-making practices" by pushing them to their limits and beyond their original intent. Lightbreather's Kaffeeklatsch was a practical non-academic example of this kind of activity. It also demonstrated the kind of backlash that women received by trying to subvert

community norms. Another form of direct praxis is the “assimilationist intervention” which Vetter and Pettiway described as working “directly with or within an interface’s community to alter the interface’s ideological landscape” (2017). They noted that within Wikipedia, these types of efforts manifest through actions that “provide more representation of marginalized topics or identities are often accomplished through Wikiprojects” (2017).

What becomes clear then is that the GGTF began as a response to assimilationist interventions already underway and sought to speculate on how to make Wikipedia a different kind of space. The task force also understood that correcting the course of the encyclopedia could not be achieved through the aggregate of individuals making independent edits. The weight of the status quo would crush every isolated effort. What was needed was the formation of a network of alliances as well as collective — rather than individual — action. It required the composition of a “we” that could unite women in their desire for dissensus. But through the series of aggressions, harassment, and disruptions, feminist interventions were channeled toward assimilationist actions that reinforced the gender-neutral and individualist subjectivity of the “editor.” This also corresponded with shifting away from interventions that fostered a collective subjectivity and gender-inclusive subjectivity of “Wikipedian women.” What is fascinating about this situation is that Wikimedia’s CEO already articulated this problem. She stated that Wikipedian men approach editing as an “individual contribution,” whereas women approach editing as a “social action” (Balch, 2019). However, it is not just a difference between men and women and their preferences. In the context of the imaginaries, techniques, and practices of consensus, Wikipedia’s political design was purposefully built around the subjectivity of a neutral, universal, individualist and solution-oriented editor. Likewise, the political design of Wikipedia maintains the legitimacy of this subjectivity by directly limiting imaginaries,

techniques, and practices of collective and social action. Therefore, any hope of bridging this gap requires a fundamental reimagining of how Wikipedia “thinks with” its community.

As the preceding chapter described, both knowledge and consensus share a common characteristic. Their meaning is situated in the imaginaries, techniques, and practices that are enlisted to make each sensible. Neither knowledge nor consensus have a single, monolithic, and original meaning. Instead, each epistemic and political situation operates within an order of discourse that sorts meanings according to what is considered to be culturally valuable and what is not. Wikipedia was designed so that it filtered disparate information and knowledge practices through the screen of an inquisitive community. When they saw the limitations of print media, they asked how they could enable digital access. When Wikipedians saw tall hierarchies, they asked how they could level them. When they saw uncertainty, they asked how they could resolve it. When they saw closed spaces, they asked how they could make them open.

The trouble that Wikipedia finds itself in today is not because these efforts in themselves were wrong. The trouble is that its answering these questions was viewed as solving a problem. In each of these binaries, the epistemological conditions of authority, hierarchy, subjectivity, and difference were considered to be unnecessary limitations that restricted the capacity to produce egalitarian, equitable, neutral, and unified knowledge. Because of this view, the answer was seemingly obvious to the community composed mostly of men: design a system of knowledge production that diminished the first set of conditions and amplified the second.

The mistake was the assumption that Wikipedia substituted the flaws of past structures of knowledge with the apparent “openness” of a new one. In doing so, this community overlooked the clear contradiction that a community is as much an expression of what is common as it is

what excludes as uncommon. What must be recognized is that knowledge emerges from the interplay and negotiation within this incommensurable situation where openness and closure are adversaries. Any resolution is temporary, provisional, and situated.

The historian Richard Yeo touched on this without noting its importance. He wrote that “[f]or at least the last thousand years encyclopedias [...] have had to confront an apparent absurdity: the combination of universal knowledge and alphabetical order” (1991, p. 24). This unresolvable tension between the whole and the partial is not an “absurdity,” it is an intellectual activity that makes encyclopedic media, encyclopedic. Tacitly, Wikipedian practices of negotiating the conflicts between policies already reflects this tradition. As Thomas Leitch argued, the strength of Wikipedia lies in its ability to reflexively address “the paradoxical nature of authority” that emerge when assessing what counts as knowledge (2014, p. 38). However, the one area where the GGTF demonstrated a lack of this reflexivity was the way Wikipedia presumed that it represents and produces consensus.

The women and allies of the GGTF confronted this assumption head on. They struggled with how to maintain the principles of the encyclopedia while also re-articulating them so that Wikipedia had the capacity to address their experiences of knowing and knowledge production. They were attempting to restructure the encyclopedia from a position that Daniela Rosner advocated for of all designers: they were addressing the “frictions and resonances” between the “disembodied ideal to lived experience” (2018, p. 15) of Wikipedia’s design. The consequence was that it was those same ideal principles that were being used against them.

The GGTF was continuously fenced in by a limited set of discourses and behaviours that maintained the apparent naturalness of Wikipedia's community. These women pushed back, and many times went beyond those limits that did not meet their epistemic needs to make

encyclopedic content. This meant reimagining Wikipedia through a lens that was clear about the epistemological limits of community and hegemony.

Nearly a decade ago, Joseph Reagle argued that Wikipedia's consensus policy suffered from a one-dimensional understanding of the politics of knowledge. For him, Wikipedians needed to recognize was "that consensus and dissensus each have an important, and unavoidable, role in community" (Reagle, 2010, p.46). Likewise, the quintessential paradox of the "open" encyclopedia, as Nathaniel Tkacz pointed out (2014, p. 33), was that it overlooked the inconvenient condition where *the political* is always laced with explicit and implied forms of closure (2014, p. 33).

The negative impact of the dogmatic reliance on consensus and openness have administered havoc within Wikipedia's culture, its editors, and the women of the GGTF. By analyzing Wikipedia through the ontological mode of utopia, the function and nature of the gender gap was made clear. It is not just an external social phenomenon. Wikipedia's particular expression of anti-feminism is not found only in individual acts of harassment that "raise the price vulnerable people have to pay to maintain an online presence" (Citron, 2009, p. 68). It is found in the policies, the techniques, the user interface, and the very imagination of the encyclopedia that set clear boundaries for who is included, what they can know, and how.

The Wikipedian "editor" was designed to be a universal subject; it is a role that anyone can fill. But it also demands exclusivity. Anyone who acts as a Wikipedian within the encyclopedia is *only* a Wikipedian. The consequence is that in designing the gender-neutral and solution-oriented "editor" — a grand gesture of generality and pragmatism — the encyclopedia lacked the political specificity to recognize how knowledge is situated. This identity has been designed to be hostile to those who integrate their collective identities into this subject role,

instead of pretending to leave them at the door. As a consequence of this design, Wikipedia's utopian dream is open to all, but closed off to so many more.

8. Conclusion

Design and the Architectural Mode of Imaginary Media

Ruth Levitas explained that the archaeological and ontological modes of utopia should be considered to be interwoven modes since “excavating the assumptions about human nature and human flourishing” are also “embedded in political positions and institutional proposals, as well as in overtly utopian literature” (Levitas, 2013, p. 177). I have attempted to show the utility of this method when focusing on questions of encyclopedic knowledge and power. For analytical purposes I organized my analysis as four permutations that emerge from two modes of utopia and the two foci of knowledge and power. But in doing so, it was necessary to augment Levitas’s approach with the analytical language of Ernesto Laclau and Chantal Mouffe’s discourse theory.

This played out within each chapter. For example, the combination of the archaeological mode of utopia and knowledge was examined in terms of the field of discursivity that surrounded encyclopedic knowledge. This provided an extensive understanding of the variety of expressions attached to the meaning of encyclopedias. It was only after exploring this topography that I was able to identify how Wikipedia’s political imaginary of consensus existed as a discursive nodal point *within* the genealogy of encyclopedic knowledge itself. Chapter 5 followed this lead and excavated the discursive sediments that articulated hegemony as encyclopedic inheritance in the form of consensus. The next two chapters followed the same pattern but switched from a focus on excavation to identifying utopian ontologies of knowing subjects. Chapter 6 did so by reverse engineering how the concept of Wikipedian consensus was embedded within its consensus policy and the structure of its interface. Chapter 7 then used the conclusions of Chapter 6 about consensus as an analytical framework to chronicle the order of discourse that was used to limit the capacity for Wikipedian women to create a legitimated dissensus. Theoretically, each of

these chapters stood as testaments for the ease by which media archaeological sensitivities to the meanings and materials of discourse aligns with utopia as a method.

However, one of the critiques that both Eric Kluitenberg and Jussi Parikka raised was that media archeology inadequately addresses the concerns that deal with the future of media. Specifically, Kluitenberg argued that any critique of imaginary media should also involve “improving future prospects for media” (Kluitenberg, 2011, pp. 54–55) and that media archeology will only remain a resonating form of analysis if it contends with the question of “how to retain a certain utopian potential for the media” (p. 55). While she did not speak about the field specifically, Levitas commented about the consequences of the postmodern ideas of “contingency, provisionality and reflexivity” that has fueled the theoretical base of media archaeology (p. 103). In discussing the social theories of the 1970s she remarked that the influx of these ideas downplayed systematic analyses “in favour of questions of representation and literary form” and “‘openness’ was preferred to ‘closure.’” “The risk,” she argued, “is that utopia becomes a vehicle only of critique rather than of transformation” (p. 103). The best sociological work, in her opinion, “implied a dialectic of openness and closure, transcending that binary through an implicit though not yet conscious treatment of utopia as method” (p. 103). In many ways, this is the same diagnosis that Parikka and Kluitenberg have announced for media archaeology.

To bridge this divide between critique and transformation Levitas provided the third and complementary mode called architecture that is the focus of this final chapter. To reiterate her description, this mode uses “the imagination of potential alternative scenarios for the future,” and acknowledges “the assumptions about and consequences for the people who might inhabit them” (p. 153). But importantly, it works in tandem with the other two modes of utopia by becoming

the aesthetic realm by which “critique may find expression” (p. 100). While she enrolled the guidance of utopian literature as examples of this mode, she did not provide steps for how to mobilize it from within scholarship. In part, she acknowledged that academic models are scarce as critical sociology is premised on critique rather than the production of utopia (p. 95; p. 98).

This was the same concern that Parikka (2019) raised when considering how to push the insights of imaginary media toward more explicitly political goals. His solution was to bridge the gap by relying on design and its temporal orientation to the future. Even Levitas’s nomenclature of *architecture* is suggestive of design’s deep facility in this mode. This is particularly true of Rosner’s understanding of design where “its heritage, discourse, practice” is “a means of making the world different from how it is now” (2018, p. 9). Given these parallels, I argue that one of the most appropriate means to mobilize the architectural mode of imaginary media is through the lens of feminist design. It has the inherent capacity to enclose, to provide form, as well as reduce and channel meaning toward specific interpretations. But in the paradigm that Rosner describes, feminist design is dedicated to negotiating the ambiguity between “disembodied ideal” and “lived experience” (p. 15).

This was demonstrated through the past three chapters where I described how the utopian imaginary of an encyclopedic community became embedded within the design of Wikipedia’s interface, policy structure, and the situated experiences of Wikipedians. The meaning of Wikipedian consensus therefore became synonymous with the places where it has been imagined: the article and project pages, the talk page, and editing page, and the history page. In other words, the imaginary of community consensus is made sensible through the actual manifestations of design, and in the process, became re-articulated by the political actions of both groups and individuals that this design affords. But as Chapter 7 demonstrated, these

structures were exploited for anti-feminist purposes and to deny women the space to collectively dissent against community consensus. It is therefore necessary reconsider the alignment of imaginary media with design. But to be clear, I have some reservations about this prospect. To illustrate my concern, I have collected a number of examples where design practices have been used to reimagine encyclopedic knowledge in the twenty-first century.

The content of Wikipedia is technically and economically available for users to use it as they see fit. This freedom has made it perfect playground for designers to reimagine its form. For example, there are online portfolio platform's where designers have created compositions and mock-ups for what Wikipedia could look like (dribbble.com, 2019). There is also a full-fledged app called "V for wiki" which is infused with typographic and user-interface techniques to improve Wikipedia's reading experience at the price of \$3.99 (US) (Raureif 2014; Jockin, 2016). Likewise, there is also a free browser extension called WikiWand which also serves to "reskin" Wikipedia to make for a better user experience (Sawers, 2015). However aesthetically pleasing these redesigns are, they are designed primarily from the perspective that an encyclopedia should be "read." As a consequence, these "redesigns" are little more than epistemological extensions of the consumption model of knowledge that has dominated the production of encyclopedic knowledge for the past two hundred and fifty years. Their intent is to cultivate systematic readers and readers of systems. Such designs do not make Wikipedia new. Instead, they are designs for a better commodity.

In contrast, there is a tangent of computer science and communication studies that has also experimented in applying techniques for data visualization to convert Wikipedia's content into different kinds of information. Some researchers used their skills in visual design to display

edits as indicators of Wikipedian conflict (Wattenberg, Viégas, and Hollenbach, 2007). Others have rendered Wikipedian content as a network of semantic relationships between words that are graphed by a neural net (Yamanda, Hiroyuki, Hideaki, and Yoshiyasu, 2018). One stand-out example of this perspective of reworking Wikipedian content as visual information comes in the form of “Contropedia” (Flöck, Laniado, Stahaus, and Acosta, 2015). By connecting each edit to an editor, the designers created a prototype that displayed the degree of conflict over individual words. In these cases, instead of a better reading experience, the designers were tackling the question of how best to visualize the latent semantic and social data that supports the creation of the encyclopedia. Another more theoretical-based approach to highlighting the contested nature of Wikipedia articles was to speculate on ways of bringing contested talk page discussions into the article mainspace to offer the “opportunity to experience knowledge production as a contested and ongoing discourse that privileges certain identities and cultural hegemonies and marginalizes others” (Vetter and Pettit, 2017).

An altogether different trajectory of design is to redesign the users themselves. On the serious side of this activity is an app like WikiWash which was created for journalists who watched who was making edits to articles and topics trending in the news (Sobot, 2014). Or the site Wikizero, which served as an alternative for users in Turkey where Wikipedia had been blocked by the government (Öğret, 2019). But there are other more playful experiments.

For example, users are transformed into tourists when they use Wikipedia as a tour guide during plane or road travel (Matchar, 2016; Ubl, 2018). Other designers imagined that Wikipedian users could act as players of a quiz (Baldwin, 2018); a text adventure (Machkovech, 2017); a race game (“Wikipedia:Wikirace,” 2005), or a competitors in a computer science contest to create an algorithm that compresses 100MB of the encyclopedia to less than 16MB

(Hutter, 2017). Some also push towards being poetic: like “Hatnote” which converted live edits into music (LaPorte and Hashemi, 2013); a print version of Wikipedia which exists as an incomplete poetry of book spines (Schuessler, 2015); or a galactic ocean of hyperlinks (Li, 2014; McCormick, 2016).

These latter designs are suggestive. They create conditions where the encounter with the encyclopedia is ludic, poetic, musical, or exploratory rather than utilitarian. But there is a danger in each of these. As Daniela Rosner argued, even the most critically-inclined designers will be drawn to the dominant capitalist paradigms of design: individualism, objectivity, universalism, and solutionism (Rosner, 2018, pp. 13–14). Some of these have a clear purpose outside of reimagining encyclopedic knowledge. One purpose (if not the primary purpose) is to display the programmer’s virtuosity or the designer’s talent. In other words, these experiments serve as promotional materials to sell cultural labour. It is therefore necessary to shift from this kind of design to one that is more attuned to a feminist imagination.

Recommendations for a Feminist Design of Wikipedian Politics

In 2013, the prolific and late Wikipedian editor Adrienne Wadewitz wrote two blog posts examining Wikipedia’s five pillars from a feminist perspective. This served as a starting point for Menking and Rosenberg’s article that took on the same task (2020, p. 2). Based on the feminist concepts of situated knowledge, strong objectivity (p. 11) and a shift “from epistemic products to epistemic processes” (p. 13), they reimagined the five pillars of Wikipedia as a means to shift the focus from Wikipedia as a product to supporting the culture of the community (p. 15). For them, this meant that Wikipedia is more than an encyclopedia, it is “an encyclopedic process” (p. 14–15); “Wikipedia is written by an objective community” rather than with neutral

points of view (p. 16); its integrity is not based on free access to content but on the “its size and breadth of its community” (p. 17); that these pillars should address how to make the epistemic community successful rather than prescribe the idea of neutral individuals editing in concert with one another (p. 18); and an acknowledgement that “Wikipedia is norm-drive (rather than rule-governed)” (p. 18). In Chapter 5 I covered the main points of their reimagined policies.

Following Menking and Rosenberg’s lead, the analysis of the GGTF offers greater specificity for how a feminist redesign of Wikipedia could proceed. It begins by decentering consensus. Aligned with Katarzyna Jezierska arguments, this means moving away from conceiving consensus as a goal. Instead, it is one outcome (2019, p. 16) when one is oriented toward political “understanding:” articulating, reinforcing, and negotiation “who we are” and “who we want to be” (p. 4). But another outcome of this understanding can also be a legitimate dissensus (p. 16) expressed as a “conflict over the common itself” (Rancière, 2004, p. 6). Having a political discourse that makes both consensus and dissensus comprehensible as outcomes requires reconfiguring Wikipedia’s concept of civility.

As described in Chapter 5, Wikipedia’s consensus is justified by supporting the pillar of civility. In Menking and Rosenberg’s review of the pillar, they argued that it “should be reconceived to focus on prescribing behaviors allowing epistemically limited individuals to create a thriving and objective epistemic community” (p. 18). The analysis of civility in Chapter 6 and the conflicts within the GGTF offer a better idea of what this could mean. One of the key conflicts on the GGTF was whether or not the gender of the editor played a role in the production of the encyclopedia. The position of many members of the GGTF and feminist epistemology (Menking and Rosenberg, 2020, p. 10) agreed that the situatedness of our knowledge does play a crucial role. So instead of bracketing Wikipedians’s personal experiences, emotions, and

passions in the pursuit of being neutral interlocutors, these subjectivities and affective states should be seen as strengthening acts of deliberation, not delegitimize it — a point confirmed by many theorists (Fraser, 1997, p. 98; Hauser, 1999, p. 50; Papacharissi, 2004, p. 281; Jezierska, 2019, p. 19; Menking and Rosenberg, 2020, p. 18).

One way to encode this epistemology is to reform the civility policy so that it outlines an ethics of encounter, something akin to Jezierska's "ethos of questioning" where individual deliberative behaviour can be evaluated by the "willingness to publicly justify one's position;" "readiness to listen to the other(s);" and "openness to change one's own position under the influence of the encounter" (2019, p. 22). The necessity of justification would include an acknowledgement of the situatedness of a Wikipedian's knowledge. This would also allow for the "broad admission of utterances" that are not restrained by adhering to one particular custom of speech (p. 19). As such, an anonymous and neutrally stated position would be acceptable, but it would carry less epistemic weight than a Wikipedian who is upfront about how her gender impacts her proposals to address the gender gap. Importantly, this situation values the vulnerability of subjectivity, one that must be cared for and maintained.

Unfortunately, the GGTF was a clear example of how women become targets of harassment when they express their gender or perform feminist practices of dissensus. This leads to the necessity of a second amendment to the civility policy. In following Papacharissi (2004, p. 279), the idea that civility is synonymous with politeness needs to be struck from the policy. This is not to say that politeness is not valuable, but it is perhaps better suited as part of a behavioural guideline rather than an enforceable policy. Instead, civility should be encoded as a "respect for the collective traditions of democracy" (2004, p. 260) which include what is expected in deliberation as one of those traditions. This type of reimagining of civility would also allow the

Arbitration Committee to rule on situations where users “deny others’ rights, threaten democracy, or use antagonistic stereotypes” (p. 279).

The precedent from the GGTF points to the necessity of this change. In Carolmooredc and Lightbreather’s arbitration cases, the committee did not have the policy toolkit to distinguish between the effects on the community of a woman being impolite after being targeted and the effects on the community of men harassing a woman so that the “price” of participation was raised (Citron, 2009, p. 68). By this measure, editors will still be held accountable for their actions, but they will be judged according to a different policy environment; no longer just who was chronically impolite, or broke community norms, but also whose behaviour was undemocratic.

Once civility is rearticulated as a commitment to democratic traditions rather than politeness, then it will be possible to address the consensus policy. Just as Jezierska explained, deliberation does not need consensus, only a pursuit of understanding (2019, p. 23). Whatever name this policy takes, it would need to describe consensus and dissensus as outcomes of encyclopedic deliberation. Likewise, it would need to be supplemented with a description of precisely why dissensus is necessary for the encyclopedia; it would have to define the subject roles that are specific to dissensus (i.e. adversaries, identity, collective subjectivities); the mechanisms of that would be allowed to create and maintain enclaves and counterpublics, as well as spaces where these groups could meet, deliberate, and vote; and it would have to outline the conditions when dissensus is legitimately recognized. In particular, the application of this policy would be reserved for situations where socially coherent groups encounter one another and the decisions of either challenge their respective social identities — when there is a conflict over what constitutes the common unity of this encyclopedic people.

Considering that Wikipedian policies are intended to be descriptive of already existing practices, rather than prescriptive, the actions of the GGTF could be used as precedent. For example, Wikipedian women were challenging the position that a Wikipedian is a homogenous and ungendered identity. Or, the challenge to the idea that Wikipedia is the aggregated activity of autonomous individuals. There are many examples where Wikipedians work together as groups and collectivities, such as edit-a-thons, meet-ups, in response to a request by other editors, for school assignments, or as part of a task force. Additionally, this policy would not be a replacement for the consensus policy. Both policies would provide a check and a balance for the other. Since dissensus is explicitly about collective — rather than individual — disagreement, a feminist redesign would also require a supportive policy for all of these examples of collective editing.

So far, my recommendations have concentrated largely on seeing consensus and dissensus as deliberative outcomes when individuals and groups encounter one another. But this is not the only place where our political-ethical discourses take place. In line with Cornelia Vismann's media archaeological argument (2013), our political subjectivities and our capacity to think of ourselves as part of a "we," are also shaped by our cultural techniques. This is confirmed by the way that Wikipedia's consensus policy is divided between describing consensus that is built on talk pages and a consensus that is represented by edited documents and produced by making edits. In other words, encounters with other users are not limited to deliberation, but also the aggregation of actions. There is a degree of understanding that comes by seeing which decisions have been made and how they function together. Under these theoretical and observed conditions, I make the following policy recommendations.

A feminist design for Wikipedia would also exist at the level of the interface. As was seen in Chapter 6, consensus resonated throughout the structure of the platform. The same must be made true for difference and dissensus. Building upon Jane Mansbridge's argument concerning voting (Reagle, 2010, p. 112), a rigorous and consistent set of voting mechanisms would allow political differences to take an active part in the structure in the encyclopedia. Currently, voting is allowed on Wikipedia, albeit in the limited situations of the Arbitration Committee and within the process of accepting administrators and bureaucrats. While it does not make sense for every decision to be made through voting, it is necessary to discuss the conditions when differences must be legitimated through this kind of mechanism.

This brings us to the matter of groups. One can imagine that the Wikimedia Foundation will continue to use its institutional affordance to create enclaves for Wikipedia communities that have concerns that are unique to them. But a more radical change could be implemented within Wikipedia itself. In the analysis of Wikipedia consensus, it was obvious that the granular social units of the individual (the editor) and the whole (the Wikipedia community) were too coarse to deal with actually existing conflicts between competing epistemologies. A feminist design of Wikipedia would create legitimate spaces for closed social groups.

Currently, Wikipedia already contains a number of explicit and tacitly closed social groups. The largest enclosures are the different language versions of the encyclopedia. But there also exists the WMF, developers, and administrators, who have created different levels of socio-technical enclosures. The value of extending the notion of closed groups can be explained by Sarah Harding's theory of strong objectivity (1993) and Donna Haraway's description of situated knowledge (1998). Both argued that by being honest and transparent about how our knowledge is situated within lived social experience will make Wikipedia claims to knowledge more

objective, not less so. Creating spaces where talk is valued for its maintenance of group formations rather than just article production could also go a long way to facilitate trust and a sense of belonging. In this capacity it would help alleviate some of the alienating aspects of the encyclopedia that have prevented women and other marginalized communities from continuing to edit (Lir, 2019).

From this perspective, the feminist proposals I recommended for addressing the gender gap only serve to rectify Wikipedia's political blind spot to dissensus and difference. There is no possibility of smoothing out the frictions that arise when groups with different perspectives, identities, and epistemic expectations come into contact with one another, either in cooperation or conflict. What is required of Wikipedians is to make difficult decisions about which groups are allowed to make legitimate knowledge claims to shape the encyclopedic process, and which ones do not. New behavioural policies and guidelines need to be drafted. The social norms that are represented within the five pillars need to be further scrutinized along the trajectories provided by Adrienne Wadewitz, Amanda Menking and Joshua Rosenberg (2020). It is expected that none of this would be easy, clear cut, nor uncontentious. In fact, I would expect that it would create more trouble. Which is precisely the point. An encyclopedia worth its name should be committed to exploring that edge of uncertainty, to bring us to the circumference of what is known.

Despite the recommendations I have provided for redesigning Wikipedia, these recommendations can easily fall into what Daniela Rosner identified as design's dominant paradigm, which interpellates subjectivities that are based on individualism, objectivism,

universalism, and solutionism (2018, pp. 13–14). The trouble is that even critical design practices such as Carl DiSalvo’s adversarial design can be seen to be working within this paradigm (2018, p. 38). This poses both a theoretical and practical problem. On one hand, both the architectural mode of utopia and a utopian orientation of media archaeology suggest that design should be enlisted as a methodological partner to engage with utopian formations. But Rosner’s concerns about design are serious and cannot be taken lightly. The application of design to cultivate new political subjectivities may also result in the reproduction of subjects that reinforce rather than challenge hegemony. Rosner was aware of this risk. With a hopefulness that comes with the cultural territory of design, she argued that this risk can be faced head-on if designers engage in actions that “shift the political and historical circumstance of design” (p. 39).

By taking up utopia as a method, two of the four tactics Rosner described as part of these actions have already been enlisted. The archaeological and ontological analyses I conducted served as the means to recognize narratives that are “absented, silenced, or forgotten” (Rosner, p. 81) and “disrupt a dominant design narrative that equalizes across differences, highlighting uneven conditions” (p. 82). She also advocated for “working with” instead of for people by building “a composite of relations” (p. 80, p. 81). While this is a necessary practice, I believe that this activity will be successful in the context of my research if I address her remaining tactic first: to push past the attraction of solutions and prototypes by seeking out “possibilities for maintenance, translation, and exchange” (p. 82).

This means that my recommendations for a feminist design of Wikipedia is flawed but also necessary. While it renders Wikipedia’s gender gap in the rhetoric of solutionism, it does so by maintaining and translating the encyclopedic inheritances of Wikipedia that are worth keeping. As such, I am not advocating for creating a brand-new encyclopedia that should replace

Wikipedia. That would be allowing design to take over and obscure the insights gathered from media archaeology and feminist theories of the political and technological craft; thinking that the solution is the design of another encyclopedia is thinking done incorrectly.

But there is another reality of the political design of encyclopedic knowledge. Wikipedia must operate as if it is always teetering on the threshold between a “we” in the making and a “we” at the moment of collapse. As it currently stands, it is uncertain if Wikipedia is ready to abandon its imagined affordances to follow such a radical proposition. It is uncertain if it can dream of a utopia composed of different people. It is therefore necessary to reflect on the women of the GGTF who faced enormous pressure to conform and bracket their differences of identity. Anyone who takes up the recommendations I have suggested will likely run the same risks that they did: harassment, banning, and the invalidation of their identity as a legitimate contribution to the encyclopedia. It will be a direct challenge to Wikipedia’s imagined affordance. What needs to be redesigned then, is not just Wikipedia’s social policies or interface. It is Wikipedia’s political imagination that needs a designer’s touch — although from a more lateral, indirect, and surprising angle.

Stories about Encyclopedic Media

Redesigns, fictional prototypes, and speculative designs are not up to the task that I have outlined. Each of these activities hold strong commitments to colonizing the future, to reducing risk, and to making the path forward clear — and seemingly inevitable. Utopia as method has no truck with imagining the future as a problem that needs to be solved. In fact, we need to be *more* attuned to its jeopardy, its uncertainty, and its status as something unknowable. To this point,

what is necessary is an architecture of responsibility, one that is adept at “cultivating the capacity for response” (Kenney, 2019, p. 7). We need to design fables for encyclopedic media.

Encyclopedias are already half fables, parables, and stories of warning. Their impossible desires as imaginary media suggest how to respond to the floods and fluctuations of knowledges. However, there are some encyclopedias that exist more obviously in this space of imagination than others. Of course, H. G. Wells’s *World Brain* (1938) and Vannevar Bush’s Memex machine (1945) come to mind. But they share more similarities with design fiction than with fables. Isaac Asimov’s story about the *Encyclopedia Galactica* in his *Foundation* series shares that old intellectual worry that was born out of the flames that burnt the Library of Alexandria to the ground (Thiem, 1979). Asimov was worried that we might forget what we’ve learned, a concern shared with Mamluk encyclopedias which were “aimed to forestall the loss of an entire civilisation’s intellectual heritage” (Muhanna, 2013, p. 347), as well as Gottfried Leibniz’s anxiety about the loss of accumulated knowledge that would result in a “reversion to barbarism” (McRae, 1957, p. 42). But this encyclopedic anxiety does not serve us as a model for designing appropriate fabulations.

Ramon Llull’s thirteenth century parable of the *Libre de plasent visio* is perhaps a closer match. In his *Libre de meravelles*, he described how a book written by an unnamed hermit came into the possession of a king. The king spent days reading the book and “because the volume is beautiful, and well painted and endowed with many figures, spiritual pleasure, because, on account of what he saw with his physical eyes, he was converted to a spiritual vision, by which he saw God and his works in creatures. And the philosopher took pleasure from thinking about past things and the works that the creatures perform” (Franklin-Brown, 2012, p. 34). The

historian Mary Franklin-Brown explained that this imaginary encyclopedia encapsulated the wonder and awe of medieval encyclopedism's response to the growing influx of knowledge.

Three hundred years later Francis Bacon was drawn to the necessity of matching his philosophical considerations of knowledge with literary poetics in his travel narrative, *New Atlantis*. But in one quick passage in the *New Organon*, Bacon wrote the briefest of fables, one that served to outline the epistemological problematique of encyclopedias for the next century: "Those who have treated of the sciences have been either empiricists or dogmatists. Empiricists, like ants, simply accumulate and use; Rationalists, like spiders, spin webs from themselves; the way of the bee is in between: it takes material from the flowers of the garden and the field; but it has the ability to convert and digest them" (Bacon, 2000, p. 79).

The twentieth century has also seen its share of encyclopedic parables and fables. The Italian writer Italo Calvino wrote stories specifically to defamiliarize readers with presumptions of "the total." In his delightful set of *Cosmicomics*, he mixed the scientific seriousness of the *Encyclopedia Britannica* and the *Encyclopédie de la Pléiade*, the literary styles of Borges and Kafka with the playfulness of fables set in the cosmological past (Calvino, 2009, pp. ix–x). While the collection of stories includes "World Memory" — a story specifically about an encyclopedia — it is his "Shells and Time" and its extension "The Spiral" that are his best examples of encyclopedic fables. Centered around the epistemology of a mollusk, the story articulates a kind of knowledge that is contrary to a linear progression. The challenge Calvino presented (2009, pp.145–146) needs to be quoted at length to maintain the message of its form:

after five hundred million years have gone by, I look around and, above the rock, I see the railway embankment and the train passing along it with a party of Dutch girls looking out of the window and, in the last compartment, a solitary traveler reading Herodotus in a bilingual edition, and the train vanishes into the tunnel under the highway, where there is a sign with the Pyramids and the words 'VISIT EGYPT', and a little ice-cream van tries to pass a big truck laden with instalments of Rh-Stijl, a periodical encyclopedia that

comes out in paperback, but then it puts its brakes on because its visibility is blocked by a cloud of bees which crosses the road coming from a row of hives in a field from which surely a queen bee is flying away, drawing behind her a swarm in the direction opposite to the smoke of the train, which has reappeared at the other end of the tunnel, so you can see hardly anything thanks to the cloudy stream of bees and coal smoke, except a few yards further up there is a peasant breaking the ground with his mattock and, unaware, he brings to light and reburies a fragment of a Neolithic mattock similar to his own, in a garden that surrounds an astronomical observatory with its telescopes aimed at the sky and on whose threshold the keeper's daughter sits reading the horoscopes in a weekly whose cover displays the face of the star of Cleopatra: I see all this and I feel no amazement because making the shell implied also making the honey in the wax comb and the coal and the telescopes and the reign of Cleopatra and the films about Cleopatra and the Pyramids and the design of the zodiac of the Chaldean astrologers and the wars and empires Herodotus speaks of and the words written by Herodotus and the works written in all languages, including those of Spinoza in Dutch, and the fourteen-line summary of Spinoza's life and works in the instalment of the encyclopedia in the truck passed by the ice-cream van, and so I feel as if, in making the shell, I had also made the rest.

However, when it comes to creating surprises for the encyclopedic imagination, Jorge Luis Borges has yet to find an equal. His fables are an invaluable source of understanding how to redesign the encyclopedic imagination. For example, the extremes of the cosmological and hegemonic inheritances described at the end of Chapter 4 are eloquently drawn here within the grid of his paragraph-long parable called "On Exactitude in Science," quoted by Umberto Eco (1995, p. 95):

...in that Empire, the Cartographer's art achieved such a degree of perfection that the Map of a single Province occupied an entire City, and the Map of the Empire, an entire province. In time, these vast Maps were no longer sufficient. The Guild of Cartographers created a Map of the Empire, which perfectly coincided with the Empire itself. But Succeeding Generations, with diminished interest in the Study of Cartography, believed that this immense Map was of no use, and not Impiously, they abandoned it to the Inclemency of the Sun and of numerous Winters. In the Deserts of the West ruined Fragments of the Map survive, inhabited by Animals and Beggars; in all the Country there is no other Relic of the Geographical Disciplines.

While this parable of a 1:1 scaled map might be the geographer's preference, encyclopedists might choose the lengthier story of the "Library of Babel." Pushing the universal

inheritance to its limits, Borges imagined the melancholy of librarians in charge of reading the vast (though not infinite) permutations that arose from an architecture of “five shelves for each of the hexagon’s walls; each shelf contains thirty-five books of uniform format; each book is of four hundred and ten pages; each page, of forty lines, each line, of some eighty letters which are black in color” (2007, p. 52). Stanisław Lem lifted this theme of the expanse of discourse in “Verstrand’s Extelopedia in 44 Magnetomes” (1985) but did so by having the vast amounts of insensible text sifted through by artificial intelligence. They could not only sort noise from signal, they also predicted which of these works had written the history of the future.

Each of these stories provide a tether into the uncertain edges that ring the encyclopedic circle. However, it was Foucault himself, who preferred Borges’s fable of the Chinese Encyclopedia, which organized animals by dividing them as “(a) belonging to the Emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) et cetera, (m) having just broken the water pitcher, (n) that from a long way off look like flies.” After its description, Foucault noted that “[i]n the wonderment of this taxonomy, the thing we apprehend in one great leap, the thing that, by means of the fable, is demonstrated as the exotic charm of another system of thought, is the limitation of our own” (2005, p. xvi). From this quotation the entirety of *The Order of Things* followed, with its scathing critique of history and its intervention in our contemporary understanding of encyclopedias. The theoretical language that I have relied so heavily on — media archaeology, archaeological mode, genealogy, knowledge/power — are the trajectories that escaped Foucault’s laugh when he first read Borges’s fable.

Fables are of consequence. Creatures, artificial intelligences, ants, spiders, bees, mollusks, and their adjacent architectures of pleasure, utility, webs, hexagonal hives, and spiraling shells gives us the right amount of distance to refamiliarize ourselves with an encyclopedic heritage. They urge us to respond to knowledge in ways that are surprising, curious, and poetic. They can rupture us like an involuntary chuckle. They weave us together like the metaphor of the web that long served as the basis for our vision of the internet. If we are at a moment of epistemological crisis, as Wikipedia's gender gap has clearly demonstrated, then this is the character of design that is required to retain the utopian potential for imaginary media.

We have some models. But we also need a way. In thinking about feminist fabulation, Kenney posed these important questions that fable-makers should ask: "Does this story enroll? How does it sensitize us to the world? What modes of attention does it teach? Who does it gather together? What response-abilities are strengthened? Which are eroded?" (2019, p. 9). This framing fits neatly into the curvature of Levitas argument that a utopian architecture is not a forecast nor a prediction. It is offered up as a "provisional hypothesis," a dialogue between sorrow and hope, as both "critique and reconstitution" (p. 198). Using these questions as a guide, I answer whether Foucault's *Borges* still serves our current needs.

Foucault used the fabled list of animals as a starting point to work through the arbitrary and calculating nature of our knowledge systems. As Foucault famously quipped, "Knowledge is not made for understanding; it is made for cutting" (1984, p. 88). In line with Foucault's critiques, encyclopedias are inappropriately characterized when they are called "the sum of human knowledge" or are presumed to lead to the unity of humanity. In moving through the genealogy of encyclopedic knowledge, the archaeology of consensus, the discourse analysis of

Wikipedian consensus, and Wikipedia's gender gap it is clear that encyclopedias exceed this designation. They also multiply, subtract, and divide knowledge. In other words, encyclopedias are devices for calculating knowledge. This Foucauldian reading of Borges — or maybe it is a Borgesian reading of Foucault — has served its analytical purposes well. But his sensitivities were squarely focused on the arbitrariness of knowledge systems. He taught us to attend to ruptures more than to continuities. And most importantly, Foucault's most significant failing, as Nancy Fraser so reverently pointed out, is that his "work is normatively confused" (1981, p. 284), narrowly focused on the present-past but incoherent about the present-future. I hear this same critique in Levitas's unnamed social theories of the 1970s that feared closure (2013, p. 103). Tangentially related is the fact that Foucault did not offer the means to respond to his diagnostic critiques — a fact inscribed in his slagging remarks made about the futility of utopia (1997, p. 332).

We need fables that are not so one-sided; they must enroll both critique and transformation. It is helpful here to be reminded of Levitas's key understanding of utopia. It is less of a place than it is a we-making that is stretched between ourselves and a people yet to come. She extended this thought by stating that "the possibility of being otherwise entail remaining open to our vulnerability and jeopardy in encounters with others" (p.186). This is the epistemological condition that needs to be used to underpin our impossible desire. I would add that such encounters are likely to be uncomfortable and unreconciled. And this is why the assumptions of encyclopedias are consequential. They are interfaces between these different knowing subjects.

The genealogy of encyclopedic knowledge was filled with such examples of conflicts between the known and the unknown. When Pliny narrated the *Natural History*, he did so by incongruously shifting from facts of local Roman life to stories of fantasy that were being drawn in from beyond the edge of the conquered territories of the empire. During the medieval period, Saint Vincent of Beauvais's *Great Mirror* took twenty-nine years of experiments before he was moderately satisfied with a means of cobbling together Greek philosophy with Christian orthodoxy. Diderot and D'Alembert's were likewise inspiring because they tried — and failed — to bridge the gap between Locke's empiricism and Kant's transcendental reasoning. The two epistemologies fought against each other and could not be resolved between the pages of the *Encyclopédie*. Most of these tensions continued long into the nineteenth century editions of the *Britannica* where religious knowledge of the world collided with the explosion of scientific disciplines. This same period saw the conflict of attempting to create readers versed in general knowledge and their interconnections through lengthy treatises, while maintaining that the alphabet and fragmented articles could serve the disciplinary divisions. These last concerns continued unresolved throughout the last hundred years.

On the morning of the twenty-first century, Wikipedia bloomed. Its first decade unfurled with the promise of reconciling all of these limitations. It asked us to revel in the maelstrom of the unfinished; the open. But it too was bound to run short of its egalitarian promises. In the first decade it set up a cluster of social policies and interface features that reinforced the hegemonic notion that all Wikipedians are first and foremost *editors*, and that the ability to encircle knowledge is drawn from this common subjectivity. So long as all users held the values, beliefs, and practices; so long as the moniker of editor was the seat of their knowing, consensus would ensure the objectivity of Wikipedia's product. But by taking up the challenged posed by the

Enlightenment centuries earlier, to mediate a neutral knowledge, the second decade of Wikipedia's tenure was trailed by the obvious incapacity to deal with the incommensurability that arose from the situated knowledge of its editors. The weight of the Wikipedian belief in community was leveraged against the GGTF — to pry it open — and ensure that it could never be an enclosed space for women.

In light of troubles that Wikipedia has recently faced, then there is an obvious concern about its utopian program. Following Levitas's description for utopia, the encyclopedia we need is one that allows us to imagine ourselves otherwise by "remaining open to our vulnerability and jeopardy in encounters with others" (p.186). If I have been a good student, the fable that needs to be designed is akin to this.

The Fable of the Circle and its Kin

It was mid-morning by the time the children reached the hive. At first, they couldn't see it. It was hidden beneath the crest of the hill and their only guide was a grove of oak trees. Standing at the top of the hill, the eldest was caught off guard as her younger sister gleefully raced down the slope. "Don't let the trees speak too much!" She called, but it was already too late. The rounded leaves chattered against the breeze and the boughs were bending down to greet the girls.

Out of breath and leaning against the rough trunk of the largest tree, the two girls took a moment to look up through the branches, the sun and leaves dappling their faces: light then dark. These were beautiful and old trees. Solid and supportive. It was hard to think they were wrong this time. The girls got to work under the shade.

Ever so carefully, the eldest lifted the lid of the closest hive. She was mindful to use the least amount of smoke needed to relax the bees. With a puff, she slowly brought up a frame so

her sister could see. Hundreds of hexagons were beautifully arranged between the four corners. Their regularity was breathtaking, but not perfect. The two girls pointed out the slight variations, the places where the bees improvised with the six-sided shape, played with its rhythm when it met the borders of the frame.

The youngest started counting the bees, silently feeling each number with the shape of her mouth. As if on cue, the bees started to dance. The most experienced ones were easy to spot. They wiggled and zagged their way through each performance. Their bodies vibrated with cardinal information. But something was off. Quickly, a wave of heads pushed up against one another. An audible gasp escaped the sisters' lips. "The committee was right..." and the youngest nodded just slightly, still absorbed in the drama of the bees butting heads with one another.

They watched for a while, and as they watched, the disagreements lost intensity. A bit too loud the youngest half-shouted, "Bees! I need to ask you a question." There was a small ripple of limbs and wings. The eldest sister made a stern face. Without needing to hear the words that were about to come, the youngest complied. Leaning in, she made her voice quieter so she wouldn't startle the bees with what she was about to say.

The wind whipped sand across the nearby beach. The elder sister went for a walk while the discussion with the bees continued. The committee said it was going to take some time and she had her own job to do. She sat down in the sand, warm grains against her feet and hands. She pushed her fingers through it and drew the dark and wet sand to the surface. She imagined herself as a creature that lived its life between grain and wave, here at the edge of the tidepools. What would it know? She thumbed the ring on her index finger, the ring that was her

responsibility. Inscribed within its circuitry was the network of each of her kin. In that motion she half-remembered what her grandma had said. It was something about hearing the names our adversaries give to themselves before we disagree with them.

She found the grave of an old dispute; a spiral-wrapped mollusk shell. The elder sister remembered the slowness that came with speaking to his kind. It gave her time to think of a response. Even now, with his life washed away by the shoreline, the conversation was still being carried on. She lifted the shell to her ear. The consonants were long and oceanic. As she listened, she looked outwards. The depth of the sky pushed down against the water and splayed the waves, all furrows and gradient.

On the crest of the hill, the two children met. Both were incapable of calm.

“What did the bees say?”

“They aren’t sure yet. They said they need to regroup. I don’t like it. The committee said they can join the circle. But they’re still refusing to tell us their name. They don’t trust us.”

“And the ocean?”

The eldest shook her head.

“What are we going to tell the committee?”

There was a long pause that stretched out before them. The sound of the oaks groaned against the wind and filled the space between them. It was uncomfortable. The youngest involuntarily wrinkled her nose.

“You’re already becoming too much like the ocean.” It was a tease, a new one.

The eldest was still thinking about the question and so failed to return the smile. She looked skyward, then to the threshold of the horizon. She closed her mouth and held her

sister's question in her mind. And then she let out a slow breath, adding it to the slight gust passing by.

“We can't know....”

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