Chapter 9
Writing Against the 'Epistemology of Deceit' on Wikipedia: A Feminist New Materialist Perspective Towards Critical Media Literacy and Wikipedia-Based Education

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Introduction

In their contribution to *Postdigital Science and Education*'s special issue of 'Lies, Bullshit, and Fake News Online', Jiang and Vetter (2019) argue that despite the programming of Wikipedia bots for combating problematic information, their efficacy is challenged by social, cultural, and technical issues related to misogyny, systemic bias, and conflict of interest (Bazely 2018; Gallert and Van der Velden 2015; Geiger and Ribes 2010; Glott et al. 2010). Problematic information, including types of misinformation and disinformation, points towards the urgency of building critical media literacy that has the potential to help students ward off the danger embedded in the 'epistemologies of ignorance' (Alcoff 2007; MacKenzie and Bhatt 2018) and 'deceit' (MacKenzie et al. 2020). In the postdigital era of problematic information, it is imperative that educators and students be on the alert for how the human and the nonhuman, the digital and the nondigital, interfere and exert agency in Wikipedia's complex and highly volatile processes of information validation.

In this chapter we continue these conversations by further exploring ways to counter the vices of problematic information on Wikipedia. We argue that a feminist new materialist perspective provides a promising theoretical lens for understanding critical literacy learning through Wikipedia-based writing projects. Employing feminist new materialist theories of intra-action (indicating a new materialist and posthumanist notion of shared agency) and lively assemblage (the multiplicity of diverse materials and actors that produce collective action) (Barad 2007; Bennett 2010; Lenz Taguchi 2010), we examine the ways that college students compose

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Wikipedia articles to address the encyclopedia's systemic biases, especially those related to misrepresentation and uneven coverage of women and minorities (Collier and Bear 2012; Glott et al. 2010; Gruwell 2015; Wadewitz 2013). More specifically, we attend to how students work together to identify marginalized topics on Wikipedia, evaluate the coverage of multiple perspectives in these Wikipedia articles, analyze information gaps and biases, and contribute knowledge to the global Wikipedia community.

The Wikipedia-based writing project, featuring the entanglement of human agents and digital technologies, challenges students to create sociomaterial assemblages (Bhatt 2017) that entice bodies into collective actions against the proliferation of problematic information within and beyond the encyclopedia. We ultimately contend that feminist new materialist perspectives add new vigor to the current theories and practices surrounding critical media literacy and conclude this chapter by envisioning the possibility of encouraging conscious use of the encyclopedia to more fully address the epistemic challenges of Wikipedia-based education.

Problematic Information and Critical Media Literacy in Wikipedia-Based Education

Problematic Information

The crisis of 'problematic information', what Jack (2017) defines as 'inaccurate, misleading, inappropriately attributed, or altogether fabricated' information, describes the failure of media ecologies (MacKenzie and Bhatt 2018) to address issues related to authenticity and rhetorical manipulation and the inability of formal education to teach critical media/information literacy. Terms like fake news, misinformation, and disinformation, while frequently used in public discourse, can be misleading. This chapter employs Caroline Jack's taxonomy, from 'Lexicon of Lies: Terms for Problematic Information' (2017), by utilizing her definition of misinformation and connecting it to epistemologies of deceit in Wikipedia.

According to Jack, misinformation includes 'information whose inaccuracy is unintentional', whereas disinformation is 'deliberately false or misleading' (Jack 2017: 2–3). In this chapter, we engage Jack's term misinformation to imply a type of problematic information that stems from broader social marginalizations and is translated in Wikipedia as specific knowledge gaps that repeat those marginalizations. For instance, Wikipedia's gender gap, or the disparity of content related to women, may be viewed as a general, cultural problem of patriarchy in addition to a lack of women Wikipedia editors. While these knowledge gaps are not actively planned or premeditated to spread 'deliberately false or misleading' information, their implications are significant and far-reaching just the same. Furthermore, these types of misinformation may be even more dangerous precisely because they are not

intentionally promoted by identifiable actors—contributing to a larger epistemology of deceit in what has become the most widely used encyclopedia in human history.

The Wikipedia-based writing project, we contend, provides direct opportunities to write against the epistemology of deceit within the encyclopedia's community. As students become more familiar with Wikipedia practices, they also realize the need to create sociomaterial assemblages that work towards increased and distributed reliability of the encyclopedia's content, enticing bodies into collective actions and intra-actions both within and beyond the encyclopedia. In the following sections, we review and expand on conceptions of critical media literacy; introduce feminist new materialism as a method for studying critical media literacy practices; provide a review of two Wikipedia-based assignments (one at the undergraduate level and one at the graduate level); and apply theories of intra-action and lively assemblage to student edits and reflections. In considering the implications of critical media literacy, we ultimately make pedagogical realizations concerning (1) new understandings of agency, activism, and reliability within the specific context of Wikipedia and Wikipedia-based education and (2) opportunities for pedagogies of intersectional feminism while making note of the specific challenges related to Wikipedia-based assignments. Furthermore, these realizations demonstrate how Wikipedia-based writing assignments enable pedagogies that can work against the epistemology of deceit to battle problematic information.

Critical Media Literacy

Our use of critical media literacy engages Kellner and Share's (2005) definition. For Kellner and Share, critical media literacy encompasses five core concepts:

1. Non-Transparency: All media messages are 'constructed'.
2. Codes and Conventions: Media messages are constructed using a creative language with its own rules.
3. Audience Decoding: Different people experience the same media message differently.
4. Content and Message: Media have embedded values and points of view.
5. Motivation: Media are organized to gain profit and/or power. (374–376)

More specifically, the fourth concept emphasizes the ways that students are capable of addressing the values, assumptions, and ideologies underlying the representation of race, gender, and class in digital media spaces. While focusing on detailing the ideological nature of human communication, Kellner and Share nevertheless fail to attend to the robust roles played by nonhuman actors in shaping and reshaping the communicative acts in new media. Our extension of their work, particularly through the lens of feminist new materialist theories, has sought to highlight the complex processes through which subjectivity, ideology, and agency cut across nonhuman and human relations.

A range of scholarship exists on critical literacy (e.g., Duffelmeyer 2002; Jiang 2020; Kellner and Share 2005; LeCourt 1998; Selber 2004; Thomson-Bunn 2014) and feminist new materialism (e.g., Barad 2007; Bennett 2010), respectively, yet only recently is there work emerging on exploring the intersection between the two domains of research. In their recently published book *Affect, Embodiment, and Place in Critical Literacy*, Lenters and McDermott draw our attention to the possibility of rethinking feminist new materialisms in light of empathy and ethical encounters with literacy. Specifically, Barad's work on new materialism propels researchers towards 'intra-actions that matter in the world' (Lenters and McDermott 2019: 7). Reframing critical literacy through the lens of feminist new materialist thought, Lenters and McDermott pinpoint a form of critical literacy that opens up 'a generative worldmaking practice, one that goes beyond critique as an endpoint and looks towards ongoing commitment and action' (8). In what follows, we employ a feminist new materialist framework to approach Wikipedia-based writing as a site of critical literacy action.

Entangling with Differences: Feminist New Materialisms as a Method to Study Critical Media Literacy Practices

A robust theoretical framework, feminist new materialism, affords a new understanding of critical media literacy that looks towards 'ongoing commitment and action' (Lenters and McDermott 2019: 9). We draw on various conceptual contributions to feminist new materialism, particularly by Barad and Bennett. In this section, we first briefly introduce the assignments and course contexts for each Wikipedia-based writing project, and from which we draw our qualitative data regarding edits and student reflections. The first assignment was taught in a doctoral-level seminar in digital rhetoric and the second in a first-year, general education writing course. Taken together, these courses demonstrate the flexibility of Wikipedia-based pedagogy for engaging students' critical media literacy. Following the assignment descriptions, we provide a review of two conceptual frames that make up our feminist new materialist perspective, namely: (1) intra-action and (2) lively assemblage. These concepts are then employed to analyze and interpret qualitative data from student work on these assignments.

Assignment Descriptions

A final course project in English 846: Digital Rhetoric was a planned Wikipedia Edit-a-thon as a campus event. Edit-a-thons (a portmanteau of 'editing' and 'marathon') are typically one-day gatherings in which participants work together to improve a subject area in the encyclopedia by learning how to edit and contributing

to Wikipedia. This specific event was further specialized in that we were working with the organization Art+Feminism to consciously engage representation of marginalized identities (women, LGBTQIA identities, related topics) through active editing and participation. While the actual event was cancelled due to Covid-19 and social-distancing measures, students were asked to do a small editing project of their own, in lieu of this event, focusing on articles and topics related to the course. For this project, students worked in small groups (2–3 students per group) to assess the quality of and improve a Wikipedia article related to the course topic of digital rhetoric. Overall, 12 student editors made a total of 170 edits and added approximately 3800 words to improve the following articles: 'Hashtag activism', 'Internet meme', 'Digital identity', 'Digital literacy', 'Digital rhetoric', and 'Visual rhetoric'.

In English 101: Composition I, students were assigned a similar project in which they would assess and develop 12 Wikipedia articles on marginalized topics. A major difference here was that topic selections were more open and not necessarily tied to the subject of the course itself. Overall, 46 student editors made a total of 363 edits and added approximately 103,000 words to improve specific Wikipedia articles. Articles edited included topics such as 'Violence Against LGBT People', 'Educational Inequality', 'Gender equality', 'Obesity in the United States', 'Assistive Technology Service Provider', and 'Exploitation of Women in Mass Media'. While Wikipedia is constantly being updated, a majority of the edits remained on the encyclopedia, which demonstrated the enduring power of this kind of pedagogical intervention.

In both courses, instructors led discussions on knowledge gaps in Wikipedia (especially the issue of Wikipedia's gender gap) in order to engage students' critical thinking. Students in the graduate course chose two essays from the recent book *Wikipedia @ 20: Stories from an Incomplete Revolution*: Alexander Lockett's (2020) 'Why Do I Have Authority to Edit the Page? The Politics of User Agency and Participation on Wikipedia' and Denny Vrandečić's (2020) 'Collaborating on the Sum of All Knowledge Across Languages'. With both an open-access and print version, Wikipedia @ 20 offers a number of accessible and current reflections on Wikipedia's failures and successes over the last 20 years (Reagle and Koener 2020).

Furthermore, both courses were supported by resources offered by Wiki Education, a nonprofit educational organization that works with higher education instructors to develop and integrate Wikipedia assignments.

Intra-action in Student Edits and Reflections

We turn to intra-action as a theoretical construct to better understand student-produced Wikipedia edits and their reflections on the edits. From a feminist new materialist perspective, agency is not fixed and predetermined. Karen Barad's 'intra-action' moves beyond viewing agency as solely produced in discourse and towards conceptualizing agency as emergent from and mediated by material reality, as well. This theoretical move has provided a new materialistic response to Foucault's

notions of discursive and non-discursive practices that locate power and agency within social interactions. As Barad (2003) argues, for Foucault even the non-discursive practices have been reduced to social institutional practices; therefore, focusing on discourses alone is no longer a useful strategy for extending the new materialist view of agency beyond social dimensions.

Drawing inferences from the physicist Niel Bohr, Barad has developed the concept of *intra-action* as a rejection of observer-observed dichotomy in support of a 'flow of agency' permeated through both human and nonhuman forces (Barad 2003: 817). In Barad's words, 'the world is an ongoing intra-active engagement, and bodies are among the differential performances of the world's dynamic intra-activity, in an endless reconfiguring of boundaries and properties, including those of space-time' (2008: 377). The focus here is on the entangled nature of the material and the discursive, as well as the lively relationship between humans and nonhumans (Barad 2003, 2007; Lenz Taguchi 2010). An intra-active account of literacy positions bodies within relationships with other bodies, opening the possibility of producing new literacies, meanings, and knowledge.

The application of *intra-action* as a methodology in literacy research can be glimpsed in Jackson and Mazzei's (2012) intra-active analysis of female faculty members' narratives that shifts the attention to 'entangled state of agencies' (125), viewing agency as emergent from both social and material relations. As a case in point, the intra-action between human and material spaces is vividly depicted in the narratives of Cassandra, a female African American college faculty member. In their qualitative research describing how intra-action takes place, Jackson and Mazzei delineate the ways through which the materiality of Cassandra's office co-constructs the power dynamics of 'belonging' and 'exclusionary' spaces, which in turn shape Cassandra's intersected identities as at once privileged and marginalized, at once a female professor and a person of color. Not unlike Jackson and Mazzei's assertions, Ehret, Hollett, and Jocius' (2016) intra-active study of adolescents' new media making documents the ways that the discursive-material practices of multimodal compositions might allow for a dissolution of boundaries between bodies, meanings, and materials. The researchers underscore that agency is dispersed across both human new media makers and nonhuman technologies and that the entangled agency holds robust implications for the co-production of knowledge and meaning.

Thinking of Wikipedia-based writing in a similar vein, in this chapter, we approach multimodal and digital composition through the lens of intra-action and entangled agencies. More specifically, we understand the production of knowledge on Wikipedia to be a distributed and enacted practice. Our analysis builds on Kennedy's (2016) theorization of Wikipedia authorship as a part of distributed curatorial practices: 'Given its [Wikipedia's] frequently collaborative nature, it also requires becoming comfortable with forms of authorial agency that are explicitly distributed and contextual.' (28) That is, since Wikipedia is a global platform that allows anyone to edit and collaborate, the collaborative nature of such work challenges us to reconsider the notion of single authorship in the traditional sense. We thus contend that writing against problematic information on the platform is a

practice enacted through student editors' intra-active (and ethical) encounters with digital information literacy.

In both the undergraduate and graduate assignments, students' edits and reflections help students begin to understand agency in combatting problematic information as a distributed, social and material, intra-action (Barad 2003). English 846: Digital Rhetoric students working on the Wikipedia Hashtag activism for example, described the activist nature of hashtags #RealConvo and #FireDrillFridays as working in both material and discursive contexts through textual, human, and material agents. One student added the following to the article: 'Real Convo features guides for talking about mental illness and videos of celebrities such as Sasha Pieterse and Sydney Marguder sharing their mental health stories.' (Wikipedia 2020)

In another section of the Wikipedia article, another student worked to add representation of a different hashtag, #FireDrill Fridays. As in #RealConvo, this student also focused on the human/material entanglement of actors that bring about the hashtag's (intra-)activism, invoking celebrity actors and activists, political legislation, protest events, as well as specific and established outcomes of the hashtag: 'Inspired by Greta Thunberg and started by Greenpeace and Jane Fonda, #FireDrillFridays brings awareness to the climate change crisis…Calling for a Green New Deal in the United States government, the movement organized protests on the Capital every Friday beginning in October 2019…The campaign advocates no new fossil fuels and to phase out existing fossil fuel projects.' (Wikipedia 2020)

These students began to make realizations about intra-action as a distributed flow of agency by making the following edit to the Hashtag activism page: 'By initiating conversations and confronting problems, hashtags serve as a digitally-informed extension of the role language has always held in generating political action.' (Wikipedia 2020) Students working on the Hashtag activism article, in addition to making edits such as those represented above, also collaborated on a shared reflection. Their reflection further demonstrates their awareness of the capacity of hashtag activism to 'create change and/or community' through a sociomaterial and distributed process of intra-action. In describing their motivation to add the #RealConvo section, one group member observed how a paragraph on this hashtag represents 'a good addition to the Wikipedia page because it links users to a few mental health resources and emphasizes the importance of working to end stigmas associated with mental illness'. 'Given the current pandemic situation', they continue, 'it's essential to talk about mental health, and having a hashtag to use can, via social media, increase support and validation for individuals with mental illness'.

This reflection, in opposition to tropes regarding the insignificance of hashtag activism as 'armchair activism demonstrates students' understanding of how mental health awareness is created through an intra-action of multiple agents. They further describe the material impact of hashtags, and their representation and description in Wikipedia, by emphasizing the rhetorical connections made possible through their circulation:

> Drawing from Jones's (2018) piece about Pinterest as a site of both collaboration and individuality, we tried to show the emotional and practical benefits of using hashtags [by adding the following to the Wikipedia article]: 'Identifying shared experiences builds rhetorical

> connections between people who would never otherwise meet, enabling users of hashtags such as #MeToo and #BlackLivesMatter to support and validate each other.'

'Intra-action' and enacted agency can also be glimpsed in undergraduate students' contribution to the article Gender Equality as well as the dynamic role played by their use of wikilinks, or internal hyperlinks to other Wikipedia pages. The student group working on the article 'Gender Equality' identified multiple intersectional actors that together generate forces and capacities to intra-act with other human and nonhuman affordances. For instance, in their reflection, the students turned to the support of gender equality by the United Nations, the violence against trans women, as well as issues related to women's health. The student who worked on expanding the section on the violence against trans women in the article contributed intersectional knowledge to Wikipedia's coverage of women:

> Trans women in the United States have encountered the subject of anti-trans stigma, which includes criminalization, dehumanization, and violence against those who identify as transgender. From a societal stand point, a trans person can be victim to the stigma due to lack of family support, issues with health care and social services, police brutality, discrimination in the work place, cultural marginalisation, poverty, sexual assault, assault, bullying, and mental trauma. The Human Rights Campaign tracked over 128 cases [*clarification needed*] that ended in fatality against transgender people in the US from 2013 to 2018, of which eighty percent included a trans woman of color. In the US, high rates of Intimate Partner violence impact trans women differently because they are facing discrimination from police and health providers, and alienation from family. In 2018, it was reported that 77 percent of transgender people who were linked to sex work and 72 percent of transgender people who were homeless, were victims of intimate partner violence (Wikipedia 2019).

While the article Gender Equality has largely overlooked the experiences of trans women, which leads towards problematic information, this student's contribution attests to the inter-active capacity of wikilinks (links to other Wikipedia articles) in addressing and challenging such negligence. In particular, the students' use of wikilinks speaks to intra-activity and relationality and demonstrates their complex understanding regarding the interconnected actors in contributing to the asymmetrical power relations and encounters in relation to trans women.

Lively Assemblage in Students' Edits and Reflections

The framing of lively assemblage in feminist new materialism further leads us to reconstrue Wikipedia as synonymous to a networked assemblage of social material relationships. As defined by Deleuze and Parnet (1987), an assemblage is 'a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them across ages, sexes and reigns—different natures. Thus, the assemblage's only unity is that of co-functioning: it is a symbiosis, a sympathy (69). Bennett's (2010) agential assemblage takes Deleuze and Parnet's conception of assemblage a bit further to concentrate on a composite of vital things, both animate and inanimate. The act of tracing assemblages is particularly salient for

studying digital composition practices for social action. Gries (2015) has deployed the method of iconoclastic tracing to analyze the online distribution of the 'Obama Hope' campaign. More recently, Gries (2019) further applies assemblage theory for analyzing the impact of student multimodal advocacy campaigns.

Beyond the acts of remixing and circulating, participants and researchers involved in multimodal writing projects also act as part of the assemblage. Continuing such conversations Gries (2019: 334) pinpoints that 'assemblage is limited when we solely think about it in terms of textuality' and that 'assemblage ought to be understood in terms of ontology—as a phenomenon that takes place on multiple scales, among intermingling human and nonhuman entities, to constitute collective life'. In short, practicing feminist new materialism would follow that we become attuned to the various, networked assemblage of human and nonhuman entities and bodies that contribute to social advocacy and collective action.

In our application of lively assemblage to the Wikipedia-based writing project, we read sociomaterial assemblages as dispersed textualities and agents that work to co-construct reliability within the encyclopedia. Furthermore, such assemblages entice users/bodies into collective actions against the proliferation of problematic information within and beyond the encyclopedia. From a feminist new materialism perspective, we understand human beings as more than capable of knowing; instead, human actions are inextricably intertwined with human-technology assemblages. So, when addressing college writers' use of Wikipedia, a feminist new materialism approach allows us to center on the ways in which human beings come together with digital technologies and material resources to generate capacities for combatting problematic information and, in doing so, challenge the epistemology of deceit on Wikipedia.

In order to reframe the notion of reliability in Wikipedia as assembled by multiple social actors, policies, and algorithmic processes, we employ the term ethical assemblage to describe the construction of reliability as a dynamic assembling of ethos (credibility) rather than a static or individual process. We invoke 'assemblage' in the tradition of Deleuze and Parnet, as well as scholars influenced by the material and ecological implications of their work in rhetoric and media studies (Barnett and Boyle 2016; Gries 2015; Nicotra 2016; Walker 2016). Furthermore, we view student edits and reflections, especially those centered on assembling multiple sources and agents, as uncovering the multiplicities of such ethical assemblages. While these processes are more pronounced in the graduate students' edits and reflections, discussed immediately below, we also view undergraduates' work as moving towards the production of ethical assemblages and an understanding of distributed reliability in Wikipedia.

In making edits to the article on Hashtag Activism', one student working to represent the #RealConvo hashtag, a campaign focusing on mental health awareness, created textual and material assemblages that synthesized organizations, people, identities, and other textual and material agents work towards an assembled ethos. The excerpt below displays wiki markup, such as wikilinks and reference numbers, to show the intertextual and material connections being made:

#RealConvo

#RealConvo represents the Real Convo project by the American Foundation for Suicide Prevention (ASFP). Begun in May 2019, Real Convo features guides for talking about mental illness and videos of celebrities such as Sasha Pieterse and Sydney Magruder sharing their mental health stories. AFSP created #RealConvo for people to share personal stories and combat mental illness stigma. Organizations such as National Alliance on Mental Illness and To Write Love on Her Arms have retweeted #RealConvo with links to mental health resources. (Wikipedia 2020)

Edits made to the #FireDrillFridays hashtag section of the same article, discussed above, also combine multiple wikilinks, references, and material/physical touchstones towards the assemblage of reliability and notability. Since the student's edit, that passage has been further developed to include a multiplicity of diverse sources:

#FireDrillFridays

Inspired by Greta Thunberg and started by Greenpeace and Jane Fonda, #FireDrillFridays brings awareness to the climate change crisis. Calling for a Green New Deal in the United States government, the movement organized protests on the Capitol every Friday beginning in October 2019. The campaign also advocates for complete stoppage of new fossil fuel projects and to phase out existing fossil fuel projects. #FireDrillFridays gained popularity with celebrity arrests. Due to the COVID-19 pandemic, Fonda moved #FireDrillFridays online to continue rallying for government action. (Wikipedia 2020)

Reflecting on these edits, this student discusses how they brought together multiple types of sources to build ethos in the article: 'I used news articles and the website created for the cause for additional resources for the reader.' As is apparent from the above excerpt, the integration of wikilinks and references to additional organizations, celebrities, and sources also provides a diverse and dispersed assemblage towards reliability and illustrates the notion of ethical assemblages often contained in a single section or paragraph of a Wikipedia article.

For undergraduate editors, they similarly position credibility and reliability within the complex assemblage of information in and across the Wikipedia platform, but from a novice standpoint. The student editors who worked on the article titled 'Violence against LGBT People' provide an illustration. These students, in their reflection essay, describe the challenges of finding relevant and productive sources that do not violate Wikipedia's Neutral point of view and No original research policies (McDowell and Vetter 2020), without inserting their own emotional responses to the topic:

> I think that the most difficult part was actually finding information for what I wanted to specifically write about. Most of the articles I came across on google scholar talked about a specific group in the LGBT community and I was searching for information on the LGBT people as a whole. Also, I think another difficult thing about the Wikipedia was being careful not to insert my own personal feelings or emotions into my writing especially because the LGBT community is such a sensitive topic touch on.

> When someone edits a Wikipedia page they have to cite where they got these information [*sic*] from. So at the bottom of every Wikipedia page there is a place of links that will take you to a website where the information came from. This can be really helpful because most of these links are credible sources that can be used in the research project someone is doing.

While these students may have struggled with the process of building an adequate foundation of sources, they did recognize that reliability is generated out of human-material assemblages. This realization is particularly evident in a student reflection essay in which they recognize how the Wikipedia assignment allows for an assemblage of ethos. Such assemblage links student editors with online communities and digital tools, such as Google Scholar, Wikipedia citations and links, the LGBT community, as well as students' personal feelings or emotions about LGBT issues. By attending to how reliability is constructed in Wikipedia, and working to improve content, furthermore, students also practice critical literacy action (Lenters and McDermott 2019).

Towards Assembled Reliability

In employing the concept of lively assemblage to interpret students' edits in the graduate course, we begin to see how Wikipedia-based assignments provide opportunities for more nuanced understanding of assembled reliability. We propose the term ethical assemblages to understand lively assemblages that, in the encyclopedia, demonstrate the distributed production of reliability and that write against epistemologies of deceit such as misinformation. Indeed, it is Wikipedia's highly collaborative and crowd-sources model—for which it has been demonized since its inception (Black 2010; Gorman 2007)—that allows for distributed constructions of information across both human and nonhuman agencies. Take the process of source evaluation, for instance. In Wikipedia, source evaluation and the subsequent production of reliable information is distributed among multiple agents: editors, yes, but also policies (verifiability, no original research, neutral point of view), bots, administrators, readers, and other textual features that become agentive in the process.

In examining undergraduate students' work, we ultimately argue that students be introduced to this understanding of assembled reliability as part of critical media literacy education. Current information literacy models tend to stress individual sources and their authors. Consider the C.R.A.A.P. test, first developed by Sarah Blakeslee (2004). Currency, relevance, authority, authority, and purpose serve as productive heuristics for evaluating individual sources. However, in thinking about sources as inherently complex, multiple, and intertextual, a more ecological model that considers the dynamic assemblage of reliability is needed.

Countering the Vices of Problematic Information in Wikipedia: Implications for Wikipedia-Based Education and Critical Media Literacy

Approaching Wikipedia-based education from the standpoint of feminist new materialism and critical literacy enables methodologies for critical literacy action against an epistemology of deceit. Such praxis 'goes beyond critique as an endpoint and looks towards ongoing commitment and action' (Lenders and McDermott) both within and beyond Wikipedia. As has been pointed out by other scholar-teacher-activists (Graham 2010; Vetter et al. 2018), and as we have attempted to demonstrate in this chapter, Wikipedia commands a postdigital influence on discursive and material realities. Due to the encyclopedia's place as a significant arbiter in the global knowledge economy, its representations serve as an implied ontology, a factual world-making in the ongoing construction of information. Seeking out problematic information in the encyclopedia, understanding its emergence, and working to write against the epistemology of deceit, accordingly, has implications for sociomaterial circumstances across multiple digital and postdigital contexts.

This study further demonstrates the Wikipedia-based writing opens up the opportunity for students to exercise critical media literacy. As mentioned earlier, Lenters and McDermott contend that thinking with feminist new materialisms invigorates empathy and ethical encounters with critical literacy. Specifically, Barad's work on new materialism propels researchers towards 'intra-actions that matter in the world' (Lenters and McDermott 2019: 7). We consider the Wikipedia assignment as a form of critical literacy practices that valorizes ongoing commitment and social action.

Previous research on Wikipedia-based education has approached this pedagogy from theoretical standpoints as diverse as social-epistemic theory, rhetorical theory, queer/feminist media praxis, feminist epistemology, information literacy, and critical media literacy, yet few studies have investigated Wikipedia from the perspective of feminist new materialism. Reading student edits and reflections through the dual lenses of 'intra-action' (Barad 2003) and 'lively assemblages' (Barad 2007; Bennett 2010) yields at least three important implications for Wikipedia-based education, discussed below.

Teaching Towards New Understandings of Agency and Activism

Barad's (2003) concept of intra-action allows for the understanding of Wikipedia editing as a mode of distributed activism against the epistemology of deceit (and especially misinformation). As students worked to add content and improve information surrounding particular social advocacy campaigns in the article on 'Hashtag activism', for example, they also grew more cognizant of the ways that agency is created through an entanglement of both material and discursive, human and nonhuman actors. In order to promote a particular hashtag campaign, students

realized they would need to bring together multiple actors in order to mediate across material and digital landscapes. Such an understanding has implications for both critical media literacy and rhetorical knowledge related to agency. As discussed previously, the model presented in this chapter provides opportunities for critical action, as Wikipedia edits enable the broader public new forms of awareness and rhetorical knowledge, allowing students to gain insight regarding the sharing of agency among multiple actors and opening the possibility of producing new literacies, meanings, and knowledge.

Teaching Towards a Distributed Notion of Reliability

Employing the concept of 'lively assemblage' has also allowed us to reframe the notion of reliability in Wikipedia. In particular, we theorized the term 'ethical assemblage' to describe the construction of reliability as a dynamic assembling of ethos involving multiple social actors, policies, and algorithmic processes. In Wikipedia, this dynamic assembling is achieved as readers, editors, and bots collaborate to improve encyclopedic content over long periods of time. To teach towards this distributed notion of reliability, educators in the humanities and social sciences must jettison previous models of information evaluation (Blakeslee 2004) and look towards more ecological frameworks for describing and teaching the evaluation of online sources especially.

The concept of ethical assemblages, while not immediately accessible as a concept to first-year students, holds promise for further exploring and teaching critical media literacy because it demands we view ethos as something assembled and multiple. Such an understanding builds on Kennedy's (2016) theorization of distributed and curatorial practices in Wikipedia while also critiquing isolated models of reliability (Blakeslee 2004). However, our work with the theoretical notion of ethical assemblage is only a beginning. We call on other researchers, especially, to expand this concept by articulating its functions as an ecological model for distributed reliability and testing its premise in their own pedagogies. This could be done in a variety of ways, but might be most useful when applied to the critical evaluation of ethical assemblages in online texts beyond Wikipedia.

Opportunities for Pedagogies of Intersectional Feminism

The Wikipedia editing assignments presented in this study allow for a type of intersectional feminist pedagogy that encourages students to attend to knowledge equity and misinformation. Broadly conceived, attending to systemic biases through multimodal pedagogy allows students to recognize the intersectionality of systems of oppression. The notion of intersectionality has its roots in social science research that highlights connections between different cultural categories or sociomaterial

axes, such as race, gender, and class, and ability, when it comes to the formation of social inequality and individual identities (Collins and Bilge 2016; Crenshaw 1991). As such, intersectionality provides a conceptual framework for literacy scholars and social activists to better understand the multiple identity struggles of disenfranchised social groups. Crenshaw (1991) incisively pinpoints the issues looming behind identity politics in the United States. As she writes, 'women of color are differently situated in the economic, social, and political worlds. When reform efforts undertaken on behalf of women neglect this fact, women of color are less likely to have their needs met than women who are racially privileged.' (Crenshaw 1991: 1250) Efforts to support women of color, especially rape victims, may backfire due to their failure to move beyond simplistic racial categories representing women of color and due to their inattention to the intersection between race and gender. In other words, intersectionality creates the identity politics that takes heed of the multiple oppressions experienced by people from marginalized social groups.

The question, however, is how to respond to the intersectional call without oversimplifying the complexities and flexibilities of intersected forms of identity and agency. The very notion of intersectionality is faced with methodological challenges. As Dolmage and Lewiecki-Wilson (2010) assert, categorizing, for example, disability through the lens of intersectionality runs the risk of reducing 'disability' to a neutral, stable, and universal identity marker and an add-on, without taking into account the 'materiality of multiple oppressions' and nuanced experiences of marginalized groups. Analogous to this critique, Barad (2007) cautions that the compartmentalization of identity into categories falls prey to a 'container' model or metaphor emergent from the categorical rationality that is salient in western culture.

A categorical imagination as such may lose sight of the complex human-materiality entanglement underlying the processes of identification and becoming. In other words, the categorical conceptualization of agency may also invite the risk of entrenching the differences between human beings and material things that fail to account for their interconnections. The material dimension of identity has not been fully explored in this line of thought. One way to address the issue of categorical thinking is through delving into the material dimensions of agency. Feminist new materialist notions such as intra-action (Barad 2007) and assemblage (Bennett 2010) can be useful methodological heuristics to address the categorical view of agency in critical literacy practices.

Challenges and Conclusions

Indeed, the feminist new materialist approach for Wikipedia-based writing pedagogies has been met with challenges. At the graduate level, students encountered difficulties in creating equitable representation of marginalized social groups, such as women and minorities. For instance, students identified challenges related to locating and citing sources effectively, especially for marginalized topics that tend to be underrepresented and undercited. It is essential for students to recognize Western, logocentric epistemologies that often silence or omit already marginalized types of

knowledge. In addition to dominance of certain epistemologies, Wikipedia is vastly uneven among different language editions, of which there are nearly 300. The English version is by far the most well-developed, with over six million articles as of late 2020. Furthermore, the spectrum of development of these different versions is incredibly wide. As Denny Vrandečić realizes, 'if you take the bottom half of all Wikipedias ranked by size, together they wouldn't have 10 percent of the number of articles in the English Wikipedia' (Vrandečić 2020). Such disparities also extend across specific article development. Even when Wikipedia language editions contain the same articles, the content and/or level of development of those articles can be vastly different. Feminist new materialist framework provides an alternative epistemology for enhancing the coverage of marginalized topics and languages, but these problems are often complex and far-reaching. Linguistic disparities, for instance, will require a broader global campaign to truly address, one that can be sustained beyond a 15-week term.

At the undergraduate level, it is difficult to both teach Wikipedia's policies (e.g., the principle of neutrality) and to encourage students to critically reflect on and productively respond to those policies. Since Wikipedia policies are essential for being successful in the Wikipedia community, it is difficult to enact the social critique and action that would potentially undermine students' success in contributing knowledge to the Wikipedia platform. As first-year writers, students in this study may not be ready to engage in more advanced critical literacy development, especially in addition to the challenges associated with reframing previous assumptions regarding Wikipedia and the technological skills participating in Wikipedia requires. Nevertheless, we see the initiation of critical literacy development in first-year writing a necessary challenge, especially if we are to combat online deceit.

Despite these challenges, employing the Wikipedia-based assignment as a form of feminist new materialist praxis enables opportunities for students to practice critical media literacy and write against the epistemology of deceit in the online encyclopedia anyone can edit. Students' Wikipedia edits and reflection demonstrate specific applications for exercising and understanding dynamic intra-actions that create assembled agencies for change. Engaging Wikipedia and misinformation, furthermore, provides new opportunities for producing new theoretical models related to a distributed notion of reliability, what we call ethical assemblages'. As a coda to this chapter, we invite educators and researchers to take up Wikipedia-based education within a feminist new materialist framework in order to further research and practice in this area. Studying and teaching with Wikipedia enables multiple avenues for new understandings of problematic information and for teaching critical media literacy. We look forwards to engaging in future conversations related to reliability and agency especially.

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