Tracing Fan Uptakes: Tagging, Language, and Ideological Practices in *The Legend of Korra* Fanfictions

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Structured Abstract

- **Aim:** Writing analytics as a growing field mainly explores data collected in traditional educational settings, such as writing done in classrooms, for student feedback, for tests, and in writing centers. One of the aims of this research note is to advocate for the inclusion of fanfiction genres in writing analytics. Fanfictions are texts written by fans of a particular cultural material (i.e., television shows, movies, books) or in some cases people (i.e., bands, political figures, pop stars) in which the fans reimagine the characters, stories, settings, and the original cultural material's universe.

- **Problem Formation:** The research question driving this note is how to trace uptake, particularly fan uptakes. Uptakes as defined in rhetorical genre studies are the anticipated responses to a genre that have been deemed appropriate based on context, place, time, frame, and function. This question asks for the field of writing analytics to expand both its *content* and its *methods*. To answer this question, I merge discourse in fan studies, rhetorical genre studies, and writing analytics to conduct a computational temporal analysis on a fanfiction corpus, examining both at the metadata and the actual fanfiction texts across time. This analysis builds on data and writing analytics methods to explore three forms of fan uptakes: *canon complicit*, *explicit-implicit*, and *canon resistant*. Specifically, this research note focuses on fans' *critical uptakes*, in which justice-centered ideologies are embedded in fans writers'

representations and explorations of diverse and marginalized identities in their fanfictions, particularly around representations of gender and sexuality.

- **Information Collection:** The data collected for this research note are 3,759 *The Legend of Korra* (*TLoK*) fanfictions published from 2011–2015 on Archive of Our Own (AO3), a popular fanfiction publishing repository. *TLoK*, the original cultural material, already breaks generic conventions and demonstrates critical ideologies, specifically around its representations of diverse races, abilities, and sexualities. This case study triangulates several points of data: dates when important moments in *TLoK* originally aired, the fanfictions' publication dates, and the relationship tags chosen by the fan writers. I then break down the corpus into three separate corpora based on specific timeframes to explore changes in language patterns using Natural Language Processing (NLP) methods such as word frequencies and parts of speech as well as word embedding models. By triangulating these data and results, this section defines three types of fan uptakes: *canon complicit*, *implicit-explicit*, and *canon resistant uptake enactments*. These fan uptakes relate directly to the ways in which the fans reimagine the original cultural materials: Some fans choose to explore what is already canon (*canon-complicit*), some choose to make explicit the arguable subtext in the original cultural material (*implicit-explicit*), and some choose to resist the canon entirely (*canon resistant*).

- **Conclusions:** Scholars in the fields of fan studies and writing analytics are committed to justice-centered practices in the literacies, genres, and ecologies they study. Fan scholars explore critical fan practices that think critically about gender, sexuality, race, neurodiversity, and diverse abilities, even if the original cultural material does not reflect critical forms of representation. The attention to critical fandom practices inspires the final fan uptake this research note defines: *critical uptakes*. Critical uptakes enactments occur when writers—in this case study, fan writers—resist harmful and exclusive cultural ideologies in their uptake; this research note focuses on fans' critical uptake around representations of marginalized identities, specifically non-traditional gender and queer identities.

- **Directions for Further Research:** This research note asks writing analytics scholars to take up fanfiction in their research and provides a set of possibilities scholars may want to explore in fanfiction genres and beyond. First, I provide a set of questions scholars may want to explore as they research fan and similar types of corpora. Second, I provide specific examples for comparing fan uptake across fan corpora. Finally, I advocate for the integration of fanfiction pedagogies in traditional educational settings; many

fan scholars have already advocated for the integration of fanfiction genres and literacy practice into education, especially in K-12 levels. I specifically point to the pedagogical value of fans' rhetorical awareness in their tagging and language choices as well as their critical uptakes of the everyday media they consume. The research note concludes by advocating for tracing critical uptake—focusing specifically on the justice-centered ideologies embedded within these uptakes—in writing analytics and fields beyond.

1.0 Aim

During the late hours before December 19, 2014, fans gathered on forums, discussion boards, and social media to eagerly wait for the series finale of *The Legend of Korra* (*TLoK*), a children's/young adult television show that aired on Nickelodeon from 2012-2014. One question reverberated across posts and discussions: Would a romantic relationship between Korra and Asami—the main characters who are both women of color—be confirmed as canon?[1] Although fans believed this was unlikely due to America's constant erasure of bisexuality and queer identities from media content, hope still bristled. As the final moments of the show aired on Nickelodeon's website, fans watched with bated breath as Korra and Asami's romantic relationship was confirmed canon when the two characters walked off into a metaphorical sunset, gazing into each other's eyes and holding hands. The immediate fan response on Twitter, Tumblr, YouTube, and Reddit was powerful: Fans who yearned for more queer representation—especially queer fans, themselves—were finally acknowledged. This research note, though, will look at another genre in which fans took up the series finale and the series in general: *The Legend of Korra* fanfiction published on Archive of Our Own (AO3)[2] during the show's airing and post-season finale.

Fanfiction as a larger genre—as there are sub-genres of fanfiction—occurs when fans use already-created cultural materials (i.e., television shows, movies, books) or in some cases people (i.e., bands, political figures, pop stars) to reimagine the characters, stories, and settings through writing. For example, a fanfiction writer may write a fanfic of *Harry Potter* from Hermione's perspective or bend Harry's gender to reimagine him as a young woman, rather than a young man. Fanfiction holds far more value than entertainment: Scholars have celebrated and studied fanfiction for its view into cultural criticism (Booth, 2015; carrington, 2013), feminist and queer practices (Russ, 1985/2014; Dym, Brubaker, & Fiesler, 2018), representations of characters of color (carrington, 2013; Florini, 2019; Thomas, 2019; Thomas & Stornaiuolo, 2016), and role in literacy development (Jenkins, 2006; Roozen, 2009; Thomas & Stornaiuolo, 2016) and language

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[1] "Canon" refers to what is confirmed true in the original cultural material's universe.

[2] *Archive of Our Own* is a fanfiction publishing website that can be found at https://archiveofourown.org/.

learning (Black 2008; Black, 2009; Thorne, Black , & Sykes, 2009). Fanfiction is a form of "restorying," or "reshaping narratives to better reflect a diversity of perspectives and experiences [as] an act of asserting the importance of one's existence in a world that tries to silence subaltern voices" (Thomas & Stornaiuolo, 2016, p. 314). Fanfiction as a restorying literacy provides space for writers to critically examine the relationship between their identities and subject positions with the world around them. For many fans—particularly women, fans of color, and queer fans—participating in and reading fanfiction genres allows for them to re-examine how mainstream culture sees them and to reimagine what cultural materials might look like if their identities were celebrated, rather than tossed aside, underdeveloped, or ignored.

While fan studies research has boomed over the past thirty years, the social action of participating in fanfiction genres is under-explored, and computational text analysis methods have rarely been used to examine fanfiction. This research note will trace fan uptake using writing analytic methods and rhetorical genre studies as a lens. The data collected for this study are 3,759 *TLoK* fanfictions published from 2011–2015 on Archive of Our Own (AO3)—a popular fanfiction publishing repository—in order to trace how fans take up the cultural materials and genres that they love. As mentioned earlier, *TLoK* show is already a special case study because of the groundbreaking confirmation that two women of color are bisexual. While the creators, Bryan Konietzko and Michael Dante DiMartino, actively made this choice, fans are always-already doing the revolutionary work of reimagining exclusive cultural narratives.

This research note advocates for two major expansions in writing analytics: the first is an expansion in *content to be studied*, while the second is about *methods*. The current content studied in writing analytics mainly derives from learning analytics; the data collected often centers on genres and texts found in traditional educational settings, such as writing done in classrooms (Aull, 2015, 2017; Klebanov et al., 2018), for tests, or in writing centers (Giaimo et al., 2018). As scholars in education and literacy studies who are also interested in fan studies have demonstrated, pedagogy extends beyond the traditional classroom space (Black, 2009; Booth, 2015; carrington, 2013; Jenkins, 2006; Thomas & Stornaiuolo, 2016). While fanfiction may not hold the same institutional pressures as writing for a standardized test, it often helps both experienced and inexperienced writers develop their voices, rhetorical awareness, and understanding of the world. Paul Booth (2015) argues that for many, fandoms are where they can develop critical consciousnesses: "one's fandom may be one of the only places where one is encouraged to think critically, to write, to discuss deeply, and to make thoughtful and critical judgments about hegemonic culture."

The second goal of this research note is to continue expanding writing analytics methods. This research note provides an example for tracing genre uptakes—in this case, fan uptakes—using computational temporal analysis. As defined in rhetorical genre studies, uptake is the interdependent relationships between genres, specifically the anticipated responses to a genre in particular contexts that have been deemed appropriate based on place, time, frame, and function (Freadman, 2002). For this case study, I will use computational temporal analysis to examine the trends and patterns in the fanfiction corpus and compare these trends to when events in the show

were broadcasted. I will examine the published fanfictions' metadata and the actual text using NLP (Natural Language Processing) and word embedding models. As with all methods, this method only works for particular data and contexts; computational temporal analysis for this case study demonstrates how fans resist or embrace ideologies embedded within a cultural material—*The Legend of Korra*. The data collected allows for both an analysis of patterns in the metadata and an analysis of the actual fanfiction texts.

The case study presented in this research note only uses two points of data from the corpus: the publishing dates and relationship tags. By triangulating this data with the dates *TLoK* episodes aired, I demonstrate that three types of uptakes can be traced and defined: *canon complicit*, *implicit-explicit*, and *canon resistant*. While these uptakes directly relate to fan genres, I address a more general form of uptake that can be traced not only in fan practices, but across diverse genres and communities. *Critical uptakes* are when genre participants resist exclusive cultural and social norms as they take up particular genres. The first three uptakes mainly relate to fan practices in that each deals with fans' genre responses, the final uptake—*critical uptakes*—can be applied across the other three fan uptakes. Critical uptakes are the generic responses in which justice-centered ideologies are embedded; in this case study, the critical uptakes celebrate marginalized identities, specifically non-traditional gender and queer identities.

2.0 Problem Formation

The main question driving this case study is how to trace and define fan uptakes in *TLoK* using writing analytics methods, specifically looking at critical uptakes through fans' representations of marginalized identities. This section works to define fan studies, explain the role of rhetorical genre studies and uptake in discussing fanfiction, and demonstrate why integrating fan studies and fanfiction genres in writing analytics is mutually beneficial.

2.1 Fanfiction and Fan Studies

Fan studies appears across disciplines and invites scholars from education, new media, and other disciplines to come together (Black, 2008, 2009; carrington, 2013; De Kosnik & carrington, 2019; Dym, Brubaker, and Fiesler, 2018; Hellekson and Busse, 2014; Jenkins, 1992/2014, 2006; Thomas & Stornaiuolo, 2016). Early fan scholars such as Henry Jenkins, Patricia Frazer Lamb, Diana Vieth, and Joanna Russ celebrated fanfiction writers' practices and genres. Jenkins (1992/2014) argues that "much of the interest of fans and their texts for cultural studies lies precisely in the ways the ambiguities of popularly produced meanings mirror fault lines within the dominant ideology, as popular readers attempt to build their culture within the gaps and margins of commercially circulating texts" (p. 31). Jenkins' quote is one of the most well-cited in fan studies because he captures the main interest in fan studies: It both addresses the reflections of dominant ideologies in popular cultural texts as well as fans writers' practices in navigating, subverting, and pushing back against these dominant—and oftentimes harmful towards marginalized groups—ideologies.

Recently, fan scholars have turned away from celebrating fan practices to instead researching the nuances and complexities in fan practices, particularly in the ways that fan cultures may reinforce these particular harmful ideologies. In 2007, an anonymous *Transformative Works and Cultures* editor hosted and published a dialogue among several fans about racism and racist rhetoric across fan communities. Lothian (2018) and Booth (2015) have also pointed out the contradictions in fan communities in which fans simultaneously critique and embrace potentially exclusive and harmful ideologies. Several scholars have instead focused on *critical* fandoms, or the practices in fan communities that actively challenge systems of power and oppression (carrington, 2013; Booth, 2015; Lothian, 2018). Alexis Lothian's definition of critical fandom provides a good foundation to this work: "critical fandoms [are] the ways that members of fan communities use diverse creative techniques to challenge the structures and representations around which their communities are organized" (Lothian, 2018, p. 372). Fanfiction community engagement often appears in the publication sites, tagging/hashtag practices, commenting features, and the actual publishing and content of the fanfiction. For example, on Archive of Our Own, authors choose tags to invite their ideal readers to check out their work. These tags signal content, genre, and ideologies, and are places in which critical fandom practices can be found. Critical fandoms extend far beyond what fans write and read; critical fandoms actively engage with who is excluded and included, both in the original cultural materials as well as in the everyday interactions of the communities.

The application of critical fandoms has not explicitly found its way to writing and rhetoric, although the implication of fan spaces as critical spaces is there. Scholars in writing and rhetoric have studied fan communities for the purposes of understanding writing development (Roozen, 2009), fans' negotiations of their politics and the politics represented in the cultural texts they love (Summers, 2010), fanfiction as a remix literacy (Stedman, 2012), and the ways in which fans' produce and contribute to building out already-created stories (Potts, 2015; DeLuca, 2018). Roozen's (2009) case study of Kate, a graduate student and fanfiction writer, demonstrates the parallels between fanfiction literacy development and academic literacy development: "This portrait of Kate repurposing, remediating, and coordinating a rich network of texts and textual practices, of authoring herself continually across vernacular, disciplinary, and even professional worlds and the tensions and synergies that texture her efforts, suggests the need to make even more visible the rich and extensive networks at play in our students' literate lives" (p. 165).

Less represented in fan studies—especially in writing and rhetoric—are forms of computational analysis to explore patterns in linguistics, generic choices, tagging practices, and more. Dym, Brubaker, and Fiesler (2018) demonstrate the use of computational text analysis paired with measuring tagging practices in AO3, looking specifically at how fanfiction writers signal gender bending, particularly rewriting video game characters as trans. By using computational methods—specifically methods found in writing analytics—to explore fanfiction, scholars can better trace linguistic patterns and tagging practices in particular fan genres.

2.2 Merging Fan Studies and Writing Analytics

This section will first advocate for the integration of fanfiction content into writing analytics research. According to a definition of writing analytics used in the editors' note for the inaugural issue of the *Journal of Writing Analytics*:

> The principle goal of writing analytics is to move beyond assessment of texts divorced from contexts, transitioning instead to a more nuanced investigation of how analytics may be effectively deployed in different writing contexts. Writing analytics thus aims to employ learning analytics to develop a deeper understanding of writing skills (Shum et al., 2016, p. 1 as cited in Moxey et al., 2017).

Shum et al., who coined the term "writing analytics," extend learning analytics to instead focus on contextualizing assessment and learning practices. Writing analytics centers on context, analyzing the nuances of writing choices in terms of how they are responses to and appropriate for particular contexts. The inaugural issue's editors build off Shum et al.'s definition to create a writing analytics taxonomy: digital learning ecologies, educational measurement, massive data analytics, and ethical philosophy. As mentioned earlier, most of the articles published in *The Journal of Writing Analytics* use data from traditional learning environments, such as classrooms or writing centers. Fanfiction, while not a traditional learning environment, has been central to so many writers' literacy, writing, and critical development (Jenkins, 2006; Black, 2008; Roozen, 2009; carrington, 2013; Hellekson & Busse, 2014; Thomas & Stornaiuolo, 2016; Thomas, 2019).

    2.2.1 Digital learning ecologies. Open access to online fanfiction communities can allow for writers to explore the stories and groups of people who in cultural materials are often ignored, erased, killed off, or misrepresented in potentially damaging ways; thus these online spaces can help writers develop their critical consciousnesses as they choose what to write and read (Freire, 2000). By looking at fanfiction as a form of literacy development and audience awareness, scholars can research the critical awareness fans develop as they write, read, and reply to fanfictions.

    As a caveat, researching texts published on the internet still has ethical implications; publishing a story on the internet does not necessarily make it *public*. As Kelley (2016) argues, online fanfiction authors are accessible to all people with an internet connection, but they are not necessarily available for public consumption because they are held within a space dedicated for fans and are rarely looked at by people outside the community; by publishing fanfiction authors' usernames and stories, researchers and teachers are making people outside the fan community more aware of these fans' accounts and spaces, therefore potentially opening these spaces up for harassment. For example, I reached out and received consent from fanfiction authors to use their quotes in this publication.

    In terms of organizational guidelines, the *CCCC Guidelines for the Ethical Conduct of Research in Composition Studies* (Conference on College Composition and Communication,

2015) has an entire section dedicated to online research. These guidelines encourage researchers to think about anonymity or lack of anonymity, understand how material is or is not accessed or discoverable, and have a better understanding of the public/private binary. Large corpus analysis on fanfiction datasets—such as this research note—remove identities and usernames, but on an individual analysis level, fan scholars recommend researchers always receive consent from the fanfiction writers whose work they want to research. [3]

2.2.2 Massive data. Fanfiction can be found everywhere, from zines snail-mailed or sold at fairs to the large number of publishing platforms online, such as Tumblr, Twitter, Deviant Art, Fanfiction.net, Wattpad, and AO3. Since 2009, when the beta for AO3—one of the largest online fanfiction publishing repositories—first launched, over 4.5 million works have been published. Suffice to say, the amount of fanfiction available to be read, enjoyed, and researched is massive. Particular fandoms and platforms will heavily sway how a text is received; for example, Archive of Our Own is known for having more progressive politics, so the texts published there may contain more justice-centered ideologies. By focusing on the genres and platforms that have justice-centered ideologies embedded and reinforced in them, researchers can study the anti-racist, anti-misogynistic, and queer practices in fanfiction genres and online communities.

Collecting massive fanfiction data also allows researchers to focus on creating a genre-specific corpus. Klebanov et al. (2018) caution that using homogenous forms of computational analysis on heterogeneous datasets may "pose a problem" because these more generalized forms of analysis may not capture or provide results that do not accurately represent the diversity in a heterogeneous dataset (p. 327). When collecting massive fanfiction data, researchers can focus on creating a genre-specific corpus, which allows for the analysis to be more context-driven. In this case study, my prior knowledge of *TLoK* show and fan community led to choices to create a genre-specific corpus and conduct a genre-specific analysis.

2.2.3 Educational measurement. Fan genres are not necessarily part of a larger assessment environment and there are no explicit measures of writing ability in fanfiction. Quantitative measures of writing ability in fanfiction online platforms may include how much interest a particular text receives based on the liking or commenting mechanisms of a particular platform. Another important educational measurement—as Tate and Warschauer's (2018) review of how writing and learning analytics researchers measure motivation demonstrates—is exploring fan writers' motivations. In the case study below, I will demonstrate how computational temporal analysis provides a glimpse into the exigency and motivation of fan writers' uptakes of the original cultural materials.

If future writing analytics scholars are interested in taking up literacy development in fanfiction genres, another way to trace educational measurement is through fanfiction publishing platforms' commenting features and "beta-ing". Commenting mechanisms provide a glimpse into feedback, albeit feedback from peers rather than instructors or evaluators. Beta-ing, or when another person reads a fanfiction writers' work before they publish it, is also a common area of

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[3] Check with the administrators, moderators, or owners of any online publishing platform if they have rules or guidelines for researching work published on their website.

feedback (Levitte, 2019). Although the measurements and validity are harder to quantify and trace in fanfiction platforms, these potential assessment measurements still exist.

Fanfiction educational measurement can be brought into more traditional classroom environments and settings. Several scholars have already advocated for integrating fanfiction pedagogies into traditional learning environments (Booth, 2015; Krueger, 2014; Levitte, 2019; Stedman, 2012; Thomas & Stornaiuolo, 2016). College writing instructors, for instance, may integrate fanfiction critical uptakes into their classrooms, demonstrating how writers can critique exclusive and harmful cultural ideologies or reimagine texts with inclusive and justice-centered ideologies.

2.2.4 Ethical philosophy. The underlying ethical philosophies driving writing analytics research are the "reformulation of fairness" and "emphasis on justice" (Moxley et al., 2017). Fanfiction embraces justice and fairness in terms of who has access to fan literacies; most fanfiction sites are open access and encourage writers, particularly younger writers, to practice their craft. If a person has an internet connection, they can publish and read fanfiction. If not, fanfiction zines and texts have been historically disseminated through snail-mail or at conventions (Russ, 1985/2014).

Fanfiction is not inherently ethical or critical; there are some fanfiction genres and texts that may reinforce damaging or exclusive narratives. As mentioned in the previous sections, this research note is more concerned with critical fandom practices and critical fan uptakes: In what ways are fans always-already incorporating critical practices in their uptakes? Fan scholars have become more aware of the choices researchers make when they select which fandoms to study, and how they choose to analyze fan genres and texts must be made explicit, specifically integrating critical lenses or decolonial work (Booth, 2015; De Kosnik & carrington, 2019; Lothian, 2018;). Fan scholars choosing their analytical lens heavily signifies the fanfiction texts they will analyze and their arguments. This case study uses rhetorical genre studies as a framework to explore fan genres and uptakes, specifically focusing on justice-centered and critical ideologies.

2.3 Fan Genres and Uptakes

Compared to the vast amount of fanfiction—millions upon millions of published texts online— and fan genres, writing studies and fan scholars have barely scratched the surface, which is one reason why writing analytics and large corpus analysis can be useful for researching fanfiction. Fanfiction genres range from heartwarming "fluff" to sexually explicit "smut," from reimaging *Harry Potter* as a Christian narrative to a detailed description of a love scene between Hogwarts and a giant squid. The fanfiction texts reflect specific choices and actions made by fan writers and can provide a glimpse into understanding the reasons behind particular choices.
Fan scholars have rarely addressed the genre uptakes and conventions that appear across fandoms, especially through empirical research methods. Works like Thomas and Stornaiuolo's (2016), as well as Dym, Brubaker, and Fiesler's (2018) demonstrate empirical research methods for describing fan genres, but they do not consider the genres themselves as a form of social

action. What methods do fanfiction writers employ to reach their imagined audiences? How do fans take up the original cultural materials, the ideologies embedded in those materials, and other fan genres produced? To answer these questions, Rhetorical Genre Studies (RGS) offers another lens to study a fanfiction corpus.

RGS comes from a multidisciplinary merging of several approaches to texts and communication: speech act theory, rhetoric, linguistics, phenomenology, and others. As Mikhail Bakhtin's work on speech genres and utterances became centralized in genre studies because of its focus on interaction and the social (Bakhtin, 1981; Bakhtin, Holquist, & Emerson, 1986), Carolyn Miller's formative article "Genre As Social Action" (1984) launched a new sociorhetorical and multidisciplinary approach to genre studies—Miller translated the notion of speech as action to *genre as action*. Miller's famous definition of genre—a definition that is still cited in most studies using an RGS framework—is that genres are "typified rhetorical actions in recurrent situations." Instead of viewing genre as a stabilized category in which texts and ideas fit, Miller believes genre is separate from form because it is an action: the action of producing, reproducing, responding, and recurring all based on the social situations in which these actions take place. This view focuses on the *phenomenology* of genre, or the rhetorical and social situations in which genres are produced and reproduced.

Since Miller's formative article, RGS scholars have expanded the definition of genre to incorporate: the understanding that genre is "stabilized-for-now" (Schryer, 1994), the role of ideology and identity in genre participation (Applegarth, 2014; Paré, 2002; Poe, 2007; Randazzo, 2015), how individual people take up genres, or "uptake" (Freadman, 1994), and "disambiguating" uptake (Dryer, 2016). The importance of participating in genres is "knowing a genre [that is, being able to carry out a task effectively] is also knowing how to take it up" (Freadman, 1994, p. 63), as well as understanding the appropriate time and place to take that genre up. Since Freadman's first mention of uptake (1994) and her continued exploration (2002), scholars have used the framework to explore the different ways individual writers take up genres as well as the genres produced as responses. As Dryer (2016) argues, the more uptake has been taken up, the more unclear its definition and usage. He creates a taxonomy of the different forms of uptake; two of the definitions he creates are uptake as an *action* (uptake enactments) and uptake as a *thing* (uptake artifacts). While this research note is mainly looking at uptake artifacts—or the actual fanfictions written and published on Archive of Our Own—these artifacts provide a glimpse into and an understanding of the uptake enactments, or the actions fan writers take in response to the original cultural material as well as other fanfiction texts. This case study defines three types of fan uptakes: *canon complicit*, *implicit-explicit*, and *canon resistant*.

Another important element RGS brings to examining genre and uptakes—whether it be the action or the thing produced—is the focus on ideology. Bawarshi (2000, 2016) extends Freadman's notion of uptake to think more deeply about the role or power, privilege, and ideology in generic boundaries and uptakes. Analyzing uptake unravels the seams of genres—between the generic boundaries—in order to learn the rules for participating within particular genres, build and join communities that are constructed around genres, and/or problematize these

rules by exposing the harmful ideologies woven within genre performance. Exploring fanfiction through the lens of uptake provides a method for exposing the ideologies embedded within the generic boundaries from the original cultural material as well as the fanfiction and communities; specifically, in the conclusion section of this research note, I will define and describe the justice-centered ideologies that are embedded in fans' *critical uptakes*.

Fan uptakes—the action of reimagining an already-created cultural material through writing—demonstrate the ways in which fan writers read subtext, challenge normalized narratives in their work, expand identity and story representation, and develop audience awareness and their own voices. The uptake artifacts—the fanfictions—represent fans' uptakes of the original cultural materials, provide a glimpse into the *what ifs* fans ask themselves when they watch shows and movies or read books, and reveal the ways in which fans resist or reinforce the ideologies perpetuated in the original cultural materials. The question, then, is how can these fan uptakes be traced and defined using computational means?

3.0 Information Collection

This section will explore how fan uptakes can be traced using writing analytics methods, particularly by incorporating computational temporal analysis. In this note, I define computational temporal analysis as a method of tracing changes across time in a database, looking specifically at changes in metadata patterns and language patterns as well as in the ideologies embedded in these patterns. While this case study is specifically concerned with fan uptakes, this method may be applied across other research contexts.

3.1 Data Collection

In order to explore fan uptakes and the uptake artifacts, the different genres must be established. One genre is the young adult bildungsroman television show, while the other genres are the fanfictions, themselves. These fanfictions written are both a direct response to the original cultural material—*TLoK*—as well as other fanfictions that have been written before. This is evident through linguistic and tagging patterns that appear in the analysis of the data. The data collected for this case study are 3,759 fanfictions published on AO3 from 2011–2015.

3.1.1 Why *The Legend of Korra* fanfictions? *TLoK*, the original cultural material, already breaks generic conventions and demonstrates critical ideologies that subvert systems of power and oppression, especially around its representations of diverse races and sexualities. Since this case study explores fan uptakes, particularly fans' critical uptakes, I chose an original material that is already justice-centered in its ideologies because the fan community—those who choose to watch and engage with the original cultural material—may be more critically conscious than viewers of television shows that demonstrate more exclusive ideologies.

As Ebony Elizabeth Thomas (2019) and so many other cultural and fan studies scholars have argued, representation for people of color in mainstream cultural materials is limited. The "imagination gap" Thomas (2019) describes—or the ways in which science and speculative fiction often represent the same groups of people—demonstrates creators' and producers' lack of

imagination in character representation because characters of color or other marginalized characters may be "unlikeable" to the larger public; the public, in this case, is coded as white, cisgender viewers, completely ignoring the viewers of color or viewers from other marginalized groups. *The Legend of Korra* already bridges this gap by having the main character in a cartoon fantasy series be a powerful and vulnerable woman of color—Korra—who in the end is confirmed bisexual when she begins a romantic relationship Asami, another woman character. As one of the creators, Bryan Konietzo (2014) states:

> But this particular decision [to pair Korra and Asami together] wasn't only done for us. We did it for all our queer friends, family, and colleagues. It is long overdue that our media (including children's media) stops treating non-heterosexual people as nonexistent, or as something merely to be mocked. I'm only sorry it took us so long to have this kind of representation in one of our stories.[4]

The show invites fans to challenge particular exclusive ideologies around gender, race, and sexuality: The "happy ending" in the show resists heteronormativity, as it suggests an adventure to come, a grand vacation, and a new romance that breaks boundaries.

While the show itself demonstrates a critical consciousness by flipping the classic white, cisgender straight male hero, what is more important is how the fans took up the show, even before the confirmation of Korra's bisexuality in the series finale. Fans were already reading the queer subtext, as well as queering the explicit text, by pairing Asami and Korra or other same-gender characters together. The 3,759 fanfictions published on Archive of Our Own demonstrate the ways in which fans took up moments of the show to either challenge or reinforce particular ideologies embedded in the show.

3.1.2 Retrieving data from Archive of Our Own. Since the launch of AO3's beta in 2009, over 4.5 million works have been published. For fan and information systems scholars, AO3 has been a widely studied online database for two main reasons. First, AO3 is a publishing base for fan works that welcomes diverse types of writing and interests. The word count of these works ranges from approximately 200 words to 100,000+ words with some stories exceeding a million words. In one day, hundreds of fan texts are published or updated by authors reaching out to their readers, sharing the variety of ways in which they have reimagined cultural materials that they love. Second, AO3 is part of The Organization for Transformative Works, which is an organization centered around fan study, art, and preservation, and houses other important projects such as the *Transformative Works and Cultures* journal and Fanlore, a fan-based wiki. The Organization for Transformative Works celebrates fan communities as well as the study of fans, so it is an ideal source for data collection when researching.

AO3 does not currently have an application programming interface (API) to collect fanfictions, but when I reached out to the Organization for Transformative Works about my

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[4] About a week after *TLoK* series finale aired, Bryan Konietzo posted a blog on his Tumblr to confirm that Korra and Asami's romance is canon as a response to some fans misinterpreting the final scene.

research, the respondent said third-party scraping was allowed at particular times to prevent overwhelming their servers. I used Jingyi Li and Sarah Sterman's AO3 scraper[5] to collect all of *TLoK* fanfictions published from 2011–2018. The data collected was a CSV (comma separated value) file with both the metadata about the fanfiction as well as the actual body of text.

The next step was data transformation, or making choices about which data to analyze and pair. Including the actual fanfiction text itself, there are approximately 20 points of metadata about each fanfiction. Some important data for each fanfiction includes:

- **Published date**: the date when the fanfiction was first published.
- **Relationship**: the user-chosen tags that signal which characters are paired together in the fanfiction. Examples of relationship tags are "Korra/Asami," "Korra/Mako," or "Mako/Wu."[6]
- **Rating**: the user-chosen rating. These ratings include "General Audience," "Teen and Up", and "Mature."
- **Additional tags**: user-selected additional tags used to signal the genre, content, and other important information about the fanfiction. Examples of additional tags are "Fluff," "Smut," "Canon Complicit," and "Alternate Universe."
- **Body**: the actual fanfiction text.

This case study mainly focuses on computational temporal analysis to trace fan critical uptakes specifically using publishing date, relationship, and body data. First, I pair data results from the corpus with events that air on the television show using the publishing date metadata. Then, I use these results to trace relationship tagging practices to define different types of fan uptakes. Finally, I create three corpora around specific dates and use NLP and word embedding models to further dive into shifts in ideological patterns.

3.2 Data Transformation

In order to analyze the corpus, I used Python to transform the data and Excel for visualizing some results.[7] The additional tags and relationship tags are not standardized and chosen by each fan writer, which can make quantifying tags a bit challenging. As Rawson and Muñoz (2016) argue, the process of transforming data in an attempt to standardize is a form of argumentation itself, because the researcher is choosing the final standard. When fans fill out the metadata about their fanfiction text, they can choose a relationship tag to pair two characters. While AO3 suggests to fan writers a specific string to represent the relationship, it is up to fans whether or not they will follow that specific string. The relationship tag "Korra/Mako" typically appears with Korra at the beginning of the string, but on rare occasions "Mako/Korra" will be used. I mainly counted "Korra/Mako" tags because these were the most common, and incorporated

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[5] The AO3 Python scraper created by Jingyi Li and Sarah Sterman is available at https://github.com/radiolarian/AO3Scraper

[6] Mako and Wu are other characters in *The Legend of Korra*; Korra/Mako is another popular relationship tag, although not nearly as popular as Korra/Asami on AO3.

[7] The Python code for this article is available on GitHub: https://github.com/caramessina/tracing_fan_uptakes

"Mako/Korra" in my count when it came up. The relationship tag "Korra/Asami," however, appears much more consistently, especially in the earlier publishing dates. The different strings used are "Korra/Asami (Avatar)," "Korra/Asami," and finally "Korra/Asami Sato," which made counting the number of times fans used Korra and Asami in a relationship tag a bit more challenging. In later dates, as the korrasami ship became more popular in the fandom, the "Korra/Asami Sato" tag became much more standardized.

For computational temporal analysis, I grouped fanfictions based on the month and year of their publication dates. Each fanfiction's publication date has the month, date, and year. I created another metadata column using a regular expression titled "month," which contains only the month and year; for example, if a fanfiction text was published on May 12, 2015, the "month" column read 2015-05. This better allows me to trace patterns that occur by pairing the "month" data with the airing dates from the original cultural materials.

3.3 Pairing Publishing Dates with Television Air Dates

The first place to begin when exploring how fanfiction authors take up the original cultural material is to pair publishing dates in the corpus with dates on which important events on *TLoK* were first aired. Table 1 shows a written timeline that highlights specific trends from the corpus with events from *TLoK* advertising or episode airs; Figure 1 is a visual representation of the number of fanfictions published across months and years as well as the number of Korra/Asami Sato and Korra/Mako relationship tags used per month. The date represents the date of the trend or event; the middle column represents when important moments from the show aired; the third column represents data collected from the corpus of *TLoK* fanfictions published on AO3 that pair two points of metadata: publishing date and relationship. I used the publishing date to count how many fanfictions were published in each month along with the most popular relationship tags used and cross-referenced this with the events from the original cultural materials.

Table 1

Timeline of Original Cultural Material and Fanfiction Corpus

Date	Original cultural material	Fanfiction corpus
05/2011	Nickelodeon advertises for *TLoK*, sequel to *Avatar: The Last Airbender*.	The first *TLoK* fanfiction is published on AO3.
04/2012	The first episode of *TLoK* airs on Nickelodeon.	84 *TLoK* fanfictions are published this month.
05–06/2012	The episode "The Spirit of Competition" airs in which Korra first kisses Mako, a male character	The first large spike of *TLoK* fanfictions published on AO3. ● May: 120 fanfictions published ● June: 197 fanfictions published
08–10/2014	The season 3 finale, "Venom of the Red Lotus" airs with hints of Korra and Asami's budding romance.	The second large spike of *TLoK* fanfictions published on AO3: ● August: 81 published ● September: 125 published ● October: 225 published
12/2014–01/2015	The series finale, "The Last Stand" airs on December 14; Korra and Asami's romance is confirmed canon.	The third large spike of *TLoK* fanfictions published on AO3: ● November: 165 published ● December: 359 published ● January: 400 published

By examining the uptake artifacts from the corpus, this timeline demonstrates several aspects of fan uptake enactments, or the actions fans take to participate in fanfiction genres and react to the original cultural material: *canon complicit*, *implicit-explicit*, and *canon resistant uptake enactments*. These types of fan uptakes relate directly to the ways in which the fans reimagine the original cultural materials: Some choose to explore what is already canon (canon-complicit), some choose to make explicit the arguable subtext in the original cultural material (implicit-explicit), and some choose to resist the canon entirely (canon resistant).

In order to examine these fan uptakes, I will examine the relationship tags that were used for each month, specifically looking at "Korra/Asami Sato" and "Korra/Mako" (see Figure 1). Relationship tags on AO3 are used by writers to signal to their potential audiences which characters will be involved romantically by using the forward slash between character names.
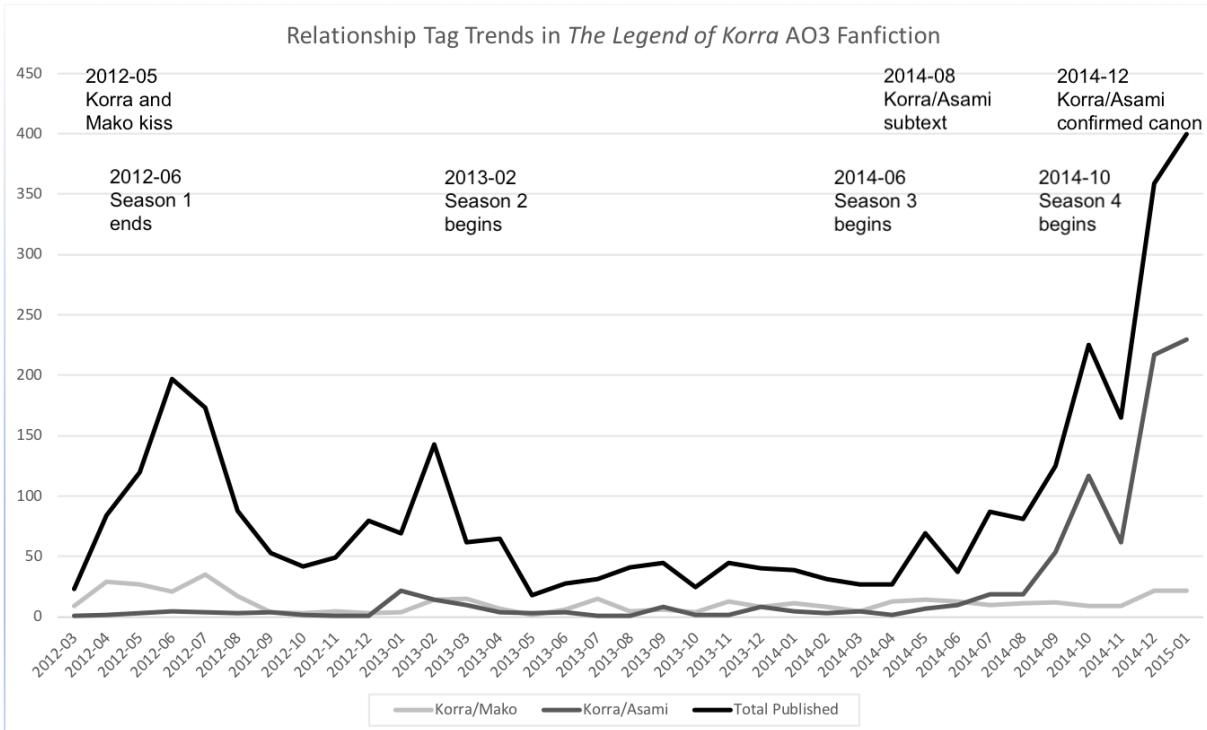
Relationship Tag Trends in *The Legend of Korra* AO3 Fanfiction

Figure 1. Trends in user-chosen relationship tags.

First, and most unsurprising, trends in the publishing dates and relationship tags reflect events in the show. When fans watch Korra and Mako kiss in an episode aired in May 2012, the excitement about the new relationship inspires fanfiction writers to begin publishing their own imagined romances between Korra and Mako, as shown by Korra and Mako as one of the highest picked relationship tags in May and June 2012. In December 2014, Korra and Asami, a beloved ship—relationship—in *TLoK* fandom, is confirmed official on the show; fans' enthusiasm can be traced in a large spike of fan fictions published (from 165 in November to 359 in December). This uptake enactment, which I will call the *canon complicit uptake*, is fanfiction or fan genre created celebrating and following an event in the original source material. "Canon complicit" is a frequently used AO3 additional tag; the canon complicit works are fanfictions or fan art that follow the original source materials—also known as the "canon" in fandoms.

The next form of uptake that this timeline demonstrates is *implicit-explicit uptake* enactments, in which fans analyze the subtext of the show and make the subtext explicit in their fanfictions. This implicit-explicit uptake will come as no surprise to both fans and fanfiction scholars; fanfiction often builds off canonical moments in the show, exploring the potential stories hidden between the lines, such as the Kirk/Spock slashfic written and disseminated in the late 1970s and beyond (Russ, 1985/2014) or reimaging the story from a side characters' perspective. As Jones (2002/2014) points out, the cult television genre "implicity 'resists' the conventions of heterosexuality; the slash fiction stories written by some of its fans render explicit

this implicit function" (p. 128). Jones' reading of cult television shows, or shows with a cult-like dedicated fandom following, are already subversive in their takes on culture and ideology; although I would argue this, of course, depends on the consumers' analysis of the text as there is no Truth that exists within a text. Jones' argument signals to the potential of an underlying narrative in the original cultural texts that resists heteronormative, white supremacist ideologies—the problem is though, that these readings are usually buried in subtext and can be ignored by other fans. This is why fans' implicit-explicit uptakes are necessary.

Tracing fan uptakes using computational temporal analysis shows that fans typically react to moments of tension or potential romance by making this romance explicit, and *TLoK* is no different. As the second spike of *TLoK* fanfictions published on AO3 in August, September, and October 2014 demonstrates, fans' often take up the potential stories and make them explicit. In the episode "Venom of the Red Lotus" (aired online at the end of August 2014), Korra must fight Zaheer, an anarchist with a strong connection to the Spirit World; she defeats Zaheer, but is traumatized physically and mentally in the process. The final few minutes of the episode show wheelchair-bound Korra seemingly disconnected from the celebrations occurring around her as she suffers with the traumas she endured. Asami is right by Korra's side for every scene, helping her get ready, pushing her where she needs to go, and standing beside her during the final few minutes of the episode as a ceremony takes place. While Asami helps Korra get ready, she kneels beside Korra and takes her hand to tell her, "I want you to know that I'm here for you. If you ever want to talk or [pause] anything." Fans read into Asami's pause and her lingering on the word "anything," as demonstrated in the sudden rise of published *TLoK* fanfictions and the Korra/Asami Sato relationship tag, jumping from 19 in August to 54 in October 2014. In fact, around October 2014, the count of the "Total published" texts matched almost identically with the count of the "Korra/Asami" relationship tags; the amount of Korra/Asami fanfiction published from October 2014 and beyond heavily impacts the number of total published fanfictions because the relationship is so popular in the fandom. This demonstrates fans' implicit-explicit uptake enactments, exploring what is unsaid and hidden in the subtext to celebrate diverse stories, specifically diverse queer stories.

The third fan uptake enactment the data shows is *canon resistant* uptakes, or when fans actively resist both the implicit and explicit canonical choices made in the original cultural material. One of the more surprising moments for me during this research—and a result that I honestly should have seen coming—is Korra and Mako was *not* the most popular relationship tag chosen during the month Korra and Mako's romantic relationship was built up and finally began with a kiss. The most popular relationship tag chosen in May 2012 was Korra and Tahno (at 29, as opposed to Korra/Mako at 27), who is a competitor she faces during a sports event in the first season. Korra/Bolin ships—Bolin is Mako's brother—also come up quite frequently and, even though Korra and Bolin tried dating at the beginning of the series, their relationship became platonic after Korra and Mako became a couple. Another insistence of canon resistance uptakes demonstrated through relationship tags is the common pairing of Korra and Kuvira, another woman character; Kuvira is the main villain is season 4 and is often paired with Korra in

fanfiction published later in the series and past the series. Canon resistant uptakes and implicit-explicit uptakes may overlap varying on the fans' or the researchers' reading of the original cultural material. For example, some fans may argue there was implicit sexual tension between Korra and Tahno, which is not my own reading of Korra and Tahno's relationship.

Examining different forms of uptake through relationship tags demonstrates the different types of fan uptakes, but also provides a glimpse into the exigency of fan uptakes. As Table 2 shows, while Korra and Mako was originally one of the more popular ships, the percentage of Korra/Asami relationship tags to the count of fanfiction texts published around the first season (April–June 2012) was only 19.51%. As Table 3 shows, when *TLoK* subtext hints at Korra and Asami's potential romantic relationship (August–November 2019), the "Korra/Asami Sato" relationship tag is used in 44.08% of the fanfictions published.

Table 2

Percentage of Fanfictions Published Using "Korra/Mako" Relationship Tag

Date	Total fanfictions published	Texts that use "Korra/Mako" tag	Percentage
2012-04	84	29	34.52%
2012-05	120	27	22.5%
2012-06	197	21	10.66%
Total	**401**	**77**	**19.2%**

Table 3

Percentage of Fanfictions Published Using "Korra/Asami Sato" Relationship Tag

Date	Total fanfictions published	Texts that use "Korra/Asami" tag	Percentage
2014-08	81	19	23.46%
2014-09	125	54	43.2%
2014-10	225	117	52%
Total	**431**	**190**	**44.08%**

The difference between the "Korra/Mako" published texts when their relationship was canon as opposed to the percentage of "Korra/Asami" published texts when subtextual hints of their relationship appeared demonstrates a collective desire for a canonical queer relationship in the *TLoK* fandom. As Thomas and Stornaiuolo (2016) argue for young writers of color who restory texts, "we applaud young people's resilient efforts to author themselves in order to be heard, seen, and noticed—to assert that *their lives matter*—by bending the world around them" (p. 333). For fanfiction writers who both enacted implicit-explicit uptakes as well as canonical complicit uptakes around Korra and Asami's relationship, they assert queer lives matter and queer characters (people) deserve to be heroes.

3.4 Computational Text Analysis: Exploring Representations of Gender and Sexuality in the Corpus

In order to work with the actual fanfiction texts, I split the published fanfictions up into three separate corpora by published month (see Table 4): The first corpus is a collection of all the fanfictions published before August 2014, when season 3 was airing and the show hinted at Korra and Asami's potential romance; the second corpus is a collection of all the fanfictions published from August 2014–November 2014, before the series finale confirmed Korra and Asami's romantic relationship was canon; the third corpus is a collection of all the fanfictions published from December 2014–March 2015, when and after the series finale confirmed Korra and Asami's romance. Similar to the results from the published dates and relationship tags, these three corpora reflect when important moments in the show aired, especially around Korra's relationship with Asami.[8] This section will examine the different language patterns in the three corpora, how these language patterns reflect fan writers' uptakes of the original show, and the ideologies embedded within these uptakes, especially around representations of gender and sexuality.

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[8] What I have not discussed as much in this research note is that Korra and Asami is not the only widely-used relationship between two female characters. There are several fanfictions that pair Korra and Kuvira, another woman character in the show.

Table 4

Fanfiction Corpora Separate by Published Date

Corpus name	Corpus description	Corpus word count
Pre-Korrasami	*TLoK* fanfictions published between **February 2011 and July 2014**	4,148,808
Subtext-Korrasami	*TLoK* fanfictions published between **August 2014 and November 2014**	1,506,803
Post-Korrasami	*TLoK* fanfictions published between **December 2014 and March 2015**	6,156,530

Once the three corpora were created, I ran different forms of corpus preparation to prepare each for computational text analysis. I lowered all the capital letters, removed basic stopwords, removed all punctuation (including punctuation specific to the corpora such as "``" and "--"), and stemmed all the words using NLTK's Porter Stemmer.[9] Stemming transforms words like "masculine," "bisexual," and "breathlessly," to "masculin," "bisexu," and "breathlessli" in order to combine the similar words with different suffixes; for example, "bisexual" and "bisexuality" are now both labeled "bisexu."

In order to better trace the contexts in which particular words are used, I created three separate word embedding models of the corpora with Python's gensim library.[10] Word embedding models, or Word2Vec, measure and compare the relationships of a word's context and finds the cosine similarity of other words in that corpus that appear in similar contexts. Schmidt (2015) advocates for analyzing texts with word embedding models because they "offer something slightly more abstract, but equally compelling: a spatial analogy to relationships between words. WEMs (to make up for this post a blanket abbreviation for the two major methods) take an entire corpus, and try to encode the various relations between word into a spatial analogue." A classic example might be that "queen" is closely related to "king" in that each word is used in similar contexts. Depending on the corpus, however, the results will vary. The results will also vary based on the parameters provided during the creation of the model. In the word embedding models I created, I chose to include words that appear at least 10 times across each corpus. This means if a word is not included in the word embedding model, it

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[9] To find the code for this text preparation stage, visit my published textual preparation notebook on GitHub at https://github.com/caramessina/tracing_fan_uptakes/blob/master/02-preparing_textual_data.ipynb

[10] For the code to create word embedding models as well as some more detailed results, visit my computational text analysis notebook published on my GitHub at https://github.com/caramessina/tracing_fan_uptakes/blob/master/03-computational_text_analysis.ipynb

appears less than 10 times in that specific corpus. By creating a word embedding model for each corpus, I compare the ways in which particular terms are used across the three corpora based on the words that are most likely to appear in similar contexts.

The best example to begin with are the three separate results for the words that are most similar to "Asami" across all three corpora. In the pre-Korrasami corpus, some of the words most similar to "Asami" are "cheerlead" (cheerleader, cosine 0.66); "quarterback" (0.65); "heiress" (0.62); and "girlfriend" (0.52). In the subtext-Korrasami corpus, some of the words most similar to "Asami" are "engin" (engine or engineer, 0.75); "korra" (0.74); "softli" (softly, 0.62); and "mumbl" (0.56). In fanfiction, common nicknames are given to characters—especially when writing romantic scenes between characters of the same gender—because relying on pronouns to describe interactions can make for confusing prose. These nicknames often appear across many fanfiction texts, as fanfiction authors seem to be borrowing each other's' nicknames.[11] For example, "the heiress," "the engineer," or "the inventor" may be used as a nickname for Asami, as shown in the results; other popular examples may include describing characters based on their physical features, such as "the taller one" or "the raven-haired woman".

Between just the pre-Korrasami corpus and the subtext-Korrasami corpus, there are already significant differences in the words that are most commonly related to Asami. In the pre-Korrasami corpus, there is more of a focus on classic high school romance tales—the cheerleader and the quarterback pop up as the most similar words to Asami. Canonically, there is no football, quarterbacks, or explicit cheerleaders in *TLoK* show, so the appearance of these words implies Asami often appears in alternate universe fanfictions[12] where she is the cheerleader interacting with a quarterback. In the subtext-Korrasami corpus, the word "engine" is most similar to Asami, which aligns canonically with the show; Asami is an inventor, so fanfictions where she appears may be using the word engineer to describe her or engineer might appear in similar situations as the word "Asami." The words "mumbl" and "softli" appear, demonstrating interactions between Asami and other characters or Asami's own actions. As these adverbs and verbs demonstrate in the subtext-Korrasami corpus, writers may write her as more active, rather than just describing her through the roles she takes on. Finally, in the post-Korrasami corpus, the words most similar to "Asami" are "Korra" (0.86), "girlfriend" (0.67), "heiress" (0.58), "babe" (0.54), and "mmm" (0.51). At first glance, there are similar results between the pre- and post-Korrasami corpora, such as "Asami" being related to words like "girlfriend" and "heiress." The post-Korrasami corpus results, however, suggest Asami's role has shifted—words most related to her name revolve around activity, particularly romantic activity: "mmm," "softli," "shyli," and "blush," suggest romantic actions, and as the temporal analysis above suggests, these activities probably involve her interactions with Korra in these fanfictions. This basic analysis demonstrates the

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[11] Tracing the use of these nicknames across particular fandoms may be a fascinating intertextual study demonstrating how fan writers shape their own communities and writing practices through this form of intertextuality.

[12] Alternate universe fanfictions are fanfictions that exist in universes outside the canonical universe. As the Asami/Cheerleader example demonstrates, some popular alternate universes are imagining characters in fantastical worlds in more ordinary and realistic high school situations.

ways in which word embedding model results shift based on the corpus and how these results may offer insights for each corpus.[13]

Table 5 shows the results across all three corpora for different words. I queried these words in each word-embedding model, and in the table, I highlight some of the top results along with their cosine similarity. I chose to query words that mark either gender and sexuality and, as the results show, the representations of gender and sexuality differ widely across the corpora. I specifically decided to query identity-based words such as "masculine," "feminine," "bisexual," and "gender"; different gendered actions and roles such as "marry," "pregnant," and "girlfriend;" and representations of Asami using the term "heiress," which is a nickname provided to her by fanfiction writers.

Table 5

Results from Word-Embedding Model Queries across the Three Corpora

Word query	Pre-Korrasami results	Subtext-Korrasami results	Post-Korrasami results
heiress	gorgeou*, 0.63 asami, 0.62 girl, 0.59 quarterback, 0.57	breathlessli*, 0.77 flush, 0.74 arch, 0.73 a-asami, 0.72	omega, 0.69 alpha, 0.66 inventor, 0.65 squirm, 0.62
feminin*	eleg*, 0.78 accentu*, 0.76 complement, 0.75 facial, 0.74	brunett*, 0.91 creami*, 0.88 repeatedli*, 0.86 vagina, 0.85	allur*, 0.73 contrast, 0.73 eleg*, 0.71 masculin*, 0.70
masculin*	undeni*, 0.71 mixtur*, 0.71 throat*', 0.69 enchant'*, 0.68	porn, 0.92 inexperienc*, 0.91 pervert, 0.91 envi*, 0.91	epitom*, 0.70 feminin*, 0.70 qualiti*, 0.70 gender, 0.69
gender	inspir*, 0.77 interpret, 0.75 writer, 0.74 genr*, 0.74	reput*, 0.93 wage, 0.93 specul*, 0.92 inventor, 0.92	biolog*, 0.74 common, 0.73 stereotyp*, 0.73 renown, 0.72
bisexual	N/A	N/A	lesbian, 0.74 fangirl, 0.68 gay, 0.68 heterosexu*, 0.67

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[13] I also want to point out the importance of knowing your corpus. Because I am familiar with *TLoK* fandom, I am more likely able to discern potentially strange relationships between words.

marri*	wed*, 0.70	proud, 0.78	marriag*, 0.73
	wife, 0.70	marriag*, 0.77	wed*, 0.65
	pregnant, 0.69	daughter, 0.77	propos*, 0.63
	sixteen, 0.68	husband, 0.76	wife, 0.60
pregnant	marri*, 0.69	husband, 0.89	birth, 0.64
	babi', 0.63	wife, 0.86	husband, 0.63
	fourteen-year-old, 0.61	daughter, 0.74	sire, 0.61
	wife, 0.60	warmli*, 0.73	wife, 0.60
girlfriend	boyfriend, 0.84	cute, 0.83	korra, 0.70
	date, 0.78	chuckl*, 0.83	asami, 0.67
	jealou*, 0.78	date, 0.822	dork, 0.63
	cute, 0.66	wink, 0.81	ador*, 0.63

Table 5 results suggest there are shifts in ideological underpinnings through the relationships between words. Continuing the Asami example from above, the word "heiress" in the pre-Korrasami model follows traditional gender roles for women: Words like gorgeous, quarterback, and girl appear. In the subtext- and post-Korrasami models, however, "heiress" is used in words that relate explicitly to sexuality and sexual relationships: "Arch" refers to someone's back and body arching during a passionate act, "a-asami" refers to intimate speech, and "alpha" and "omega" are labels used across fandoms to refer to the sexual and romantic dynamic between two characters of the same gender. The transformation for how fans represent Asami across the three corpora also demonstrates a shift in ideologies. In earlier fan uptakes of the show, Asami is represented through more traditional gender roles and notions of femininity. She is represented as beautiful, wealthy, and distant from the main story. The subtext-Korrasami model *implicit-explicit* uptake demonstrates a dramatic shift in representations of Asami, recognizing Asami not just as a distant feminine figure, but an intimate part of the story, especially Korra's story, where their romance is made explicit.

The next group of word queries are words that signify identity markers: "feminine," "masculine," "gender," and "bisexual." The word "feminine" across the three corpora reflects traditional descriptors of femininity: elegance, creamy, brunette, and alluring. However, femininity in the subtext-Korrasami corpus uses more explicit vocabulary, implying feminine is often used in intimate scenes; femininity in the post-Korrasami model seems to be used in "contrast" to "masculine," potentially implying a feminine/masculine divide between Korra and Asami. The "masculine" query in the post-Korrasami model reinforces this idea: Masculinity and femininity are often paired together. Meanwhile, "masculine" in the pre-Korrasami corpus seems to be more of a descriptor, although the word "mixture" implies less rigidity in gender performance. Finally, the query results for "gender" and "bisexual" in the post-Korrasami yield the most interesting results: Both results suggest writers' critical awareness of identity markers. "Biolog*" (biology/biological) paired with "gender" suggests an awareness of gender theory,

particularly around gender labels; although, the concordance tool results for "biolog*" show "biological" is mostly used to refer to parentage and "biology" is used to refer to the school subject. "Bisexual*" (bisexual, bisexuality) does not even appear in the first two models, which means the word was used less than 10 times in those corpora; meanwhile, it appears in the post-Korrasami model with other markers of sexuality.

The final word queries relate to gendered actions and labels: "marri," "pregnant," and "girlfriend." The words most similar to marri* and pregnant across the three models still suggest forms of heteronormative roles: wife, husband, propose; there are some surprises in these results, including "fourteen-year-old" in the pre-Korrasami model and "sire"—the male breeding position, but also sometimes used in fanfiction and fantastical genres to refer to a mystical forms of parentage—in the post-Korrasami model. "Girlfriend" across the three models provides a more explicit trajectory from traditional representations of girlfriends in the pre-Korrasami corpus to the queer, intimate representations in the post-Korrasami corpus. In the pre-Korrasami corpus, the word most related to "girlfriend" is "boyfriend," and other terms like "jealous" and "cute" appear. In the post-Korrasami corpus, however, "girlfriend" has a less patronizing portrayal: obviously "korra" and "asami" are most related, but the word "adore" and "dork" are also closely related, two words which portray intimacy and playfulness.

While word-embedding models provide overall patterns in contextual relationships between words, diving into the text is a necessary step to better understand how these models may or may not reflect specific moments in the text (Messina, 2018). Using a concordance Python function created by Geoffrey Rockwell,[14] I queried several words from the word-embedding model to examine how these words are used in specific contexts (see Table 6). Quinn (forthcoming 2020) refers to this method as "folding back," in which researchers use computational models to then investigate specific moments in the original corpus. Table 6 shows some chosen excerpts from the concordance results. These results are not necessarily representative of each corpus, yet I want to include them to demonstrate the necessity of going back to the text after performing computational text analysis.

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[14] Find Geoffrey Rockwell's concordance function published on GitHub here:
https://github.com/sgsinclair/alta/blob/a482d343142cba12030fea4be8f96fb77579b3ab/ipynb/utilities/Concordances.ipynb

Table 6

Concordance Excerpts from the Three Corpora

Word	Quote	Corpus	Fan author
gender	*"You and your **gender** roles can bite me"*	Pre-Korrasami	Lapin
	*"were lingering stories of past **gender** inequality in the Water Tribes"*	Post-Korrasami	Katya_D_R_Rarewyne
girlfriend	*"'This is Asami; my **girlfriend**,' Korra introduced Asami"*	Pre-Korrasami	Nightworldlove
	*"Guys meet my amazing, beautiful **girlfriend** Asami!" Korra announced loudly*	Sub-Korrasami	korrasamishipper
feminine	*"She's beautiful , feminine and she has Mako"*	Pre-Korrasami	FitzgeraldWappingers
	"just the right mix of masculine and feminine."	Post-Korrasami	avesnongrata
gay	*"I will not tolerate a son of mine being **gay**."*	Pre-Korrasami	Aewin
	*"Because Korra could not be **gay**. She just simply could never marry a woman"*	Sub-Korrasami	autumnmycat
	*"police really liked to harass butch women at **gay** bars, especially those of us who used underwear as one of our items"*	Post-Korrasami	Emily Merrill
lesbian	*"How?! There isn't a **lesbian** version of Grindr. Is there?"*	Sub-Korrasami	Dandybear
bi/bisexual	*""I'm **bi**, er, bisexual" Korra announced, her voice just as shaky"*	Sub-Korrasami	gillywulf

All fanfiction authors have provided me with consent to use excerpts from their fanfics and their usernames or real names in this article.

As Table 6 demonstrates, the findings in the word-embedding model do not fully capture the nuances of each corpus. For example, in the word-embedding models, the word "bisexual" does not appear in the first and second model, but the words "bisexual" and "bi" are used in the pre- and subtext-Korrasami corpora in ways that suggest writers are thinking deeply about representations of sexuality, particularly around the fluidity of sexuality as well as the "coming out" narrative.[15] In the pre-Korrasami corpus, Nightworldlove's text demonstrates *canon-resistant* uptakes as they were writing about Korra and Asami's romance in late 2012. Table 6 shows, especially in the "lesbian" and "gay" results, the anxieties around coming out and merely existing as a queer person. For example, autumnmycat's fanfiction takes places in *TLoK* universe, yet autmnmycat maintains realistic anxieties around embracing one's non-normative identity: "Because Korra could not be gay. She just simply could never marry a woman." As Yoder, Breitfeller, and Rosé (2019) argue in their sentiment analysis of fanfiction published about the most popular fandoms in AO3, the negative sentiment analysis around queer identity markers like "trans," "gay," and "queer," more reflects genre conventions in fanfiction, rather than actual negative sentiment towards queer identities. One of the most popular fanfiction tags on AO3 is "Angst," and angst paired with representations of queer identities may manifest through anxieties around a lack of acceptance, isolation, and violence. For example, in the "lesbian" search, one writer in their universe discusses the violent policing of butch lesbian women, which the author also points to as a historical reality. Even if these are fictional reimaginings of a fictional universe, the anxieties are very real: LGBTQA+ people are constantly threatened by damaging rhetoric and slurs, homophobic individuals and groups, and systems of oppression that encourage violence towards queer individuals and communities.

Even though the word-embedding models suggest fan writers' uptakes became more critical as the show moved forward, some fan writers seemed to always-already be concerned with representations of sexuality and non-traditional genders and gender roles. As Lapin writes in an excerpt from the Pre-Korrasami corpus: "You and your gender roles can bite me." The goal is for researchers to discern the type of rhetorical choices fans make in their uptake of original texts, and how these uptakes reflect ideologies that are critical of systems of oppression and want to represent diverse identities, particularly queer identities, in ways that reflect the real anxieties, joys, and all the nuances between.

4.0 Conclusions

As mentioned in the problem formation section, fan studies scholars are becoming more invested in critical fandom practices. The final form of uptake I will define are fans' *critical uptake* enactments. These uptakes may include implicit-explicit, canon resistant, or canon complicit uptake practices, but critical uptakes specifically deal with resisting exclusive and oppressive ideologies by embracing justice-centered practices in writers' choices. The above analyses demonstrate several ways in which fans take up the justice-centered ideologies in the

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[15] I am not including excerpts from these texts as I have not received consent from the authors of these particular quotes.

text, particularly around the representation of queer identities through Korra and Asami's relationship.

While there are multiple ways fans incorporate critical practices as they take up texts, this research note is particularly interested in fans' critical uptake enactments around the representation of *identities*. Critical uptakes reflect Thomas and Stornaiuolo's (2016) definition of "restorying," which are uptake enactments that "reshap[e] narratives to better reflect a diversity of perspectives and experiences" (p. 314). Fan scholars trace critical fandoms by examining fan practices that suggest fans are thinking critically about gender, sexuality, race, neurodiversity, and diverse abilities, even when the original cultural material does not reflect critical forms of representation (carrington, 2013; De Kosnik & carrington, 2019; Dym et al., 2018; Lothian, 2018; Summers, 2010).

Critical uptakes can be traced through the characters fans choose to write about, the relationships fans choose, and how fans choose to portray particular characters, such as through race-bending, gender-bending, or perspective-bending (Thomas & Stornaiuolo, 2016). For the metadata analysis as shown in Figure 1 and Table 1, critical uptakes are represented through fans' relationship tag choices. Because so much of fanfiction revolves around romance, particular ideologies may be parsed by examining relationship tag choices. Figure 1 shows there are several fans who imagined Korra/Asami's potential—even before there were any implicit or sub textual hints of their relationship——pushing against the original heteronormative romantic arc in the first season of the show. In May and June 2012, towards the end of season 1, when Korra and Mako's relationship is canon in the original cultural material, the Korra/Asami relationship tag is used three times in May and five times in June. In January 2013, before season 2 was released, there is a spike in Korra/Asami tags—the month count jumps from one to 22 times used, demonstrating a new interest in the fan community between Korra and Asami as a potential relationship.

As for the computational text analysis section, the word-embedding models and the concordance results for the three corpora demonstrate the ways in which fans' ideologies shifted as the show continued to air. The *implicit-explicit* uptakes in the "subtext-Korrasami" corpus demonstrate how fans take up the subtext to explore queer identities, especially Korra and Asami's identities. The representations of gender and sexuality, particularly around labels like "lesbian," "gay," and "bisexual," demonstrate an awareness of navigating a society in which systems in place attempt to do violence upon these identities; these representations also reflect, however, the joys of finding love, being accepted, and having the freedom to claim and establish one's identity.

Fanfiction can be a form of escapism, ownership, and subverting exclusive cultural and societal narratives. When fans critically take up the original cultural materials, they play in the "gaps and margins," (Jenkins, 1992/2014, p. 372), "restorying" texts to push against exclusionary or violent narratives against marginalized groups (Thomas & Stornaiuolo, 2016). Fanfiction is not just about who and what are missing, but how they can be found. Writing studies in its pursuit to empower students using critical pedagogy, digital literacies, and

frameworks like "students' right to their own language," should embrace fan critical uptakes as not just pedagogically valuable, but enactments that develop understanding, genre-awareness, compassion, and criticism.

5.0 Directions for Further Research

This case study traces fans' critical uptakes and responses to the original cultural material, demonstrating how fans are always-already critical of heteronormativity and desire diverse forms of representation. There is a vast amount of data in this corpus and other potential fanfiction corpora that may and should be explored in future work. In this final section, I will leave questions that I hope researchers in writing analytics, fan studies, rhetoric, and media studies take up as they continue studying fan literacies and genres.

Some questions I hope to see writing analytics scholars explore—and fan studies scholars continue to explore—are: In what ways can we assess and trace what writers learn in their fan uptakes? How else can critical uptake be traced in fanfiction and other learning environments? How do fans take up of cultural materials that are not already critically conscious, as *TLoK* is, specifically cultural materials that may reinforce particular power structures and systems of oppression, especially in their portrayals of particular identities? In what ways are these uptakes critical or not?

While this research note focuses on *TLoK* fanfictions published on AO3, the results may look very different when exploring other fandoms; For example, how might the Marvel Cinematic Universe fanfictions differ from *TLoK*? Using a combination of Natural Language Processing, other forms of computational text analysis, and quantitative analyses using metadata, researchers can continue exploring fan uptakes across fandoms and platforms. Yoder, Breitfeller, and Rosé (2019), in their analysis of fanfiction published on AO3, explored the seven most popular fandoms on AO3 and found that female/female relationships are published at a much lower percentage than male/male or female/male. However, their findings contradict the findings in this research note. How might findings across different fandoms and platforms differ or align? Why might some fandoms, like the top seven fandoms on AO3, have such different results than other fandoms, like *TloK*? What might these comparisons tell us about underlying ideologies across platforms and fandoms? What might these comparisons tell us about fan engagement, investment, and uptake?

As for investigating the pedagogical values of these findings and discussions, researchers in education, composition, rhetoric, and other disciplines are already studying and researching these values, both in traditional classroom settings and outside of these settings. Writing analytics can provide methods of corpus-based analysis, exploring patterns across corpora and applying these patterns to literacy practices, rhetorical awareness, and genre conventions. In authors' tagging practices, their author notes, and other methods, how do authors signal rhetorical and generic awareness? Writing analytics offers methods for tracing patterns not only to better demonstrate how authors learn these rhetorical situations, but also how these learning practices may be input into classrooms. How might writers in a classroom use similar practices to signal information to

their audience? In particular, how might writers in a classroom incorporate critical fan uptakes in their own writing and awareness as they consume and take up particular media?

Tracing and describing critical uptakes is necessary in both fan studies and writing analytics fields. Tracing critical uptakes can provide researchers with the opportunity to actively describe how writers are embedding justice-centered ideologies in their uptakes. Not all fan uptakes are critical, but recognizing the uptakes that center on justice, representation, and inclusivity may further develop fan pedagogies and critical fandoms. This short case study barely scratches the surface of the vast amount of fanfiction and fan uptakes as well as the wealth of information in the corpus used. By tracing critical uptakes and continuing to define uptakes in particular contexts, writing analytics scholars can research diverse environments that foster literacy development, genre-awareness, and most importantly justice-centered practices outside of traditional learning environments.

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Author Biography

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