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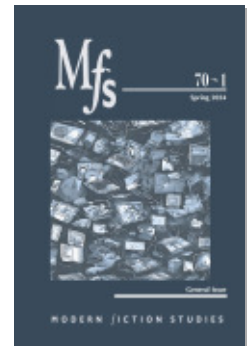
Fandom and Fictionality after the Social Web: A
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MFS Fandom and Fictionality after the Social Web: A Computational Study of AO3

Aarthi Vadde and Richard Jean So

Abstract: Web-based fanfiction is an increasingly important species of modern fiction that is necessary to understanding contemporary literary culture in a multimedia world. Using the Harry Potter fandom on the platform Archive of Our Own (AO3) as our case study, we combine close reading and computational analysis to examine the narrative features of fanfiction and the rhetorical commentary surrounding it. Our approach models a rapprochement between literary studies and fan studies, offering a new data-driven method for analyzing the relationship between traditionally published fiction, web-based fanfiction, and empirical forms of reader response.

Fictionality is an amorphous concept. Fiction is not a genre in the formal or institutional sense that accompanies the novel, poetry, or drama. It is a manner of classification that eschews verification but nonetheless makes a truth claim on the world. J. M. Coetzee, for example, categorizes his late works *Elizabeth Costello* (2003), *Diary of a Bad Year* (2007), and *Summertime* (2009) as “fictions” not necessarily to evade the constraints of the novel but to pitch his aesthetic project at

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a different horizon: the arbitration of the real. The divisions between the authorial self (Coetzee) and the invented character (Elizabeth Costello, J. C., John Coetzee), empirical history and the imagined event, are blurred in Coetzee's fictions, but the theoretical location of fiction itself is confined to the cerebral spaces of the book and the lecture hall.

But what happens when the location of fiction moves outside of these curricular spaces and onto the "extracurricular" (Vadde 461) social platforms of the Web? Moreover, how do the uses of fiction change when fans are doing the writing, as opposed to professional novelists? Coetzee is highly attuned to the epistemological status and power of fiction, but his and other postmodern interrogations of fictionality are more self-reflexive than outward-facing and consequently more engaged with the novelist's own capacities as an author than with the creative capacities of readers of fiction. This essay explores the affordances of fictionality from the point of view of the reader, and more specifically examines the transformations that readers enact on cherished texts when they become paraliterary writers of fan fiction on the social Web.¹

Fan fiction is the textual means by which fans assert their imaginative power over foundational works (the canon) and renegotiate the terms set by their original authors. The popularity of this practice has grown exponentially since the birth of Web-based fan fiction sites and the exposure fans have received through them. Digital fan fiction has reignited and widened old debates about author-reader relations and has illuminated the myriad ways in which readers have crossed the authorial property line established by modern copyright. Although the term itself can only anachronistically apply to pre-twentieth century reading cultures, literary scholars working in earlier periods have used fan fiction to turn analytical attention to modes of collaborative reading and appropriative creativity that amplify the social and participatory dimensions of fictionality.²

Take a reader's desire to adapt existing fictional characters into their own stories. Eighteenth-century readers reused characters in their own fictions, and indulged practices of "imaginative expansion" (Brewer 2) around protagonists such as Pamela Andrews, Lemuel Gulliver, and Tristram Shandy. Sociable reading communities developed around their sequels, detours, and tales of further adventure; however, popular practices of borrowing and reuse infringed on the perceived moral rights of authors to protect the integrity of their original creations, which were described in language akin to children. The legality of character adaptation remains murky to

this day, analogous to “kidnapping” (Judge 57) or a custody dispute between the original author, who views the character as intellectual property, and the adaptor, who views fictional characters as part of a literary commons.

Proprietary authorship came under further pressure from the theatrical culture of the nineteenth century. Unauthorized adaptations of novels into plays blended readerly devotion to characters with the continuation of their stories in other media. What Monica F. Cohen calls “pirate plays” (124) turned textual works into inhabitable worlds and thus offered performance as an alternative to the novel as a vessel for fictionality. The dramatic vessel opened novel-based fictions grounded in the singularity of an author’s vision to the collective creation of a cast and crew. Performance also underwrote one of the earliest and most enduring fan clubs: the Baker Street Irregulars. Here, enthusiasts of the *Sherlock Holmes* series roleplayed the storyworlds they were extending.³ Self-consciously embracing the illusions of fiction led these fans to behave as if their hero were a living, breathing person. Indeed, Holmes became “the first virtual reality character of modern fiction” (Saler 104) when the Irregulars demoted Sir Arthur Conan Doyle from Holmes’s author to Watson’s literary agent.

When fans treated Holmes, the character, as if he were a real person, they flagrantly paved the way for readers to usurp the sovereignty of the author and redistribute that sovereignty among themselves. In this essay, we draw on the insights of such earlier moments in literary history to delve deeper into the logic of contemporary readers who identify as fans. We combine a historically informed perspective on fictionality with the computational analysis of fan fiction to understand how a large subset of fans forge community through the writing and interpretation of fictional texts. Our website of choice is the Hugo Award-winning Archive of Our Own (AO3), one of the most significant digital platforms for fan fiction. In addition to being the largest noncommercial and fan-governed site on the internet, AO3 is sponsored by the nonprofit Organization for Transformative Works (OTW), an institution instrumental to defining and defending fan cultures.⁴ Our focus on AO3 turns attention to fiction-writing as a popular practice and to fictionality as a category fluctuating not only between the invented and the referential but also between the textual and the performative.

In online fandoms, as in offline ones, attachments to fictional characters become conduits for affective attachments between readers-turned-writers. Fandoms develop narrative and rhetorical

strategies that blur the lines between invented characters and real people; their fictions funnel personal desires through characters held in common with other readers. Online fandoms are unique, however, in their unprecedented size and in the amount of data on reader response they make available to academic researchers. As we demonstrate in the coming pages, the infrastructural environments of online fandoms solicit twenty-first century techniques of analysis and a reappraisal of the importance of audience reception to the making of contemporary fiction.

Methodologically speaking, our work models a disciplinary rapprochement between literary studies and the vibrant interdisciplinary field of fan studies. Henry Jenkins' 1992 pronouncement that fan fiction represents a "scandalous category" (15) of cultural production, one that lacks "aesthetic merit" (16), still resonates with many literary scholars. For the most part, the very qualities that define fanfic (or fic for short)—its hedonism, its ephemerality, its exuberance—have failed to interest specialists trained in the intensive and solitary reading of enduring texts. Yet the online outpouring of fan fiction is proof positive of the impact of imaginative literature on actual, not ideal, readers. The prejudices of disciplinary literary studies against collaborative and flagrantly emotional modes of writing have led to missed opportunities for analyzing the real-world reception of major literary works, particularly among women, queer, and genderfluid readers. It has also prevented the field from studying reading as a concrete form of social relation in addition to an ideological process and introspective experience.

The most notable scholars of fandom including Jenkins, Matt Hills, Kristina Busse, and Karen Hellekson, often identify as "aca-fans" (an abbreviation of academic fans) and have traditionally used autoethnographic, ethnographic, and hermeneutic methods in their research on reception; they also defend the autonomy of fan communities from academic objectification and industrial manipulation. Although we continue to identify more as literary critics than fans, we have learned much from these approaches and regret the continued marginalization of fan fiction within our discipline. Consequently, we think past the historical firewall between "literature" and "fanfic"; specifically, we reframe the issue from one of gatekeeping (does fan fiction qualify as literary?) to one of diffusion (how does fictionality license readers to lay claim to literary characters and change their narratives?). The diffusion approach further leads us to a wholly new object of cultural study: collaborative fiction writing at scale.⁵

Our essay thus models a second disciplinary intervention in bringing together traditional literary studies approaches, such as close reading, with newer data-driven computational methods, often associated with the digital humanities.⁶ In our study, we analyze individual authors and texts alongside thousands of stories and writers in the aggregate as they generate fiction and commentary at the scale of an entire fandom. If we take the narrative dimensions of fan fiction and the social dynamics of its virtual communities as a totality, methods of analysis honed on the codex or forged through ethnographic encounters with embodied communities become insufficient. In what follows, we not only read closely to see and read what fans see and read, but also computationally, to see and read in ways they understandably cannot from the point of view of their own immersion. Fans create intimate bonds across distance online but cannot directly experience what they together form: the population of a platform.

Fan Fiction: A Novel Form of Reader Response

The self-conscious writing of fan fiction begins with readers of the novel and their attachment to fictional characters. This is obvious among the Sherlock Holmes fans who unceremoniously demoted Doyle, but it is even the case when fans identify deeply with authors. Sybil G. Brinton's *Old Friends and New Fancies: An Imaginary Sequel to the Novels of Jane Austen* draws together major and minor characters from across Austen's novels in an omnibus romance that begins: "There is one characteristic which may be safely said to belong to nearly all happily-married couples—that of desiring to see equally happy marriages among their young friends" (1). Brinton justifies the "presumption" of her own novel by crediting Austen's novels with "the happiest hours" of her life.

Many fans feel a sense of ownership over treasured fictional works and, with Austen being in the public domain, Janeites from Brinton onward are within their rights to presume. However, for fans of the *Harry Potter* book series, affective ownership rubs irritatingly against intellectual property. Fanfic's historically dubious legal status inspired the name and mission of the OTW to protect fan culture. The OTW cites the landmark Supreme Court case *Campbell v. Acuff-Rose*, which defined transformation as decisive to determining fair use: "The more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use." The OTW uses this ruling to as-

sert transformation as the definitive quality of fanfic. They apply the category of transformative work to traditional fan fiction in which a fan transforms a professional author's story and, more controversially, to "real person fiction" ("What") when a fan transforms an actual person into a fictional character.

The disappearing line between traditional fanfic and "real person fic," fictional characters and fictionalized people, shows how fan fictionality revises distinctions that were crucial to the emergence of a novel-based concept of fictionality in the eighteenth century. The use of character in the novel gave readers a third path through textual referentiality. Fictional characters were "nobodies" (Gallagher 353); they claimed no indexical relationship to embodied individuals and hence could signify an imaginative truth. Fan fiction asks us to expand the novel-specific concept of fictionality into a more generalized source fictionality. It is from under the umbrella of source fictionality that fan fictionality blends literary characters, celebrity personae, and even reader-substitute characters together all while maintaining nonreferentiality to actual persons.

While the Supreme Court uses "transformative" to preserve the spirit of originality and protect creative works as intellectual properties, AO3 defends the writing of transformative works to preserve something quite different: the spirit of collaboration and the empirical record of creative audience responses to myriad cultural sources. We approach the transformative work of fan fiction more narratologically in the next section by comparing *Harry Potter* fan fiction to the source novels by J. K. Rowling. We do not endorse a particular modality of creativity but instead investigate the narrative changes to character space that result when readers conceive of fictional characters as common property.

Web archives of fanfic rooted in bestselling novels are a rare thing for literary critics: they are comprehensive public records of the desires, delights, and debates of ordinary readers expressed in imaginative narrative form. The proliferation of these responses is consistent with the rise of informal writing on the Web. However, the imaginative status of fanfic differentiates it from more expository forms of interpretation. Unlike book reviews, which demand that readers step back and evaluate the quality of a work, fanfic demands that readers extend their immersion in a text so that they can create immersive experiences for other readers. Fictionality becomes a collaborative condition under which fans redistribute narrative attention in hopes of aligning individual and collective desires.

Critics working on Web cultures of fan fiction know these desires take written form through the recursive production of fanfic and the

vast range of online commentary it inspires. The unusual capacity of born-digital fan fiction to foster tight-knit communities through the generation of large corpora presents an exciting opportunity for computational methods to unite the study of the social dynamics of fandoms with a mapping of the narrative organization of fanfic. Computational methods not only allow us to analyze different genres of fanfic at scale, but also to study fans' writing and reading behaviors without plucking individual works or readers out of the storyworlds they collectively sustain.

Loving Characters

How precisely do fan fiction writers transform an original work of literature? What does “transformation” look like as a textual effect? When fans write fic, they draw on received interpretation or a “web of canon” (Driscoll 88) around a source text, which establishes the “primary reality” against which they improvise. Often, transformation occurs along character-based vectors, and particular genres such as slash fic change the sexual orientation of a character. For example, slash writers take a familiar character, such as Harry Potter, and reimagine him as a gay or queer man exploring his attraction to other male characters from the novel. Fanfic writers call the process of romantically pairing unexpected characters “shipping” (as in “relation^{ship}”).

Shipping is one of the most fundamental and intentional acts of transformation in the writing of fanfic, and it has been richly theorized by fans themselves. We want to understand the ripple effects of this device at a more latent level. To what degree does shipping make fan fiction formally different from source fiction? Does fanfic exhibit consistent structural patterns of transformation with respect to core elements of narrative such as character and setting? Such questions go beyond the content or plot of individual works of fanfic to address whether the narrative features of fanfic differ from the narrative features of source fiction. Undertaking such a comparative analysis yields insight into fanfic as a creative form of reader response unto itself.

Finding your people on AO3 crosses with searching for your ship, whether that be a particular character pairing (for example, Harry Potter/Draco Malfoy) or a category of sexual pairing such as het fic (M/F), slash (M/M), or femslash (F/F). We explore the effects of shipping for a single, major fandom on AO3: *Harry Potter (HP)*.⁷ We picked this fandom for reasons of size, genre, and medium traversal.

HP is currently the second largest fandom on AO3 with more than 402,364 unique stories.⁸ Furthermore, the *HP* fandom originates in novels even if the majority of fanfic is now channeled through the film franchise. *HP* characters have proven themselves adaptable and fit within the paradigm of “socially canonical” (Brewer 17) characters that successfully displace authorial voice as objects of readerly devotion. The casting choices and performances in the films distribute control over the imagination and embodiment of *HP* characters and feed back into their textual afterlives in fanfic.

Although Rowling’s novels belong more to the lineage of romance (that is, the historical genre akin to fantasy) than realism, their structure is fruitfully examined through theories of character derived from the realist novel. As Alex Woloch argues, realism’s array of major and minor characters, all implied individuals as well as structural pawns, lends distinct insight into narrative as an exercise in distributed attention. Woloch uses the categories of “character-space” (13) and “*character-system*” (14) to consider how narrative form orients reader attention. Character-space mediates between story (fictional events reconstructed by a reader) and discourse (order of telling by the writer). The character-system names the unification of a narrative structure in which asymmetrical attention to characters is a necessary feature. Minor characters revolve around major characters and, through their positioning, illuminate the dialectical motor of fictionality: the story can always be otherwise.

Shipping in fanfic realizes in written form the redistributions of character attention that serve as reinterpretations and ultimately personalizations of source fiction. Shipping empowers the reader to reorient the text along lines set by one’s own needs rather than orthodox accounts. In acting on one’s own behalf, a writer alerts fellow fans to “potentially choosable structures of desire in the text” (Willis 167). Conceived in Barthesian terms, this expanded horizon of choice confers an “immoral right” on the fanfic writer to circulate meaning as a form of pleasure-seeking through character development and redirection. Personal pleasure becomes the basis of collective discovery and fosters reading communities, often but not exclusively queer, that would be stigmatized elsewhere.

As of 2013, over half of AO3 users identify as a gender, sexual, or romantic minority (“AO3 Census”). The Fansplaining Shipping Survey, conducted in 2019, found that the majority of respondents identified as white (76.71%) and female (72.56%), but nonbinary and genderqueer identifications made up a sizable minority (21.06%). With respect to sexual identity, 42.94% identified as bisexual/

pansexual and 29.2% identified as asexual/ace-spectrum. Shipping emerges from this survey as a technique that can be both active and casual, with “active” denoting an all-consuming pairing and “casual” denoting an exploratory activity without deep commitments to the pairing. More respondents associated active shipping with “reenacting or embodying the ship with others” (Klink), meaning that reading and writing blended with collective performance when investment in a pairing was higher.

In order to learn more about shipping among AO3’s users, we first identified a random sample of approximately 200,000 users representing 10% of the approximately two million users on the platform.⁹ We collected the following: (1) all of their metadata, including the total number of bookmarks their stories received; (2) full texts of all their stories; and (3) full texts of every comment on their stories.¹⁰ Based on this information, we divided our user corpus into five subgroups. These groups cover the full range of writers on the website, from the most popular to the more average user. For this essay, we focus on one group in particular—power users, or the most popular writers on the website based on the number of bookmarks they received from other users.¹¹

We take power users to be central to the sociality of AO3 because it is their work that populates the site, inspires the most commentary, and keeps readers coming back. Our power users group initially included 195 unique users and 25,500 unique fanfic works; however, when we limited ourselves to the *HP* fandom, we reduced the group size to 64 unique power users and 1,290 unique works.¹² From there, we used the *HP* power users group to compare the narrative features of fanfic with those of Rowling’s seven *HP* novels. A basic understanding of the fanfic’s and source’s respective forms would enable the more complex analysis of character shipping to come.

We used the software package BookNLP, developed by David Bamman, to perform Natural Language Processing specific to literature to extract all mentions or examples of: (1) physical objects; (2) places, a rough proxy for setting; (3) periods of time shorter than a day, such as “a minute”; (4) dialogue; (5), and, most importantly for this paper, characters. BookNLP identifies each mention of a character and keeps track of each character’s appearance. It can quantify how much narrative space each character occupies within the text, and therefore it allows us in part to operationalize Woloch’s theory of the one versus the many. Specifically, it helps to quantify his specific concept of character-space: on average, the amount of narrative attention paid to each character within a work of fiction.¹³

We found that *HP* power user fanfic is transformative with respect to character space. It tends to have higher character-space scores, which means that that space is more compressed. On average, fanfic features fewer characters commanding more narrative attention than in the original novels.¹⁴ We checked this finding against our four other subgroups of users, and the results were the same. Across all types of *HP* fic on AO3, character-space gets narrower when compared to source texts. The average number of objects in fanfic is lower than in the source texts, suggesting that the compression of character space correlates with the shedding of objects from the text's diegesis. The narrative form of fanfic confirms that fan readers are zooming in on preferred characters (unsurprising), but that they are not necessarily writing characters in the way we expect. For example, we find a decreasing amount of dialogue compared to the source. While Rowling gave a larger role to direct dialogue for developing characters, fanfic writers rely more on indirect forms of discourse for establishing interiority and unspoken attraction between characters. "Location" and "time" features remain quantitatively stable across fanfic and source texts. This result suggests that the ideas of place and time presented in Rowling's fiction provide fic writers with a solid foundation on which to pursue the active transformation of other narrative features, such as character.¹⁵

Group	Character Space	Time	Location	Dialogue	Objects
Source Texts	0.003	0.001	0.002	0.377	0.023
Power Users	0.022	0.001	0.002	0.270	0.015

Table 1. Comparison of BookNLP-extracted narrative features in Source Texts (original *Harry Potter* novels) versus Power Users' *Harry Potter* fan fiction stories. "Character space" has already been described. "Time," "Location," "Dialogue," and "Objects" refer to the average number of times these items appear divided by the total number of words in each text, per category.

Fan fiction stories on average are far shorter than *Harry Potter* novels and, thus, one might wonder whether discrepancies in length unduly impact or confound our findings. For example, perhaps *HP* fanfic has more compressed character space because fanfic tends to be shorter and have fewer characters. It is true that *Harry Pot-*

ter source texts are often far longer than fic stories: the novels are ~197,000 words on average, while the typical fanfic is ~20,000 words. However, we conducted a statistical test to examine the relationship between story length and character space in *HP* fanfic and found no significant correlation. “Character space” is not a count of how many characters appear in a story; rather, it quantifies the amount of narrative space characters take up, on average, within that narrative. Therefore, just because a story is very short doesn’t mean it must have a high character space score (and vice versa).¹⁶

With a baseline for narrative transformation, we are ready to analyze character identity categories and ship categories more closely. Character identity refers both to hierarchy (major versus minor) and demographics (the race, gender, and sexuality of characters) as specified in source novels.¹⁷ If identity categories, such as sexuality, were unspecified or ambiguous in the source text, we noted that also. We then labeled each character as “major” or “minor” based on the following definition: characters that are among the top 10% most mentioned characters across all *Harry Potter* source novels are defined as “major”; those outside the top 10% are defined as “minor.” By this standard, Harry Potter, Hermione Granger, Ron Weasley, and Albus Dumbledore are labeled as major characters and the remaining *Harry Potter* characters are labeled as minor.¹⁸ To understand more about the dynamics of major and minor character transformation in fanfic, we needed to know whether individual characters crossed lines of significance (that is, moving from major in the source text to minor in fanfic) or maintained their place within the character-system hierarchy. Using the same top 10% definition, we identified characters as major or minor in each fanfic work, and then determined whether those characters were also major or minor in the original fiction, indicating character continuity or transformation.

On average, 55% of the *Harry Potter* characters identified as “major” in the source fiction persist as “major” in fan fiction, while 75% of the characters identified as “minor” in the source fiction persist as “minor” in the fan fiction. This means that fanfic writers are more likely to redistribute attention to or from Harry, Hermione, Ron, and Dumbledore rather than engage with the storylines of minor characters. We also found that fans preserved Rowling’s basic hierarchies when they pegged their transformational energies to the source text’s major characters. Fanfic intensified focus on Harry and diminished attention to Dumbledore.

Such results confirm expectations that the celebrity of fictional protagonists only grows through fanfic. Harry, like Sherlock Holmes,

becomes a larger-than-life character as well as a projection of readers' desires and values. The shifting cast of characters revolving around him is an index of the relationships fans seek to explore through fiction. More than half of the stories in our dataset are romantic "ship" stories; the majority of these ships revolve around male-male pairings and the vast majority of these stories feature Harry.

So, who is most likely to supplant Dumbledore in AO3 users' imaginations? Anyone who has visited AO3 already knows that it is Draco Malfoy. Draco is the character most likely to be elevated from minor to major, and his pairing with Harry allows the shipping community to alter mainstream gender and sexual norms. We observe some of the exemplary elements of slash in Waspabi's "The Stately Homes of Wiltshire" (the fifth most bookmarked fic in our corpus) in which Draco gets a close-up through Harry's eyes: "The silver light set off Malfoy's features in the dim interior room. Harry examined him curiously. His Roman nose sat amidst features so sharp they could have been carved in marble—judging by the ancestral decor, eventually they would be. Malfoy's eyelashes seemed to stand out in a shock of softness, long and curling in his marmoreal face." The shift to description over dialogue and the accentuation of a pairing through which a major character sees a minor one in a new and eroticized light begins to show how slash has historically broken taboos around same-sex love while promoting a feminist version of romance premised on the alliance of equals.

The politics of Harry/Draco slash, like many pairings that have preceded it, are progressive on gender and sexuality but silent on race. As with many fields, fan studies is actively confronting its normative whiteness.¹⁹ Our study puts numbers on the degree to which *HP* fanfic on AO3 increases representation of minority sexualities, while reproducing or just slightly altering the status quo on racial representation. Only 2.6% of the characters in the original *Harry Potter* novels are identified as gay or queer, whereas about 13% of the characters in *HP* fan fiction are marked as gay or queer.²⁰ Yet 6.1% of the characters in the original *Harry Potter* novels are nonwhite, while 6.5% of the characters in *HP* fan fiction are nonwhite.²¹ When we specifically target slash fic, this effect only intensifies. Slash features nearly 20% queer characters but sustains the *HP* fandom's overall rate of approximately 7% nonwhite characters. Femslash features 17% queer characters and about 10% nonwhite characters, suggesting that femslash writers come closer to racially diversifying their stories. This makes sense given that femslash needs to work more overtly against distributions of attention in *HP* source fictionality. To write a romance

between two women, femslash writers find themselves reaching for characters who occupy less character space in the source texts, and this can lead them to characters of color.²² Yet femslash only makes up 4% of stories within our *HP* Power User group (and AO3 in general), which shows that its endeavors to change gender hierarchies is itself a peripheral phenomenon.

Our statistical findings confirm longstanding as well as more recent insights of fan studies, namely that queering male characters not only gains wide circulation within fandoms but also inadvertently compounds the marginalization of female source characters and nonwhite characters. Characters of color get little love from the fanfic writers in our dataset and consequently few opportunities to be newly encountered and appreciated by fans of Rowling's novels. Our confirmations also spur clarifications and a broader perspective on shipping as a formal device. Speaking in terms of character space, queer male romantic pairings exacerbate rather than alter extant hierarchies of attention. Queer female romantic pairings overturn gendered hierarchies of attention within *HP* with the contingent effect of slightly improving racial diversity. *HP* femslash features a higher percentage of characters of color than any other genre of fanfic and actually improves on Rowling's novels.

Given the dominance of slash fiction within the *HP* fandom, it bears mentioning that male-male pairings may affirm the larger cultural perspective that male characters are major characters. In early accounts, slash fiction was seen as encouraging female writers to associate the liberation of their desire with the writing of male characters.²³ Fanfic authors write through male vessels to exert freedom and legitimate fantasies; in doing so, they build on a long tradition of cross-dressing that ranges from men's stories about women (think of Viola in Shakespeare's *Twelfth Night*) to women writers' pseudonyms and sartorial maleness (think of George Sand, Willa Cather, and Rowling herself writing as Robert Galbraith). Yet, more recent accounts of genderbending slash have questioned this male-female binary and have shown how transitioning male-to-female characters uncouple the sexed body from gender performance to show "gender at odds with sex" (Busse and Lothian 121). The redefinition of gender and sexuality as a spectrum further destabilizes aspects of heteronormativity, such as monogamy, that marginalize alternative forms of romantic relation, for example, polyamory.²⁴

The evolution of slash through cis female, queer, and trans perspectives illustrates how writers have used male major characters to explore unruly and otherwise inexpressible desires in communal

spaces. However, boundary-pushing choices in the narration of such protagonists can have reactionary ripple effects on the wider character population of their narrative worlds. These effects become especially clear when we revisit our dynamics of major and minor character transformations through the lens of identity.

Across the board, whether M/M, M/F, or F/F fiction, major characters are far queerer than in Rowling's novels. Yet, these queer pairings come with a cost. First, the major characters within *HP* fanfic as a whole are significantly more male, on average, than the major characters in Rowling's texts. Hermione, the lone major female character from the original source texts, is largely relegated to F/F fiction.²⁵ Furthermore, the queering of major characters in fan fiction bears a problematic and unintended consequence for its minor characters: they are more likely to be men and more likely to be straight or without explicit sexuality. If fans want to challenge the compulsory heterosexuality of the *HP* series, they will do so via centralizing queer male characters, reducing the overall presence of female characters, and marginalizing straight male characters who come to embody the default heteronormativity of the source fiction.

Group	% Male	% White	% Straight
Source Texts - Major Characters	75%	100%	75%
Source Texts - Minor Characters	62%	91%	49%
Power Users Fic - Major Characters	85%	98%	52%
Power Users Fic - Minor Characters	66%	92%	73%

Table 2. Comparison of the average percentage of identified male, white, and straight characters in the original *Harry Potter* source texts versus *HP* fan fiction in our Power Users group.

Overall, our analysis shows that shipping in fan fiction depends on a series of latent constraints. As a foil to Willis's "choosable structures" (167), we can think of these constraints as inadvertent structures of desire. While we typically think of the transformative aspects of fan fiction as a form of empowered "choice," each creative decision also encodes a cascade of less visible and perhaps less intentional maneuvers shaping the narrative background against which romantic pairings come into relief. Background choices are where the side effects of more motivated creative decisions become clear and possibly changeable in the writing of future fan fiction.

This final point about background choices raises thorny questions about the politics of representation in *HP* fanfic. Our quantitative analysis reveals intense inequality, especially with respect to race, over which characters get to be in *HP* fanfic. But it's unclear whether the "solution" to this "problem" is more racially diverse characters as opposed to say, a more a racially diverse fandom, the creation of an affinity group dedicated to racially experimental ships (racebending), or a redesign of the platform to be more hospitable to users of color.²⁶ Ultimately, if *HP* fan fiction is predominantly white it is because the original stories are predominantly white and the fandom's participants on AO3 are majority white. Even if some fans are motivated to write inclusive, diverse stories, those desires are tempered by the need to work within parameters laid out by the source text and by the collective interests of their fandom. Fanfic shows particularly well how the liberation of desire and collective recognition is, like so many other aspects of online life, becoming more atomized and subject to intense nichification.

Reader Communities

So far, we have argued that ships give fans license to explore internal desires in external written form and to balance personalized and performative forms of fiction writing against the impersonal foundation of source fictionality. However, we have yet to develop an empirical account of how ships forge collective bonds among individual pleasure seekers. In an interview with renowned science fiction and slash fic writer Joanna Russ, Alison Piepmeier asserts that "characters are not there for each other, they're entirely there to create erotic bonds between the women who are writing and reading the stories. They're explicitly there for us." Romantic character pairings exist as secrets between female-identifying fans, and the remove created by their fictionality (characters "are not there for each other") paradoxically generates the real-world intimacy of their surrounding readerships. Fanfic has not so much done away with the notion of private reading as completely entangled it with notions of intersubjectivity. As David Kurnick argues, "character-being is conditioned by fiction's media format" (54) and an awareness of that format reveals the "massiness" of the reading public as "structurally integral to the idea of fictional character." Web-based fanfic tells us that character attachments are vectors for grounding the abstract mass or "massiness" of the public in actually existing communities of readers who share more crowd-based conceptions of eroticism than the couple form of romance fiction usually enables.

Online fan fiction platforms regularly generate feelings of closeness that come from the aggregation of many readers affirming each other's contributions to a cocreated fictional world. To understand how the intimacy and social cohesion of fandom forms at scale, we returned to the *HP* fandom to study the interactions among users. We assembled a dataset of approximately 150,000 comments made in response to *HP* fan fiction stories written by our power users. AO3 does not have a private messaging feature, which means that authors and readers respond to one another in full view of other users of the website.

Based on our qualitative reading of a small sample of our corpus of comments, we identified three major categories: brief appreciation (expressions of thanks or love under 10 words); absorbed (comments that conveyed immersion and love); and critical (comments that treated fanfic analytically as a constructed artifact). Next, two research assistants manually tagged a much larger, random sample of comments (~30,000) based on a set of criteria we devised for each category. Last, we used a machine learning classification algorithm to bootstrap from our hand-annotated sample to tag the remaining comments so that all of the ~150,000 comments were labeled.²⁷ In sum, 39.3% of the comments were identified as brief appreciation, 37.6% were marked as absorbed, and 23.1% were marked as critical.²⁸

While our categorical frameworks occasionally blur together, they reflect general patterns of reader response within the fandom. Brief appreciations, the majority of the comments, might seem cur-

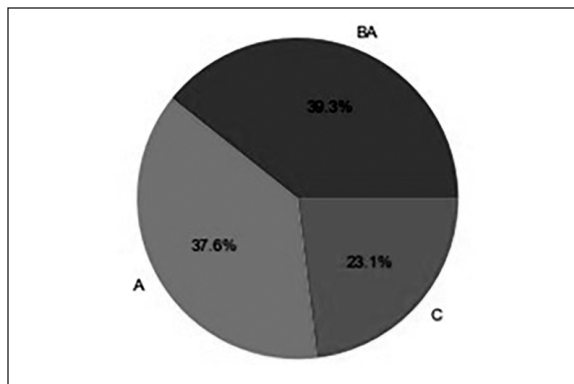


Chart 1. A pie chart representation of the percentage of comments allotted to each category; **BA** refers to “brief appreciations,” **A** refers to “absorbed,” and **C** refers to “critical.”

sory at the level of an individual comment but, in the aggregate, they emerge as a form of phatic communication. They assure writers that they are not publishing into a void and that the terms of sociability in this virtual space are driven by gratitude. As a form of etiquette, brief appreciations also acknowledge the feminized labor of fandom—the time and effort that goes into creating a story-driven social space in which readers take up residence.

Absorbed and critical comments tell us more about the rhetoric of immersion on the site. Beyond affect-rich forms of writing, we observed some commenters speaking to characters in the present tense as if they were real people (for example, a commenter addressing Voldemort: “Wait! You can’t just leave, stupid snake man! You just confessed to caring about your daughter but haven’t even seen her yet!”).²⁹ Performing one’s absorption becomes a condition of criticizing the text, which explains why these two categories sometimes overlap in our data.³⁰ Readers clarified that they were criticizing stories out of love and as an indicator of how seriously they took the construction of fanfic. A comment that blends emotional effusion with reference to formal features reads as so:

* Happy sighs *. My skin is clear, my crops are watered and thriving. . . :D What a fun, marvelous read, from start to finish! I don’t even know where to start . . . so I hope you’re okay with babbling because I’m going to babble . . . On the surface this seems like a fic that fits into many tropes: and it does, featuring 8th year oblivious roommates, 12 gifts for 12 days of Christmas, enemies-to-lovers, quidditch etc etc, but for every single one of these tropes that show up, you’ve added something new, something different, something heartfelt while honouring the best parts of the trope itself, the things that’ve made the trope so well loved in the first place.³¹

Absorbed and critical comments, unlike brief appreciations, return to particular aspects of a fic and enable more complex discourse to grow out of reflection on characters and tropes.³² The dominance of character-centered conversation corroborates Piepmeier’s claim that characters become conduits for fans to forge connections with one another. Yet we wondered if the presence of favored characters alone inspired AO3 users to leave more and longer comments or if other variables were at play. Did the narrative form of fanfic or the sexual orientation of its characters predict the amount of community engagement it received? Did a fanfic writer’s participation in the comment threads lead readers into more active discussion or was reader engagement independent of authorial response?

To answer these questions, we developed a simple engagement metric that tracks how often readers commented on stories compared to how often authors responded. We arrived at this measurement by dividing the total number of author comments within each story thread by the total number of comments (author + readers) within that same thread. The highest engagement stories were in the 0.5 range, meaning that writers in this range responded to every reader who left them a comment. Often these responses were merely variations on “thanks for reading,” which fell under the brief appreciation category; however, in some cases they delved deeper into the writing process, took requests from readers on the future of the plot, and spent time contemplating the quality of the fanfic’s central relationship.

While we suspected that at least some power users would be active fanfic writers and commenters, we were surprised to find that highly responsive authors (those who were active in comment threads and valued community engagement) wrote structurally similar fanfics. Compressed character-space is significantly associated with higher author-reader engagement, meaning that the more a story trains its attention on a small number of characters, the more likely their authors were to respond to their readers. This finding provides empirical evidence that the fanfic writers most responsive to their readers are those most fully participating in the generic turn to romance where the focus on the central couple, or “one true pairing,” formally eclipses the “one versus many” structure of Rowling’s more sprawling source fiction.³³

Our results indicate that stories that feature male-male character pairings predict higher author engagement. And conversely, they show that author engagement tends to decrease in fanfic categorized “Gen,” meaning that those categories of fanfic not organized around a romantic pairing garner less community engagement. The story that best illustrates the recursive and character-mediated nature of erotic bonding within the *HP* fandom was gracerene’s “Because You’re Bonded.” It is an M/M fic marked by high authorial engagement (a score of 0.5). Its central conceit—a spell, known as “the bond” drawing Harry and Draco together—offers an especially self-reflexive example of the relationality that emerges around slash fanfic. The story uses the mysterious bond to bring Harry and Draco into an erotic encounter: “Draco wasn’t even sure which one of them had made the first move, or perhaps it had [been] both of them at once. It hadn’t even seemed like a conscious decision on either of their parts, and maybe it hadn’t been. Maybe they’d been struggling so hard against

Story Feature	Effect on Engagement	P-Value
Length of Story	Trivial (~0.00/~0.00)	<< 0.01
Character Space	Positive (0.43/0.16)	< 0.01
% of Male Characters	Negative (-0.07/0.03)	0.03
% of White Characters	No effect	0.15
% of Straight Characters	Negative (-0.09/0.03)	< 0.01
Story labeled M/M	Positive (0.05/0.02)	< 0.01
Story labeled F/M	No effect	0.75
Story labeled F/F	No effect	0.69
Story labeled Gen	Negative (-0.04/0.02)	0.02

Table 3. A summary of the output from our regression model to predict the relationship between our story features and author-reader engagement variable. “Effect on engagement” reports in plain language what type of effect (positive/negative) our variable has on engagement. Coefficient values and standard error values from the model are reported in parentheses for those seeking more statistical detail. “P-values” are a statistical measure that provide further evidence toward understanding the effect of each variable; a lower score, especially a value below some threshold such as 0.01, conveys confidence that the effect is significant and not random.

this unwanted bond that it had finally snapped, urging them to do what it had clearly been made for.” As author and readers discuss the effectiveness of stories by gracerene, their gleeful conversation about the erotic bonds between male characters stands in for the erotic bonds tying this fandom together. As one user writes, “I don’t even have words for how much I love their reciprocal bliss in each other! I adore Harry’s warmth and Draco’s attentiveness. You show the give and take, a seamless intimacy of equals, and you made it riveting and scorching hot! I love this so much! Thank you!”³⁴

We cannot overstate the role that reciprocity plays in fanfic communities whether in the fictional depictions of couples or in the gift economy of writing and commenting. While reciprocity between equals might not define every romantic pairing, it is this general feminist ethos that triangulates the source novels, fanfic, and user response. It is also what allows fanfic communities on AO3 to assume the mantle of “intimate publics” (Berlant viii). The fictionalization of

reader response on this fan-driven platform fosters a collective space for female, queer, and nonbinary audiences to take ownership of the mass cultural texts that systematically devalue their depictions and contributions. Fanfic binds myriad extensions and reinventions of a source text to the forging of emotional connections and networks of mutual support. Thus, while fanfic is not a replacement for reviews, expository analysis, or traditional criticism, it has become a major branch of audience response that conveys a simultaneous love of literary and cultural texts and a studied refusal to assimilate to them.

Fan Fiction and the Adaptation Industry

Fan fiction is a genre of reader response that recognizes the limits of intention, the fallibility of the author/artist, and the paradoxically infinite yet circumscribed potential of creative reception. As our case study shows, the scale of fanfic's production may be new, but its principles of fictionality are not. The *HP* fandom on AO3 illuminates fiction's long-term relationships with adaptation, permutation, and intangible property. The interplay of the early novel with unauthorized print and theatrical adaptations showed how the detachability and elasticity of characters were key conduits of fictionality that emboldened readers to take narrative into their own hands. On AO3, that legacy continues. Growing bodies of fanfic adaptations redound to the original text and its much-loved characters, but readily leave behind authors. The *HP* fandom is a particularly powerful example of fans cutting ties with an author (Rowling in the wake of her transphobic statements) while reaffirming the fictional world of the characters.

Harry Potter is now so much more than a series of seven novels. It is a classic of children's literature, a billion-dollar film franchise, and a cultural touchstone for generations of young people. It is what Lauren Berlant calls a mass cultural "supertext" (48), that is, a text whose popularity and influence makes it capable of organizing competing forms of cultural desire. Berlant's own example of a supertext is *Uncle Tom's Cabin*, which she suggests combines the desire of audiences to revel in generic convention with their earnest drive to subvert the social norms sanctioning racial injustice. Our computational analysis of narrative space, shipping, and reader comments reveals that similarly contradictory dynamics animate the *HP* fandom on AO3 with respect to gender and sexuality, if not to race.

The romance genre reigns supreme in fan fiction, and its pleasurable conventions balance the queer and homosocial energies of fandom with the heteronormative legacy of the couple form (the

one true pairing). Recalling Piepmeier's claim about character as a conduit for erotic bonds among fans, we know that romance grounds the communal ethos of many fandoms beyond *HP*. While historically denigrated by critics and scholars, the genre has been a dominant force in the publishing industry since the 1980s, now representing more than 35% of all novels published.³⁵ The mainstreaming of fan fiction and the rise of BookTok influencers unabashed in their tastes has only helped to destigmatize the genre among ordinary readers if not yet scholars. This groundswell suggests that almost all genre fiction, whether fantasy, science fiction, or even horror, might measure its popularity by the degree to which fans reimagine its storyworld through the supergenre of romance.

To think of romance as a fan fiction supergenre is to recognize its dominance over the narrative transformation of texts from myriad source genres. The full implications of this dominance across fandoms are hard to know, but our work on the *HP* fandom tells us that fans who conform most fully to the written conventions of romance also tend to engage most intensively with their readers. It would seem that writers who uphold the sanctity of the couple form are rewarded for their choices by readers otherwise critical of heteronormativity. Perhaps this paradox reveals that the one true pairing has become a Trojan horse for more variegated forms of erotic pleasure. Such a theory acknowledges the crowd eroticism latent in the couple form even as it rules out more radically queer narratological and social revisions of the romance plot.

Fan fictional romance thus offers anticipations of a transformed world by repurposing if not outright dismantling monogamy. This ideological compromise makes sense given the fundamental purpose of romance is to satisfy readers with a generically familiar kind of pleasure. The *HP* fandom's dynamics around romance, queer sexuality, and homosociality signal how "imminent social change" (Berlant 60) and the "commodity cluster" go hand-in-hand. Even as many fans have broken ties with Rowling herself, a general excitement over transformative adaptations of the *Harry Potter* storyworld persists. Hungry for various kinds of diversity, fans respond to the multiple versions and spinoffs of *Harry Potter* being sold back to them by culture industry executives, who are in turn attentive to demographic diversity as a form of consumer preference. Indeed, *Wizarding World* (formerly known as *J. K. Rowling's Wizarding World*) is a powerful example of how a franchised fictional world can readily survive the disgrace of its original author by doubling down on inclusive representation.³⁶

Just as fandom and consumerism go hand-in-hand, so too do fandom and labor. Fans are aware of their exploitation by the culture industries and debate whether the subcultural separatism of fanfic mitigates against its marketplace cooptation. Abigail De Kosnik characterizes both sides of the debate well: she has theorized Web-based fanfic as constitutively “alternative” (*Rogue* 103) given that its production and preservation fall outside the “funneling mechanisms of print publishing and mass media” alike. Yet she and Sarah Brouillette have also questioned the utopianism of fandom’s alternative gift economies especially when their feminized work constitutes “casualized labor and exploitation of unpaid activity by readers and writers” (Brouillette). Such labor of course doubles as free publicity for social media companies, entertainment studios, and publishing houses.

In our view, fan fiction is an adaptation engine that, regardless of the subcultural affiliations of any particular fandom, seeds broader trends in the business of contemporary fiction. This marketplace dynamic will only grow as book publishing becomes more integrated with online platforms that operate at scale.³⁷ Fan fiction, as well as fan commentary, plays an increasingly important role in determining what gets published and fan tagging practices (known as “folksonomy”) influence the idiosyncratic generic categories now organizing platform-based offerings from Amazon’s Kindle Direct Publishing to Wattpad to Netflix. Amazon’s retooling of literary production into a species of “customer service” (McGurl 60) privileges the recycling of familiar motifs and genres (for example, fan favorites such as the vampire romance) in the name of guaranteeing customer satisfaction.

A similar desire for bankable commodities permeates the strategies of conglomerated publishing houses. They treat fandoms as indexes of consumer behavior and promote the genre of “minor-character elaborations” (Rosen 120), in which authors create a new novel around a minor character from a canonical one, as a product with a built-in audience. Adaptations of canonical literature offer a safe mix of prestige and diversity that aligns literariness with a pluralist politics. While certain genres of fanfic have evolved in protest of this very kind of marketability, the scale and proliferation of fanfic as a whole paves the way for depoliticization in commercial adaptations designed to respond to fan theories and fulfill fan wishes if only in a milquetoast way.

The recursivity of fan fiction and the contemporary culture industries, which are increasingly data-driven adaptation industries, shows how significant fictionality is in empowering the creativity of fans and how significant fandom is in conceiving of fiction as an ex-

tensible world. Fictional worlds encompass subcultural, niche, and mainstream spaces and cross gift with market economies. The place of fan fiction in these worlds is fascinating from hermeneutic and ethnographic perspectives, but the digital encoding of fanfic also makes it knowable as data from a quantitative angle. The increasingly vast amount of fiction in the wild presents a novel and important challenge to literary scholars—one that computational and statistical methods can help us meet.

Notes

We would like to thank our research team of graduate and undergraduate students across Duke and McGill: Peter Ball, Hannah Jorgensen, Maggie McDowell, and Emma Xu. We are also grateful to the anonymous readers whose advice improved the piece and to Robert P. Marzec for recognizing that fan fiction is an important form of modern fiction.

1. See Emre, Micir and Vadde, and Majumdar and Vadde for previous studies of readers and writers who have thrived outside of academic protocols of literariness while also helping to put those protocols in perspective.
2. See, for example, Birkhold's *Characters Before Copyright: The Rise and Regulation of Fan Fiction in Eighteenth-Century Germany*, which uses the term "fan fiction" to describe how readerly practices of rewriting published stories affected the eighteenth-century book trade. Birkhold explains how "customary norms" (111) arose around readers' unauthorized fictions and constituted an informal intellectual property regime comprised of "rights, trespass norms, exceptions, and enforcement mechanisms."
3. See Ryan and Thon's *Storyworlds Across Media: Toward a Media-Conscious Narratology* for an influential elaboration of the term "storyworld."
4. As of September 2020, AO3 has 2.5 million registered users and almost 6 million works across 36,700 fandoms ("AO3 Statistics 2020"). Average daily page views ranged from 60 million to 70 million in 2021 ("AO3 Statistics 2020: An Update").
5. Reading at scale with data is uncommon in fan studies though not entirely absent. See De Kosnik et al.'s essay for more on the "Fan Data" project as well as Aragon and Davis's book. Fans have also engaged in statistical self-study, and fan statisticians such as ToastyStat's *Destination: Toast!* on Tumblr have given crucial perspectives on fan fiction as data for their communities.

6. The use of computational methods to study fiction has become a relatively established subfield within literary studies and the digital humanities. The use of such methods to study born-digital literary content is more inchoate, but two recent examples of this work include Walsh and Antoniak as well as Long, Todd, and So.
7. Fan fiction stories written for the “Harry Potter” AO3 tag only include stories inspired by the original *Harry Potter* novels and not its spin-off series *Fantastic Beasts and Where to Find Them*.
8. As reported on the website on 17 January 2023. Only the Marvel fandom is larger, but it represents an aggregate collection of individual fandoms, such as those devoted to *The Avengers*.
9. This web scrape was conducted in the spring of 2019.
10. A user gives a story a bookmark to indicate they want to return to it; it is thus a stronger and stickier form of approval than a simple “kudos,” which is the equivalent of a “like.”
11. The other subgroups were: (2) readers, or users who give an unusually high number of bookmarks but do not write an unusually large number of stories, computed by identifying the top 3% users who have the lowest ratio of number of bookmarks divided by number of stories written (2,339 users, 5,998 works); (3) the persistent long tail, or users who fall in the bottom quartile of users who receive bookmarks but have written an above-average number of stories (1,933 users, 14,300 works); (4) cultural omnivores, or the top 1% of users who write for different fandoms (1,281 users, 97,886 works); and (5) average Joes, or the users who fall within the middle decile of all users in our dataset based on bookmarks, thus representing a typical user (14,480 users, 70,835 stories).
12. This then reduced our corpus size to approximately 26 million words (from 219 million), where each power user story for the *HP* fandom has approximately 20,000 words.
13. See Bamman, Underwood, and Smith’s essay for technical details.
14. One caveat is that this computation is restricted to a list of the 150 most important characters in *HP*, as determined by our research team. Characters not from *Harry Potter*, such as characters from other popular fandoms, are not included.
15. T-tests were conducted to determine if the difference in means between groups for each category were statistically significant. We found that “Objects” and “Dialogue” were significantly different at the 0.01 level. We found that “Character Space” was as well, but the p-value was high at 0.216. This is likely because the sample size for our Source Text category is very small (only seven unique texts). Because the goal of this analysis

was first to explore the current dataset in order to identify potential meaningful patterns that could facilitate further, more specific models and analysis, we still report this effect, albeit very cautiously. Our hope is that the current result motivates future scholars to better measure and clarify the statistical effects associated with the “Character Space” variable, ideally with more data.

16. We conducted a Pearson correlation test and found only a very weak negative correlation, $r=-0.16$.
17. One complication regarding the sexuality of characters in fan fiction versus source fiction is that sometimes fan authors alter the identified sexuality of a character, such as turning Harry, an identified straight character in the novels, into an identified gay person in the fanfic. It is impossible to detect at scale every such transformation, but we are able to identify a large number of them by examining the metadata for each story, which tells us who are the main characters in the fanfic and whether those characters engage in gay sexual relations, such as two men engaged in a romantic and/or sexual relationship, that is M/M. If we find evidence of this effect, we reidentify the relevant character’s sexuality, such as relabeling Harry as “gay.”
18. The 10% threshold was chosen semi-arbitrarily but it was based on trial-and-error in which we experimented with different thresholds, resulting in different versions of “minor” and “major” characters. The 10% threshold resulted in a set of major and minor characters that most accorded with the expectations of *Harry Potter* readers, based on the input of our research team.
19. Pande offers the first major study of whiteness as a “structuring mechanism of fan studies and fan communities” (190) while Stanfill conducted a roundtable on “fans of color in femslash” to gather the perspectives of non-white fans on the perceived progressivism of fandom. The roundtable converged on the need for more intersectionality in femslash with respect to queerness and race.
20. This 2.6% includes Dumbledore who was “outed” by Rowling after the publication of the novels and who is not identified as gay in them.
21. It bears mentioning that several characters who were initially racially unmarked in the novels were marked as Black in editions that post-dated the casting of the films. For example, Dean Thomas was racially marked as Black in the US edition of the novels and Angelina Johnson was marked as Black in the US and UK editions.
22. Granted, of the characters we were able to identify by gender, there are more female-identified characters of color in the original *Harry Potter* novels but not overwhelmingly so. Based on our annotated data, 56% of characters of color are female-identified and 44% are male-identified.

23. Russ's "Pornography by Women for Women, with Love" is an influential example of such a position. Russ used *Star Trek* slash fiction featuring Kirk and Spock to discuss male characters as vessels for female pleasure and patriarchal critique.
24. See Hampton for a recent study of how "non-normative sexual behavior" in fan fiction calls attention to and criticizes monogamy as the default state of romance.
25. A t-test indicates that Hermione is more likely to appear in power user *HP* stories marked F/F rather than F/M, M/M, or "General."
26. See Lothian and Stanfill for a discussion of possibilities for building racial justice into the "digital infrastructure" of AO3. Warnings, filtering mechanisms, and content moderation are among the strategies identified for dislodging the normative whiteness encoded into the design of AO3.
27. A standard logistic regression machine learning classifier (implemented in Python via the popular Scikit Learn package) was used to train on our hand-labeled data and to predict on unlabeled data. Prediction was done with 5-fold cross validation with 30% of the data used for each round of training and prediction. An L-1 penalty was used to regularize the model. The model was able to produce a raw accuracy score of 0.70.
28. We performed inter-annotation analysis to determine how reliably different our categories are. This produced an analysis raw agreement score of 0.68, indicating moderate agreement. This suggests that our categories are relatively distinct but still have a fair amount of ambiguity. For our classification experiment, training and prediction with cross-validation resulted in an accuracy score of 0.70, very close to our inter-annotation score.
29. The comment was posted by the user to the AO3 story "All It Takes is a Star," written and uploaded by the user Watermellonmillinfellon, published on 10 August 2016. To preserve the privacy of AO3 users, we have not referred to commenters by their screen names.
30. Based on the results of our machine classification, the machine was most likely to confuse critical comments and absorbed comments.
31. The comment was posted by the user to the AO3 story "12 Days of What the Fuck," written and uploaded by the user bixgirl1, published on 27 December 2018.
32. In fanfic parlance, "tropes" refer to familiar plot devices and thematic elements rather than figurative language.
33. To measure the quantitative association between textual features and author/reader engagement, we performed a simple linear regression where the dependent variable (DV) is the author engagement score (a

value between 0 and 1), and the predictor variables are indicated in the table. The R-squared value for the model is 0.05. Diagnostics tests, including examining residual plots, testing for normality, and testing for collinearity between predictor variables, were performed to ensure the validity of the model.

34. The comment was posted by the user to the AO3 story “Sing Your Praises,” written and uploaded by the user gracerene, published on 15 May 2018.
35. We borrow this statistic from McGurl (167).
36. The 2023 videogame *Hogwarts Legacy* is the first product of the Wizarding World to feature a trans female character unfortunately named Sirona Ryan. Fans have criticized the tokenism of this gesture on social media, but also see the marks of their own LGBTQ+ fan fiction on the decision. Despite some fan pushback, the game has already produced over a billion dollars in revenue and broken records for viewership on the platform Twitch.
37. See Manshel, McGrath, and Porter’s article for an insightful analysis of the impact of Netflix on contemporary fiction.

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