

Metaphors in Moderation

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Abstract

Volunteer content moderators are essential to the social media ecosystem through the roles they play in managing and supporting online social spaces. Recent work has described moderation primarily as a functional process of actions that moderators take, such as making rules, removing content, and banning users. However, the nuanced ways in which volunteer moderators envision their roles within their communities remain understudied. Informed by insights gained from 79 interviews with volunteer moderators from three platforms, we present a conceptual map of the territory of social roles in volunteer moderation, which identifies five categories with 22 metaphorical variants that reveal moderators' implicit values and the heuristics that help them make decisions. These metaphors more clearly enunciate the roles volunteer moderators play in the broader social media content moderation apparatus, and can drive purposeful engagement with volunteer moderators to better support the ways they guide and shape their communities.

Keywords

Online communities, Moderation; Governance; Metaphors; Platforms; Twitch; Reddit; Facebook

Introduction

In a technical manual for the CommuniTree Bulletin Board System, founded in 1978 as one of the first public online communities, writer and engineer Dean Gengle discussed his philosophy for what he called a "Fairwitness":

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[T]he new social role of Fairwitness for [online] computer conferences combines elements of previous roles for the purposes of guiding the conference process, so it can be useful to its network of users. These roles are: conference moderator, editor, peacekeeper, promoter, guide, ombudsman, chairperson, host/ess, traffic manager, database organizer, pump-primer, and sometimes silent partner to the system operator(s). (Gengle, 1981)

Gengle drew the term “Fairwitness” from Robert A. Heinlein’s 1961 novel, *A Stranger in a Strange Land*, where “Fair Witnesses” are futuristic citizens who can perfectly recall any event without distorting it through their own prejudices. Gengle chose this term to underscore the importance of users setting aside their prejudices and tempering their emotions in handling sensitive matters in their online community.

Gengle’s metaphor-laden articulation of the role of a Fairwitness was not, strictly speaking, the first description of what we might today call a “moderator” in an online community, though it is certainly one of the earliest philosophical explorations. In their 1978 book, *The Network Nation*, Hiltz and Turoff described moderation in the Electronic Information Exchange System, a system used by researchers to collaborate virtually within forums called “conferences”. Just as offline academic conferences need moderators to oversee and facilitate conversation during sessions, they argued, so would online conferences (Hiltz and Turoff, 1993, pp. 23–24).¹

Metaphors are powerful tools for exploring moderation, explaining individuals’ relationships, values, and roles in social situations (Lakoff and Johnson, 2008). Research from psychology shows how metaphors concretely shape our understanding of abstract concepts that influence problem solving and social coordination (Landau et al., 2010; Landau, 2016, 2018). In this paper we use analysis of metaphors to answer whether, as the technical landscape of moderation and online communities has evolved, the corresponding conceptual landscape of how moderators and community administrators view their roles has also changed.

Following in the footsteps of Gengle and Hiltz and Turoff, modern academic literature has continued to apply metaphorical labels like “custodians” (Gillespie, 2018) and “governors” (Klonick, 2018) to moderators in corporate, platform-moderated models of social media. Though recent literature has focused more on this platform-moderated model, volunteer community moderation is crucial to the content moderation ecosystem. In mid-2018, over 1.4 billion people used 200+ million Facebook Groups each month, each of which had, at minimum, one volunteer moderator and often multiple.² Reddit reports more than 430 million average monthly active users across 130,000 user-governed communities, and each community is maintained by at least one and often many volunteer moderators.³ Though Twitter, Instagram, and others use centralized, platform-driven moderation models supported by distributed labor of users who flag and report content, newer platforms such as Twitch and Discord rely heavily on volunteer, community-driven moderation.

Recent research has described processes of volunteer moderation in online communities, namely Reddit (Doso and Semaan, 2019; Jhaver et al., 2019; Matias,

2019; Seering et al., 2019), Twitch (Seering et al., 2019; Wohn, 2019), Discord (Jiang et al., 2019; Kiene et al., 2019), and Facebook Groups (Seering et al., 2019). Much of this work, e.g., Seering et al. (2019), frames moderation as a set of *processes* or *tasks* and emphasizes *actions*, like rule-making, content removal, and user removal, rather than the implicit values that guide overall approaches.⁴ Building on examples set by Gengle and in other more recent work, we re-examine volunteer moderation from a metaphorical perspective, not as a set of duties but as complex set of *social roles*, asking questions like “How do volunteer moderators conceptualize what they do?”, and “What values do they bring to their work?” More broadly, we connect this work to literature on commercial content moderation (Roberts, 2019; Ruckenstein and Turunen, 2020) in an attempt to prompt further discussion about whether these roles indicate something more fundamental about humans’ place in the content moderation ecosystem.

In this paper we present a map of the conceptual territory of volunteer community moderation roles across multiple platforms, using metaphors to illustrate how moderators make sense of their power to shape, guide, and influence their communities. We perform thematic analysis of 79 interviews with volunteer moderators from Facebook Groups, Reddit, and Twitch, including 56 first-round interviews and 23 follow-up interviews (conducted two years later) which focused on metaphorical language. We chose these three platforms because they are among the largest community-based sites and each relies heavily on volunteer moderators while, at the same time, featuring a significantly different culture and set of features. For example, Twitch is based around live video streaming with synchronous chatrooms and a gaming focused culture while Reddit is a primarily text based asynchronous platform, but posts can contain links to multimedia. Facebook Groups are a mix of text comments and multimedia posts and are often private or secret. We explored the metaphorical language that describes how moderators see their work and analyzed these examples to identify emergent categories. Each metaphor we present, from moderator as “Gardener” to moderator as “Police” to moderator as “Piñata”, contains three core pieces of information: (1) The social role a moderator believes that they hold in the community; (2) An implicit set of values for what they believe their community should be like; and (3) An implied set of heuristics that shape how they make each moderation decision.

Understanding how volunteer moderators make sense of their roles paints a more complex and complete picture of their work. It also invites new lines of empirical research that illuminate relationships between platform cultures and moderators’ values, and connections between moderators’ value orientations and different community outcomes and characteristics (e.g., growth, conflict, supportiveness). These metaphors can also help platforms develop tools and spaces that support moderators far beyond the oversimplified but widely-presumed role of content removal and instead focus on their values, social preferences, and approaches to community support and management.

Prior work

We position our work at the intersection of literature on metaphors to understand diverse ways of thinking around abstract concepts, and the literature that discusses moderators' work practices.

Metaphors and social behaviors

Metaphors are essential to how humans understand the world. As Lakoff and Johnson write in *Metaphors We Live By*, "If we are right in suggesting that our conceptual system is largely metaphorical, then the way we think, what we experience, and what we do every day is very much a matter of metaphor" (Lakoff and Johnson, 2008, p. 3). They provide numerous examples of how metaphors can shape how we perceive phenomena that are part of our daily lives. For example, Lakoff and Johnson contrast two metaphors for acts of conversation: *war* and *journey* (Lakoff and Johnson, 2008, pp. 78–82). Phases of combat can be metaphors for stages of a confrontational conversation, e.g., planning a strategy, attacking, defending, reaching a stalemate, and agreeing to a truce. Alternatively, a laborious conversation could be described with terms like setting out, going in the wrong direction, going in circles, and having come a long way. These two metaphorical framings are certainly not procedural descriptions of conversational acts; they instead illustrate different approaches to discussion.

Psychologists have studied the importance of metaphors in human cognition, showing connections between the metaphors we use to describe the world and internal cognitive representations. Psychologists have proposed *conceptual metaphor theory* to explain how metaphors act as a common cognitive tool to help people experience and make sense of abstractions, rendering difficult concepts more concrete and understandable (Landau et al., 2010). According to this theory, metaphors both guide and are reinforced by individuals' thoughts, feelings, and behaviors. These metaphors influence social outcomes such as interpersonal judgments, problem solving strategies, and relationship satisfaction (Lareau, 2011). Metaphors can reveal the similarities and differences in individuals' mental representations of and perspectives on shared contexts, indicating their importance in social perception and coordination (Landau, 2016, 2018).

Metaphors have a profound effect in guiding individuals' information processing and behaviors, framing one's roles and responsibilities as well as understanding personal and cultural values. Gannon (2002) contrasts two dominant cultural metaphors in American and Japanese business contexts - football and the zen garden - to highlight how underlying values implicit in these metaphors (e.g., individualized specialization within teams in football; harmony and strict adherence to rules in gardening) illuminate how companies (and the individuals and teams within them) operate within each culture. Musolff (2017) provides an analogous cross-cultural investigation of metaphors for nation-states and political bodies. Similarly, McAdams et al. (2008) revealed how the values underlying political ideology affected how liberal and conservative participants conceptualized the qualities of effective authority figures through metaphor. They found that liberals were more likely to use family metaphors of parental nurturance and fairness, while conservatives were more likely to use metaphors of discipline and rules

enforcement in their depictions of authority. These studies show how metaphors and values are mutually reinforcing: values more foundational in a given culture or ideology shape the metaphors used, and those metaphors can be a powerful, validating expression of those values.

The metaphors we present in our analysis capture different outlooks and techniques to moderation. As Lockton et al. write, “metaphors are not the thing itself—they are always an abstraction, a model of the situation [...] They can be a map to a territory, but should not be mistaken for the territory.” (Lockton et al., 2019, p. 322). We believe that a thorough map to this territory is valuable for more than just understanding moderation’s central role in mediating online communication. The metaphors we present can help explain central tenets of moderator actions, such as how norms and practices are developed, how on-boarding of new members will occur, and how tensions and disagreements are overseen.

Moderation in online spaces

Research on moderation has ranged from a functionalist definition of moderation as the processes surrounding removal of content and bad actors to a perspective emphasizing the evolving intersection of norms, attitudes, and context for moderation. Our work takes the latter approach to complement recent more functionalist studies of community self-moderation.

Beginning in the 1980s and early 1990s, early research on moderation in online communities used metaphor-heavy framings and lenses to observe contextual factors (e.g., Reid, 1999) and (Smith, 1999)). This work was frequently qualitative, often theory-driven, and primarily ethnographic. It focused on online communities in spaces like Usenet, Multi-User Dungeons (MUDs), and in some cases Internet-Relay Chat (IRC) and mailing lists, which were primarily governed by users. While researchers did at times analyze moderation from a procedural, content removal-based lens, these analyses were typically situated within a narrative describing a larger theme or context of operation, e.g., “Hierarchies of power” (Reid, 1999, pp. 118–120) or “Diversity as a source of conflict” (Smith, 1999, pp. 143–146).

Later work shifted toward functional analyses of moderation practices and processes. Despite the growth of corporate social media like Myspace and Facebook, this research still modeled approaches to moderation and regulation of online behavior in user-governed communities like Slashdot, Wikipedia, the MovieLens platform, and free and open-source software communities. This work primarily used quantitative methods and focused on metrics for success and growth. For example, Lampe and Resnick (2004) used quantitative analysis of users’ moderation logs to show the strengths and weaknesses of Slashdot’s distributed moderation.

Recent research has shifted to focus on moderation from the platform’s perspective. Legal scholarship in particular has taken a functionalist, removal-based approach, though recent work has expanded to emphasize the importance of alternative approaches to handling problematic content that extend beyond removal (Douek, 2019). In her “The New Governors: The People, Rules, and Processes Governing Online Speech”, Klonick

(2018) documented the “governance” processes of social platforms, describing how processes have evolved and noting the influence of certain ingrained philosophies. Franks (2017) and Citron (2014) focused specifically on the moderation of nonconsensual pornography, discussing the current state of policies and laws surrounding whether and when it should and could be removed from social platforms. Research on community self-moderation has continued to work from a similar functional perspective – for example, Seering et al. (2019) presented three processes for volunteer moderation containing 15 steps and a total of 45 themes and variants. While they include some contextual pieces in their model, including “Development of a moderation philosophy”, their work describes moderation as a series of possible actions.

Though these works address users’ experiences and values, each emphasizes the *actions* and *processes* in moderation. Other work has focused on the broader social context from a more phenomenological perspective. In *Custodians of the Internet*, Gillespie documents actions for moderation, including removal, filtering, suspension, recommending, and curating (Gillespie, 2018, pp. 207–208), but he situates his descriptions within narratives of the pressures platforms face. Norms and values engage with power dynamics and legal restrictions to create a progression of rhetorical, technical, and organizational approaches to being *custodians*, the core metaphor of Gillespie’s work. Similarly, Matias used a contextual lens to explore the labor of Reddit moderators using the term “boundary work”, which he drew from Gieryn (1999) to describe the evolution of moderation from free labor to civic upheaval then towards oligarchical moderation practices (Matias, 2019, pp. 2–4). West (2018) used a similar perspective to analyze users’ experiences, examining the impact on users of opaque moderation actions taken by platforms like Facebook, and Gerrard (2018) also looked at users’ behaviors in the context of systems of moderation on Instagram, identifying ways in which they attempted to circumvent removal processes.

More recently, Juneja et al. (2020) explored Reddit moderators’ perspectives on transparency in moderation processes including rule-writing, removal notifications and explanations, handling appeals, and general rule-enforcement. Their work refined Matias’s concept of moderator oligarchy, identifying the reasons moderators use or reject transparent procedures. In an explicitly metaphorical analysis, Wohn (2019) categorized Twitch moderators’ roles into “Helping Hand”, “Justice Enforcer”, “Surveillance Unit”, and “Conversationalist”, each accompanied by implicit goals like maintaining civil discussion and fostering supportive interactions. Ruckenstein and Turunen (2020) focused primarily on commercial content moderators who work for platforms specializing in conversation forums, but identified significant overlap between these moderators and volunteer community moderators in ways that relate to a “logic of care”. These authors see moderation as a complex and evolving interplay between many stakeholders.

We build on this prior work to provide a more comprehensive categorization of the social roles in volunteer moderation. We present a detailed set of role-categories sensitive to the complex contexts of volunteer moderation across different platforms. As platforms have evolved, both in who participates in moderation and what activities and roles are included, a reexamination of cross-platform volunteer moderation efforts through the use

of metaphor is valuable to map the current state of moderation and to ground discussion about possible future states.

Methods

We performed 79 semi-structured interviews of volunteer moderators, including first-round interviews with 56 moderators from Fall 2016 through Spring 2018, and follow-up interviews approximately two years later with 23 of these interviewees. The moderators we interviewed were from Facebook Groups (15 first-round, 7 follow-ups), Reddit, (21 first-round, 9 follow-ups), and Twitch (20 first-round, 7 follow-ups).⁵

Interviews typically lasted between 30-60 minutes, with variance based on the number of communities moderated, depth of engagement in these communities, and interest in meta-discussions about moderation. Interviewees were compensated 15 USD (or the equivalent amount in their local currency) for participating. Interviews were performed in English, and while the majority of the interviewees were from the United States, eight out of fifty-six were from the UK, two were from each of Canada and France, and one each was from Sweden, Mexico, Australia, and Germany. We intentionally oversampled from underrepresented populations when possible in order to amplify the voices of these populations. We also hypothesized that a more diverse sample might lead to more variety in the metaphors uncovered. For example, while, as of mid-2019, Twitch's advertising website reported that 81.5% of its user base was male,⁶ our sample of twenty interviewees from Twitch contained five cisgender and two transgender women.

Initial interview recruitment combined direct messaging to moderators and snowball sampling to recruit a diverse set of group sizes and themes represented. Follow-up interviewees were recruited through re-messaging the moderators via the same channels they were originally contacted. Though we believe a response rate of 40% (23/56) is reasonable after a two-year delay, we recognize that there is likely bias in which interviewees responded to re-interview requests. As such, we do not make claims that these results are statistically representative of all moderators on these platforms.

The goal of performing follow-up interviews was twofold – first, to explore specific topics such as metaphors and philosophies for moderation, but also to capture how moderators felt their roles had evolved as platforms had added new features and changed their policies. In analyzing our first-round data, metaphors emerged as an implicit theme, with 51 of the 56 interviewees using metaphorical language at least once to describe their work or situations they found themselves in. While some moderators used metaphors to describe problematic users, e.g., calling them “garbage” that needs to be taken out (a metaphor also used by [Genge \(1981\)](#) nearly forty years prior), most metaphorical language described moderation styles and roles. We designed follow-up interview questions to investigate moderators' philosophies and their origins. Metaphorical language was not used evenly across interviewees from the three platforms; Reddit moderators used many more metaphors than moderators from Twitch or Facebook Groups, even without prompting. Twitch moderators used less metaphorical language both when unprompted and when explicitly offered the chance to do so. We explore possible explanations for this in our Discussion.

After completion and transcription of the follow-up interviews, we performed thematic analysis following Braun and Clarke's guidelines and process (Braun and Clarke, 2012). Our units of analysis were passages with metaphorical language where moderators described how they viewed their roles. We identified 244 chunks of text that used metaphorical language in our first round interviews and 53 chunks in our follow-up interviews. Having familiarized ourselves with the data, we performed open coding, abstracting from, e.g., "I had been moderating for her on YouTube where that was a constant battle" (T15) into "Moderation as combat". Next, two researchers independently grouped these abstractions into broader sub-themes, including moderators as legislators, mediators, combatants, and police. The researchers then met and performed affinity diagramming to consolidate and group these variants, arriving at five social roles with three to six variants in each group. We then checked these themes against the whole dataset and solicited feedback from several reinterviewees about our findings.

Results

Our analysis surfaced five social role categories with 22 metaphor-based variants, shown in Figure 1. Note that these roles are not *functional* roles; while Seering et al. (2019) found little formal division of tasks between moderators beyond hierarchy and technical vs. non-technical work, we found significant differences in the *social roles* that moderators felt they played in their communities as expressed through metaphor. These metaphors indicate diverse value sets, which moderators articulated through conversations about how each metaphor reflected their relationships toward their communities. These metaphors also contain implied heuristics that shape action and decision-making. In this section, we describe the interplay between these characteristics and how they connect to social roles.

Note that, though the metaphors we discuss here come from interviews with volunteer moderators, the ways in which they match with metaphors identified in other literature on commercial content moderation processes (Gillespie, 2018; Roberts, 2019; Ruckenstein and Turunen, 2020) suggest that metaphors like these can help us achieve a deeper understanding of the fundamental characteristics of content moderation that cut across different organizational structures.

Nurturing and Supporting Communities

"The moderators that I get along with most at an archetypal level tend to the space, meaning they tend to the people, they tend to the vibe... they are socially aware of what emotions are moving through the space at any given time and they are tending those emotions and the actions tied to them." – T2, reinterview

"My way of looking at it is that in a way you're kind of leading the group like a teacher would, like a class. You're making sure that everyone feels safe, you're trying to keep a safe environment for everyone and trying to keep

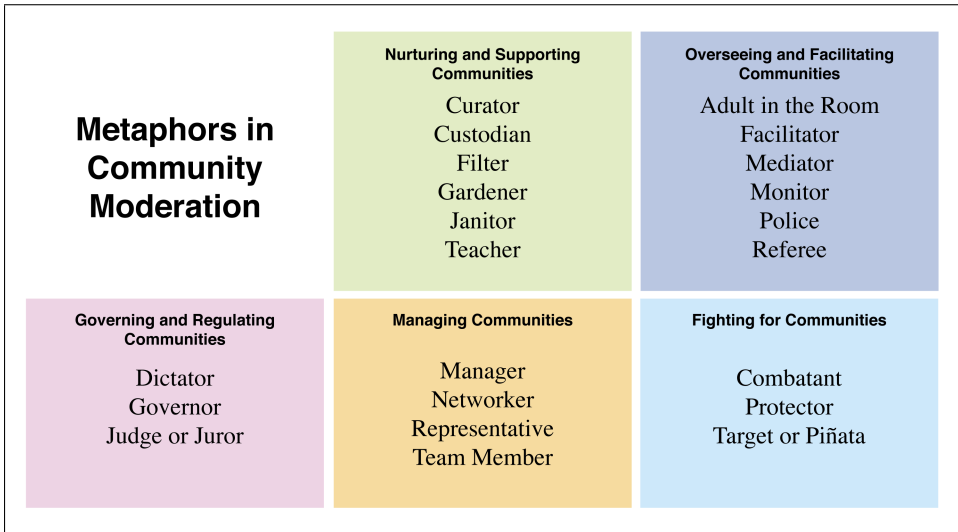


Figure 1. Five categories and twenty-two variants of metaphors for roles in volunteer community moderation. The orientation of categories and metaphors is not indicative of any hierarchy or relationship between groups.

them learning and updated on new things that are coming into the group.” – F4, reinterview

Moderators who fit the *Nurturing and Supporting Communities* category take care of and nurture a community, with varying emphasis on care versus maintenance and active versus passive engagement. First, the **Gardener** nurtures and “tends” to the community, both in “planting seeds” of conversations and interactions and, as F7 described in their reinterview, “pull(ing) weeds” – problematic content and disruptive users – in order to make space for more positive interactions, similar to the nurturing attitudes of moderators highlighted by Yu et al. (2020) and the “Helping Hand” Twitch moderator archetype identified by Wohn (2019). Gardeners see themselves as slightly detached from individual social interactions in a community, focusing instead on larger community goals. **Custodians** show similar feelings of responsibility and a desire to help a community grow, likening themselves to a detached “steward of their community” (R11). Several interviewees explicitly contrasted Custodians with **Janitors**, where the Janitor role was associated with language like “trash”, “waste”, and “repair[ing] broken windows and sweep[ing] the floor” (R13). The most passive type of moderator in this group, the **Filter** moderator behaves similarly to a physical filter, taking away what one moderator called “low effort content” (F13) without intervention. Filter moderators are much less likely to engage directly with community members; instead, they put up “pre-screens” (F6) to identify problematic users or content before they enter a community.

A **Curator** works with a more specific vision and a sense of expertise in the community's interest areas compared to Custodians or Janitors. Curators articulate their roles as more "editorial", like "a newspaper editor" (R8, reinterview), who actively guides both the content in the community and its members' behaviors rather than guiding growth. Moderators who used Curator-related language were often associated with a knowledge-based group, where they may have been chosen as moderators for their expertise. The final metaphor, **Teacher**, is also associated with expertise but implies a more active, hands-on approach to moderation. Teachers see their community as a "classroom" (F4), with at least some community members being "students" who can be "trained" (F7) to behave in particular ways. One moderator directly compared moderation work to their experiences as a school teacher.

Moderators whose roles are described in the *Nurturing and Supporting Communities* category envision a community that is clean, trained, and often evolving over time. Correspondingly, these metaphors describe heuristics for moderation decisions based on their vision for the community. There is significant diversity within this category. The distinction between Gardeners, Teachers, Curators, and sometimes Custodians, who have a vision for what they would like their community to be, and Filter and Janitor moderators, who have a vision of what they would like it *not* to be is comparable to the stark differences identified by Ruckenstein and Turunen (2020) between commercial content moderators who are forced to operate like machines, filtering through content and removing it when necessary, and moderators who have the resources to nurture communities. It is important to note that, while the Filter and Janitor moderators in our dataset chose these approaches to moderation, the commercial content moderators studied by Ruckenstein and Turunen were forced into reactive, filtering roles because of the way the platforms structured employees' work processes.

Overseeing and Facilitating Communities

"A lot of times mods will just kinda sit back and will see how far it progresses, kind of like bystanders, to see if this arguing match becomes a physical fight, and then they have to step in." – T2, first interview

"If the ethos of the group itself is more concerned with like, more democratic engagement, I usually try to be a diplomat. And when I see conversations getting out of hand, I'll try and help the people who are arguing understand each other better." – F11, reinterview

In contrast to the above six metaphors, which focus on long-term vision, the metaphors in the *Overseeing and Facilitating Communities* category view moderation as interpersonal management and intervention. **Mediator** and **Referee** moderators hope to resolve disputes. Mediators often step in when discussions get "heated" to help "cool things down" (R2). Mediator moderators help community members reach equitable resolutions to their disagreements, ideally with minimal animosity to "help [users] understand each other better" (F8). In contrast, Referee moderators resolve disputes by referencing rules or a body of accepted knowledge, with the goal of being "fair"

and “neutral” (F7) in application of these rules; one interviewee even used the sporting metaphor of “putting a yellow flag” (T2) on a person for violating rules. When a Referee steps in, their goal is to decide who is right and wrong in a given situation and to support their decision with clear justification. While a Mediator’s legitimacy comes from their ability to de-escalate, a Referee’s legitimacy comes from making fair and consistent decisions. Both of these metaphors match well with the conception of a moderator in [Hiltz and Turoff \(1993\)](#), which comes from traditional conference moderators in academic conferences.

Similarly, moderators who see themselves as **Police** and the **Adult in the Room** are expected to make relatively consistent decisions but articulate their reasoning less frequently and in less formal ways. Police were described as “guard dogs” (T2) comfortable making in-the-moment decisions about rule-abiding behavior and taking corresponding (and often quick) action. This matches many of the features of the “Justice Enforcer” moderator persona identified by [Wohn \(2019\)](#). One moderator said that, in response to offensive behavior, “of course we kick them out instantly and we don’t tell them anything” (F2). Adult in the Room moderators view misbehavior as resulting from immaturity or childishness that they must contain, sometimes via lecturing users on proper behavior. These moderators try to maintain order amid chaos with language around physical space, with one moderator describing unruly Twitch communities as a “crazy house party”. In their reinterview, F11 described the mix of patience and directness required to be an Adult in the Room – “I built this house, I invited you in, and you track mud all over my carpet [...] Nah, get the fuck out or clean up your mess.”

The **Facilitator** and **Monitor** archetypes are more passive variants of the above roles. Monitors are quiet observers, someone who “would watch and would report if something bad happen[s]” (R6), akin to Wohn’s “Surveillance Unit” ([Wohn, 2019](#)). These moderators note potential issues and mark users for review, stepping in only if absolutely necessary. Facilitators described themselves as “relaxed” about moderation, frequently referencing the effectiveness of community self-regulation. Several Reddit moderator interviewees described allowing users to self-moderate, “letting the upvotes and downvotes do their thing” (R5). In some cases, Facilitators act as a “host” to encourage socialization and conversation in their communities.

In contrast to the *Nurturing and Supporting Communities* category, moderators in the *Overseeing and Facilitating Communities* category expressed philosophies for ideal social interaction, both between themselves and communities and inter-community interactions. For example, several interviewees who moderated spaces for political discussions on Facebook known as “discourse groups” wrote extensive rules and expectations for appropriate modes of interaction. Correspondingly, these moderators’ heuristics for intervention evaluated whether a piece of content or a conversation would be disruptive to the community, a philosophy more akin to “firefighting” than gardening.

Fighting for Communities

“There’s periods of contention and intense discourse where I’m either the most loved or hated person. Which sounds so egotistical, but it’s like being a piñata sometimes.” – R4, first interview

“In everything that I do, I try to carve a safe space for queer people, for trans people, especially for young trans kids. I want to do everything I can with my life to make things better for them, for a safe, inclusive and diverse space, and I am willing to take any measure necessary to maintain that. If you are making things unsafe, harmful, mean, negative... you’re gone.” – T1, reinterview

For moderators who describe their social roles as *Fighting for Communities*, moderation is a battle. The first type of moderator in this group, the **Combatant**, sees active conflict as part of their job. These interviewees used metaphors like “sniping” problematic content (T20), having an “itchy trigger finger” (R13), and being “drafted” (R4) to manage conflicts in communities. This militaristic language was most frequently used when discussing content removal and bans; moderators rarely mentioned warning users, giving explanations for removal, or socially engaging with their communities. Moderators using the **Target or Piñata** metaphors described a similar philosophy but focused more on the pushback they would receive from angry community members; one moderator directly described being beaten up by their community as being like a “piñata” (R4). Another moderator described “hav(ing) to put your flame suit on” after difficult decisions. These moderators do not feel obligated to have a discussion with or accept feedback from those who disagree; rather, they stand by their decisions and try to weather the proverbial storm. Note that this metaphor was not used by moderators who were targets of harassment themselves because of, for example, their race or gender; moderators who described themselves as a Target or Piñata chose this role willingly because they saw it as their job to absorb complaints as part of the moderation process.

The third metaphor, the **Protector**, describes a moderator who is invested in creating a safe space for community members. These moderators often seek to provide a space for under-represented groups or vulnerable users, e.g., “young trans kids” (T1). Unlike the Target or Piñata metaphor, these moderators had typically experienced harassment personally, which led them to want to protect others like them from having the same experiences. For this reason, Protectors are quick to remove anyone who poses any perceived risk to the safety of their community (F6), akin to the “martyr” identified in [Matias \(2019\)](#), who adopted the role of a defender of her community (p. 5).

All three metaphors highlight the processes surrounding content removal. None address, for example, education of offenders, reconciliation, or the idea of fairness or transparency. Moderators who are *Fighting for Communities* unapologetically follow their values in making decisions about what and who to remove.

Managing Communities

“So what I wanted to do was hire people with different opinions that are good at different positive things. We hire [new] moderators quite often. We don’t demote [the old ones] because they’re terrible, but because they’re, you know, they got busy with life and whatnot.” – R3, reinterview

“We just put a little job application, if you will, on the pinned post.” – F12, first interview

Much has been written about content moderation as labor, both within commercial and organizational (Gillespie, 2018; Roberts, 2019) and social and civic structures (Doso and Semaan, 2019; Matias, 2019; Wohn, 2019). Many interviewees, with a strong majority from Reddit, described approaches to moderation with organizational and employment metaphors. The most common of these was the **Team Member**, where moderators described an organized group of “coworkers” who were “recruited” (R8), “hired”, and occasionally “promoted” or “demoted” (R3). These metaphors were used despite no formal employment status or financial compensation for their work, aligning with the description of Reddit moderator labor in work by Matias (2019) and contrasting with the formal employment structures of the commercial content moderators described by Ruckenstein and Turunen (2020), some of whom had previously been volunteer community moderators. These moderators view their work as a second job, with regular hours spent on tasks, like working through moderator private mail on Reddit. These hours often overlap with their “first” job’s hours, with moderators taking advantage of downtime at work to interact with their community. Some teams have a **Manager**, a user who is often recognized as a “head mod” of a given community, who organizes the efforts and “creates infrastructure” for others. In our interviews, the Manager metaphor did not have political governance undertones; instead, this role was articulated in terms of necessary labor and management of organizational processes.

Other metaphors more directly explored the relationships between moderators and their communities and other spaces. A **Representative** moderator is the “main face” (F12) of a moderation team, whose job is to provide a positive impression of the moderators to the community akin to “public relations”. Several Twitch moderator interviewees described themselves as “representatives” of the streamer they moderated for. The fourth and final metaphor, the **Networker**, describes moderators whose goal is to make connections with different communities for both personal and “professional” reasons. These moderators act as “liasons” to share tools and strategies and to coordinate actions. For example, one moderator recalled a large discussion between sports-related groups about handling controversies involving the American football player and activist Colin Kaepernick. However, several Reddit moderators described a negative version of this Networker role – “cabals”, where users accumulate personal power by becoming moderators on many large subreddits, as previously discussed by Massanari (2017).

These organizational metaphors highlight similarities between user-driven moderation and platform-driven moderation in approaches to work and labor. They also reveal an underlying tension between the commercial and social natures of self-governed

communities. Despite the fact that many Twitch communities are a significant source of income for the streamers, no interviewees from Twitch described the streamer as a manager, and very few used organizational metaphors other than Representative. This may reflect these moderators' desire to view their relationships in friendly, social, and supportive terms, but this approach can lead to conflict when commercial and personal relationships collide (Wohn, 2019).

Governing and Regulating Communities

“We tried public referenda. Being a political subreddit, people get really ugly about these rule changes so we try to be really democratic about it if we can. Sometimes it works, sometimes it doesn't. Sometimes I just issue edicts and that's that.” – R4, first interview

“When I logged into the back room of uh, the [subreddit] today, I saw that they were actually trying a case basically of whether or not to ban some guy. So there it looks not like an individual judge but more like the supreme court, Right. So you got a panel of judges.” – R8, reinterview

The final category of metaphors and social roles draws from legal and political governance. In contrast with the *Managing Communities* or the *Overseeing and Facilitating Communities* metaphors, these roles describe moderation as a form of government, interpreting between the “letter” and “spirit of the law” (R2) and sometimes “providing amnesty”. The **Judge or Juror**, for example, is a moderator who decides on a case-by-case basis whether an action warrants punishment, either individually as a Judge or as part of a Jury of moderators. Moderators who saw their roles this way framed rules around concepts like “common law” and “civil law” and described trying to go “by the book” in adjudicating decisions (R8). This metaphor contrasts with the previously-discussed Referee, where the Judge or Juror examines the behavior of a single user and the Referee attempts to determine whether one party or another is correct.

While the above represents a judicial branch that manages disputes, moderators also discussed variants of an executive branch. A **Governor** leads with a general sense of consent from the “governed”, though typically not through a democratic mandate. Governors, sometimes described in terms like “president” (R2), usually discuss decisions with their moderators and take other opinions into account, but have the final say in matters of moderation where they may “line-item veto” new policies. Moderators also used the term **Dictator**, but this was applied only in rare cases when a moderator exerted a sort of “tyrannical” authority over a community that did not accept their legitimacy. In a few cases, being a Dictator described the need for one person to make a final decision, an executive “fiat”, when issues became too contentious for agreement to occur. In other cases, moderators pointed out that communities unfairly accused them of being “Nazi mods”, with the perception that they had over-enforced rules. This comment was most common among Twitch moderators, who described the widespread use of the term “Nazi mod” on the platform.

The metaphors used by moderators here are inspired by real-world governance structures. While Dictators represented a more autocratic form of governance, Judge or Juror moderators formed a judicial branch of a more democratic government, complemented by an executive branch in the form of Governor moderators. However, no metaphors were used that classified moderators as members of a legislative branch or even as elected representatives of the community. Though these moderators may have governed with democratic ideals in mind, their governing structures were more akin to an oligarchy than a democracy. Shaw and Hill (2014) described similar oligarchic concepts on Wikipedia, and Matias (2019) noted the presence both of oligarchs and self-described “dictators” on Reddit (p. 5).

Establishing Face Validity: Feedback from Interviewees

After constructing this taxonomy, we sent it to interviewees for feedback to test its face validity. Most expressed approval, e.g., “That is actually very accurate. I’ve been in groups that are run like all of these or a mixture of 2.” (F4). Several moderators suggested new names for our variants or additions to the framework. For instance, R3 suggested using “Dictator” instead of “Tyrant” (which we had originally used), and we made this change in the final framework. R11 asked whether “Steward”, which they had mentioned in their re-interview, would fit in the framework; we elected not to formally incorporate this as no other interviewees had mentioned it, but we added it as an example in discussing the Custodian metaphor. Finally, R8 suggested a additional category for **Media**, **Journalist** and **News-editor** metaphors. We did not adopt these metaphors directly as they were not present in our dataset, and some overlapped significantly with the social role of Curators (with one moderator explicitly comparing a Curator to a “Newspaper-editor”), but we believe these metaphors may merit additional consideration in future work.

Discussion

The twenty-two metaphors we present here paint a nuanced picture of the social complexity and roles of volunteer moderation in online communities. While recent work has focused on moderation as a process built around rules and removal – i.e., what to remove, what not to remove, and how to communicate this – removal is only one piece of a deeper social process of nurturing, overseeing, intervening, fighting, managing, governing, enduring, and stewarding communities. Our interviewees described these roles as fluid and changing; the median interviewee self-described using three different metaphors spanning two of the five categories. Though our sample is not sufficient for rigorous quantitative evaluation of overlap of different metaphors, prior work offers hypotheses for how clusters of metaphors may be interlinked. For example, situational factors are likely involved in these determinations; as suggested by IJzerman and Koole (2011), metaphors can drive action, and the current social context serves as a powerful constraint to activate particular metaphors that best suit one’s goals or motivations. Moderators might shift their metaphorical lens depending on the nature of

the transgression or the characteristics of the transgressor (and, indeed, the transgressor's own metaphors for governance and authority).

Beyond situational factors, the characteristics of moderators – their demographic and social identity characteristics, their personalities, and their belief systems – undoubtedly shape their views on authority, community, and governance. As noted previously, political ideology shapes the types of parental metaphors invoked about political leadership (McAdams et al., 2008). Prior work has also revealed how gender and one's endorsement of and adherence to gender roles can affect one's choice of agency- versus nurturance-oriented metaphors in developing self-concept, and how personality traits can influence the metaphors used in thinking about oneself and others (Moser, 2007). Various facets of the self-concept may be similarly impactful in influencing what metaphors are used to think about the roles and duties of moderation.

Certain metaphors were far more common among moderators from specific platforms, suggesting that platforms' affordances, histories, and social norms may also impact the metaphors moderators adopt. For example, *Nurturing and Supporting Communities* metaphors were used by Reddit and Facebook Groups moderators much more than Twitch moderators, while *Overseeing and Facilitating Communities* metaphors were more frequent on Twitch. Twitch uses an active, synchronous live chatroom, so it may be more difficult to "curate" a moving conversation or "plant" ideas, while the slower, asynchronous communication on Facebook Groups and Reddit may allow moderators more time to consider longer-term plans and goals. Perhaps because of the politically-charged aspects of Reddit's culture and history (Massanari, 2017), *Governing and Regulating Communities* metaphors such as Governor and Judge or Juror were used much more by Reddit moderators. Similarly, the greater use of the "Adult in the Room" metaphor by Twitch moderators may reflect the perception that many Twitch users are young and that their problematic behaviors are a result of immaturity. The low volume of metaphorical language from Twitch moderator interviews may result from the youth of Twitch as a platform; as Cooke and Bartha (1992) point out, metaphor use can increase as expertise in a field grows, so it is possible that conceptual models for moderation on Twitch are still maturing.

Our analysis catalogues the social roles found in our dataset, connects them to metaphors in prior work, and makes more explicit their usefulness in understanding moderation practices and relationships. Consistent with prior work (Lakoff and Johnson, 2008; Landau, 2016, 2018), metaphors provide explanatory power in grounding behaviors, choices, and values of moderators in decision-making and everyday interactions. For example, the difference between Governors and Curators implies differences in perceived relationships, behaviors, and values that moderators hold. Governors may look towards the rule of law in legitimizing decision-making, seeking approval from other moderators and the community, while Curators possess a vision of community vibrancy, health, and success and foster this vision in their interactions.

These metaphors also illuminate threads for future work. For example, a cross-platform "census" survey of metaphors would offer validation of this framework and could explore how cultural differences impact the use of metaphors for moderation. More in-depth exploration of how each category and perhaps each metaphor manifests

in practice could also deepen understanding of the space. Understanding the complex interplay between individual, social, and contextual variables in shaping metaphor choice and deployment is a crucial next step in this line of inquiry; we also acknowledge that these same variables affect other cognitive processes beyond the activation of metaphorical frames. Future work taking a more holistic view of moderator cognition should consider the role metaphors play relative to other psychological mediators (e.g., stable or temporarily activated attitudes, norms, rules, emotions, etc.) in shaping moderators' perspective-taking and decision-making processes.

Although our focus is on social roles as seen by volunteer moderators, there is potential for future work exploring the ecosystem of platforms and community members that support moderation. Platforms may benefit from reflecting on the metaphors implicitly embodied in the way they engage human moderators as well as explicitly embodied in automated moderation schema and policy documentation. Does Reddit see its volunteer moderators as Team Members or Janitors? How do platforms conceptualize the non-moderator community members who also facilitate moderator labor through flagging and reporting mechanisms? Are automated moderation algorithms supposed to act like Filters or Police, or should their metaphorical roles complement the work of human moderators in a more sophisticated way? Though the moderators discussed in this paper have all been volunteer community moderators, this latter question connects directly with how the roles of commercial content moderators are conceptualized. Ruckenstein and Turunen (2020) argue that commercial content moderators are “trapped in a cycle of responding to one post at a time rather than offering a meta-perspective to the discussion by overseeing and nurturing it” (pp. 1039–1040) in part because of the ways in which proponents of AI-based moderation systems have framed these algorithms as replacements for humans rather than assistants. Metaphors like the ones described in this paper could support conversations about ways in which algorithms could complement the unique skills of human moderators.

Metaphors can also be generative in helping designers and developers introduce new concepts. As in Lakoff and Johnson's examples of metaphors for conversation, the application of a new metaphor to a situation where it does not immediately make sense can facilitate new perspectives (Lakoff and Johnson, 2008, pp. 78–82). For example, in Lockton et al.'s *New Metaphors* method, designers are tasked with combining names of phenomena and abstract concepts with photos of real-world objects. They then extract metaphors from these often unorthodox combinations that can then be used to inspire ideas for new products, services, and interfaces, and also to help reframe complex situations (Lockton et al., 2019, p.323). Existing systems for moderation can be connected with some of the metaphors we present; most existing tools for moderation align with a small subset of the metaphors described here. For example, Twitch's timeout and ban features align well with Adult in the Room or Police metaphors, while Reddit's AutoModerator and Facebook Groups' screening questions tie closely with Filter metaphors. Taking into consideration less commonly used-metaphors could help give designers a new perspective on what moderation could look like in the future. Tools designed for the Gardener or Curator metaphors could help moderators consider early and often what vision they have for their communities; designing for the Target or Piñata

metaphor could help platforms better support moderators dealing with aggressive users or harassment; designing for a Networker metaphor could help support moderators who want to share experiences and build connections between communities.

Metaphors must be used judiciously. Their flexibility and open-ended nature can obscure important realities. In “The politics of ‘platforms’”, Gillespie argued that the use of the ‘platform’ metaphor in describing sites like YouTube makes it difficult to attend to the consequences of these companies’ interventions into public discourse (Gillespie, 2010, pp. 359–360). It is tempting to forcibly apply metaphors and categories to situations where their use may not be warranted, and we caution against using these metaphors to overgeneralize or to design systems that take agency from users and moderators. Instead, we hope that these metaphors will illuminate the breadth of practices in volunteer moderation and allow us to see them from new perspectives. Building from the flexibility of these metaphors, we can better understand the current state of online moderation and think more openly about its future.

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Notes

1. Gengle’s manual and Hiltz and Turoff’s book provide strong evidence that the term “moderator” came to be used in online contexts because of the perceived similarity of the role to that of offline “conference moderators”.
2. <https://web.archive.org/web/20191208191626/https://singjupost.com/full-transcript-mark-zuckerberg-at-facebooks-f8-2018-developer-conference/?singlepage=1>
3. <https://www.redditinc.com/press>, accessed 9 Feb 2020
4. Notable exceptions to this include (Dosono and Semaan, 2019), (Ruckenstein and Turunen, 2020), (Wohn, 2019), and (Yu et al., 2020)
5. Prior work reported on the results of the first-round interviews from a procedural, functionalist perspective, which did not focus on metaphors (Seering et al., 2019).
6. <https://web.archive.org/web/20190629052039/https://twitchadvertising.tv/audience/>

References

- Braun V and Clarke V (2012) Thematic analysis. In: *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological*. Washington, DC, US: American Psychological Association, pp. 57–71. DOI:10.1037/13620-004.

- Citron DK (2014) *Hate Crimes in Cyberspace*. Cambridge, MA, USA: Harvard University Press.
- Cooke NJ and Bartha MC (1992) An Empirical Investigation of Psychological Metaphor. *Metaphor and Symbolic Activity* 7(3-4): 215–235. URL <https://doi.org/10.1080/10926488.1992.9678714>.
- Dosono B and Semaan B (2019) Moderation Practices as Emotional Labor in Sustaining Online Communities: The Case of AAPI Identity Work on Reddit. In: *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM. URL <https://doi.org/10.1145/3290605.3300372>.
- Douek E (2019) Facebook’s “Oversight Board:” Move Fast with Stable Infrastructure and Humility. *N.C. J.L. & Tech* 21: 1–78.
- Franks MA (2017) “Revenge Porn” Reform: A View from the Front Lines. *Fla. L. Rev.* 69: 1251–1337.
- Gannon MJ (2002) Cultural metaphors: Their use in management practice and as a method for understanding cultures. *Online Readings in Psychology and Culture* .
- Gengle D (1981) *Communitree*. The CommuniTree Group, San Francisco, CA, USA, first edition.
- Gerrard Y (2018) Beyond the hashtag: Circumventing content moderation on social media. *New Media & Society* 20(12): 4492–4511. URL <https://doi.org/10.1177/1461444818776611>.
- Gieryn TF (1999) *Cultural Boundaries of Science: Credibility on the Line*. Chicao, IL, USA: University of Chicago Press.
- Gillespie T (2010) The politics of ‘platforms’. *New Media & Society* 12(3): 347–364. URL <https://doi.org/10.1177/1461444809342738>.
- Gillespie T (2018) *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions that Shape Social Media*. New Haven, CT, USA: Yale University Press.
- Hiltz SR and Turoff M (1993) *The Network Nation: Human Communication via Computer*. Cambridge, MA, USA: MIT Press.
- IJzerman H and Koole SL (2011) From perceptual rags to metaphoric riches—Bodily, social, and cultural constraints on sociocognitive metaphors: Comment on Landau, Meier, and Keefer (2010). .
- Jhaver S, Birman I, Gilbert E and Bruckman A (2019) Human-Machine Collaboration for Content Regulation: The Case of Reddit Automoderator. *ACM Trans. Comput.-Hum. Interact.* 26(5): 31:1–31:35. URL <http://doi.acm.org/10.1145/3338243>.

- Jiang JA, Kiene C, Middler S, Brubaker JR and Fiesler C (2019) Moderation Challenges in Voice-based Online Communities on Discord. *Proc. ACM Hum.-Comput. Interact.* 3(CSCW): 55:1–55:23. URL <http://doi.acm.org/10.1145/3359157>.
- Juneja P, Ramasubramanian D and Mitra T (2020) Through the Looking Glass: Study of Transparency in Reddit's Moderation Practices. In: *Proceedings of the 21st International Conference on Supporting Group Work*. New York, NY, USA: ACM.
- Kiene C, Jiang JA and Hill BM (2019) Technological frames and user innovation: Exploring technological change in community moderation teams. *Proc. ACM Hum.-Comput. Interact.* 3(CSCW): 44:1–44:23. DOI:10.1145/3359146. URL <http://doi.acm.org/10.1145/3359146>.
- Klonick K (2018) The new governors: The people, rules, and processes governing online speech. *Harvard Law Review* 131: 1598–1670.
- Lakoff G and Johnson M (2008) *Metaphors We Live By*. University of Chicago Press.
- Lampe C and Resnick P (2004) Slash(Dot) and Burn: Distributed Moderation in a Large Online Conversation Space. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. New York, NY, USA: ACM, pp. 543–550. URL <http://doi.acm.org/10.1145/985692.985761>.
- Landau MJ (2016) *Conceptual metaphor in social psychology: The poetics of everyday life*. Routledge.
- Landau MJ (2018) Using metaphor to find meaning in life. *Review of General Psychology* 22(1): 62–72.
- Landau MJ, Meier BP and Keefer LA (2010) A metaphor-enriched social cognition. *Psychological bulletin* 136(6): 1045.
- Lareau A (2011) *Unequal Childhoods: Class, Race, and Family Life*. University of California Press.
- Lockton D, Singh D, Sabnis S, Chou M, Foley S and Pantoja A (2019) New Metaphors: A Workshop Method for Generating Ideas and Reframing Problems in Design and Beyond. In: *Proceedings of the 2019 on Creativity and Cognition*. New York, NY, USA: ACM, pp. 319–332.
- Massanari A (2017) #Gamergate and The Fapping: How Reddit's algorithm, governance, and culture support toxic technocultures. *New Media & Society* 19(3): 329–346.
- Matias JN (2019) The Civic Labor of Volunteer Moderators Online. *Social Media + Society* 5(2). DOI:10.1177/2056305119836778.

- McAdams DP, Albaugh M, Farber E, Daniels J, Logan RL and Olson B (2008) Family metaphors and moral intuitions: How conservatives and liberals narrate their lives. *Journal of personality and social psychology* 95(4): 978.
- Moser KS (2007) Metaphors as symbolic environment of the self: How self-knowledge is expressed verbally. *Current Research in Social Psychology* 12: 151–178.
- Musolff A (2017) Metaphor and cultural cognition. In: *Advances in Cultural Linguistics*. Springer, pp. 325–344.
- Reid E (1999) Hierarchy and Power: Social Control in Cyberspace. In: Smith MA and Kollock P (eds.) *Communities in Cyberspace*, 1st edition. New York, NY, USA: Routledge, pp. 107–134.
- Roberts ST (2019) *Behind the Screen: Content Moderation in the Shadows of Social Media*. New Haven, CT, USA: Yale University Press.
- Ruckenstein M and Turunen LLM (2020) Re-humanizing the platform: Content moderators and the logic of care. *New Media & Society* 22(6): 1026–1042. URL <https://doi.org/10.1177/1461444819875990>.
- Seering J, Wang T, Yoon J and Kaufman G (2019) Moderator engagement and community development in the age of algorithms. *New Media & Society* 21(7): 1417–1443. DOI:10.1177/1461444818821316.
- Shaw A and Hill BM (2014) Laboratories of oligarchy? How the iron law extends to peer production. *Journal of Communication* 64(2): 215–238.
- Smith AD (1999) Problems of Conflict Management in Virtual Communities. In: Smith MA and Kollock P (eds.) *Communities in Cyberspace*, 1st edition. New York, NY, USA: Routledge, pp. 135–166.
- West SM (2018) Censored, suspended, shadowbanned: User interpretations of content moderation on social media platforms. *New Media & Society* 20(11): 4366–4383. URL <https://doi.org/10.1177/1461444818773059>.
- Wohn DY (2019) Volunteer Moderators in Twitch Micro Communities: How They Get Involved, the Roles They Play, and the Emotional Labor They Experience. In: *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. New York, NY, USA: ACM, pp. 160:1–160:13. URL <http://doi.acm.org/10.1145/3290605.3300390>.
- Yu B, Spiel K, Seering J and Watts L (2020) “Taking Care of a Fruit Tree”: Nurturing as a Layer of Concern in Online Community Moderation. In: *CHI '20 Extended Abstracts on Human Factors in Computing Systems*, CHI EA '20. New York, NY, USA: ACM, pp. 253:1–9. URL <http://dx.doi.org/10.1145/3334480.3383009>.