

How to Tame “Your” Algorithm: LGBTQ+ Users’ Domestication of TikTok

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As our social worlds increasingly shift online, many of the technologies people encounter are mediated by algorithms. Algorithms have become deeply embedded into people’s online lives, often working to tailor and personalize their routine encounters with the world. How does one domesticate, or make one’s own, an algorithmic system? One of the goals as people adopt new technologies is to weave them into their everyday routines, establishing a pattern of use in order to make that technology their own. In this paper we focus on people’s experiences domesticating the short-form video sharing application, TikTok. Through an interview study with 16 LGBTQ+ TikTok users, we explore how people’s routine experiences with TikTok’s For You Page algorithm influence and inform their domestication process. We first highlight people’s motivations for adopting TikTok and the challenges they encounter in this initial acquisition phase of domestication. After adopting the platform, we discuss the challenges people experience across the final three phases of domestication: objectification, incorporation, and conversion. We find that though they enjoy TikTok, our participants feel that they are never fully able to domesticate TikTok as they are never able to fully control their digital selves, and thus integrate it into their routine lives as it is in constant misalignment with their personal moral economy. We discuss the implications of domesticating algorithmic systems, examining the questions of whose values shape the moral economy created by and through people’s uses of algorithmic systems, and the impact of nostalgia on the domestication process.

CCS Concepts: • **Human-centered computing** → **Empirical studies in collaborative and social computing**.

Additional Key Words and Phrases: TikTok, domestication, algorithms, moral space, nostalgia

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1 INTRODUCTION

Technology has come to support, augment, and facilitate social connection between ourselves and others. Yet, embedded within these technologies are the values of their human designers [28], which can shape and inform the routine practices of those who use them [6]. Routines are the “...repetitive, recognizable patterns of interdependent actions, carried out by multiple actors” [22]. The relationship between people shaping the technology that they rely on through routine use, and that same technology also shaping people’s routine practices, presents an avenue for

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exploration. Prior research has asked how people come to appropriate technology or make it their own [37, 38, 64, 76, 77].

We routinely encounter the systems that are used to regulate and moderate the online spaces we frequent. While in some cases, users have agency in moderating the community norms of these online spaces [19], in others, these online spaces are mediated by algorithms. Algorithms are a form of digital infrastructure that have become black-boxed and personified as they are embedded in people's routine interactions online [44, 45, 62]. Algorithms are embedded in to search engines [5], music and movie recommendations [61, 62], and social media platforms [17], often invisibly guiding our routines. While the invisible logics of these online infrastructures can help ease people's online experiences, they can also negatively impact people's day-to-day routines and routine use of online spaces, often influencing our behavior in online spaces in ways we cannot see [2, 6].

In mediating our online experiences, algorithms construct what John Cheney-Lippold [9] calls an algorithmic identity, a digital identity made out of measurable features about individuals, such as their race, age, gender, or socioeconomic class. This information is used to measure and identify individuals so as to provide a more curated experience on social media platforms, while also creating more easily categorizable user profiles for advertising purposes [9]. Previous work has shown that individuals can find themselves at odds with algorithmic identities [68]. The datafied version of ourselves does not necessarily reflect how we self-identify, and are largely created to serve institutions, rather than individuals [4].

Despite this tension, people still try to integrate these algorithmic systems into their day-to-day routine technology use. One such platform where this tension between real and algorithmic identity is especially pronounced is the short-form video sharing platform, TikTok. On TikTok, users primarily engage with and consume content on their For You Pages, which are algorithmically curated feeds of personalized content specifically constructed for 'them' [68]. Here, the 'them' is constructed by trace data – the digital remnants people leave of themselves through their interactions with a system [36], such as through their clicks, likes, follows, and engagement with video content. These traces construct what John Cheney-Lippold [9] calls a 'data double'—a digital version of a user that is constructed entirely of their trace data. This 'data double' is sometimes constructed across multiple data sources [4]. The "them" constructed by trace data may not reflect the real them—how someone sees and views themselves. This leads to our primary question: **How do people appropriate and integrate algorithms that are constantly working to define them into their routines?**

This paper builds on prior work by Simpson and Semaan [68] on how TikTok creates contradictory identity spaces, which makes it challenging to routinely enact identity and do identity work. We build on this work through analysis of 16 interviews with LGBTQ+ TikTok users through the lens of domestication [67], finding that TikTok users felt that they were never fully in control of their digital selves and the shifting moral economy on the platform. Our participants regularly used TikTok, but felt they could not fully integrate it into their routine practices, and therefore could never fully domesticate the platform. We discuss the moral economy of algorithmic systems, arguing that algorithmic systems shift how we should think about the moral economy and whose morals are represented. We further show that many TikTok users filtered their routine use of TikTok and domestication practices through a nostalgic lens, focusing on fond memories of the now-defunct platform, Vine. This work contributes by identifying the complex challenges marginalized people face in routinizing technology adoption and use, since platforms that work against people's identities can create routine insecurity.

2 RELATED WORK

This section is laid out as follows: We first discuss the process of domesticating media technologies, highlighting the four intersecting processes of domestication theory, and discuss how this process has been examined in various contexts around both physical and non-physical technological objects, where more recently the theory has been applied to social media platforms. Next, we discuss how algorithmic systems can shape and inform the domestication process, drawing on algorithmic construction of identity. Then, we discuss current research on TikTok. In bringing this scholarship together, we ask how, when one is not fully in control over the construction of the digital “them,” does one go about domesticating an algorithmic feed, such as their personalized For You Page on TikTok.

2.1 Domesticating Technology: From Physical to Digital Artifacts

The process through which people come to appropriate technology is known as domestication [63, 65, 66]. The concept of domestication emerges from the field of Science and Technology Studies. Domestication focuses on how people in social situations, such as in their homes or communities, ultimately adopt and use technology. Specifically, domestication is an analytical tool to explore how people come to appropriate technology such that they maintain control, or agency, over the technologies they are adopting into their daily routines [62, 63, 67].

Domestication is a process generally used for taming wild animals, and here the metaphor can be understood as the process by which individuals encounter, react to, and, in turn, tame, “wild and strange technologies” [76, p. 253]. Pioneered by Roger Silverstone and colleagues [63, 65–67], domestication directs attention to how technologies and people adjust to each other and come to (or do not come to) coexist in the same space, what they describe as the *moral economy* [66]. Domestication is a political and social process: people are both being shaped by and are shaping the technologies that they embed into their daily lives. Central to this process of coming, or not coming, to coexist, is how technology fits into existing routines and surrounds in a way that renders it invisible and taken for granted. Take the integration of mobile phones into people’s routines, for instance, and how quickly they fade into the fabric of our day-to-day lives. Films made before 2000 where the story conceit is not being able to call someone make little sense today, as people have both domesticated, and been domesticated by, their mobile phones. Domestication puts the analytic focus on the mechanism by which technology is made one’s own and how its use becomes routine. It then provides a window into the technology’s process of becoming a filter of public sphere information into the private sphere.

In order to understand domestication of technologies, Silverstone and colleagues [67] separated the process of domestication into four intersecting stages: *appropriation, objectification, incorporation, and conversion* [65, 66]. While they separated these processes in order to make sense of them, it is important to note that the following aspects are neither fixed nor are they linear [38, 69]. Moreover, individuals may experience these aspects of the process in any order [76], and that they may return to various stages of domestication as their relationship with a technology, or the technology itself, changes [23, 37]. Finally, in going through this process, even when users successfully work through one or more stages, they may be unsuccessful in domesticating a platform in final stages, when the platform changes and thus shifts the moral economy in unwanted or unexpected ways, and more.

The first stage, appropriation, describes the acquisition of the technology object and bringing it into the private world of the household. The second stage, objectification, describes the activities involved in inscribing meaning and value to the new technology – situating it into one’s personal routines around technology [38]. This also includes an expression of personal taste and values and inscribing meaning to the object [69, 76]. For physical objects, there is also a spatial component to

objectification, where care is given to how an object is placed within a home [66]. The next stage, incorporation, is more concerned with time, and how the technology is integrated into a person's routine [38], or is actively used to complete or perform a task [66]. Finally, the conversion phase focuses on how the technology filters a home's private relations with an outside, public, domain [66]. The new object or application becomes a mediating factor to the outside world, where the object communicates various values from the outside that must be made sense of within the private realm of the household.

Domestication was initially used to explore technology appropriation in the context of domestic life in relation to a household's moral economy [63, 67]. Over time this lens has been used to explore the appropriation of a diverse array of technology by social groups across a range of social settings. Previous work on domestication has examined the non-linear process of technology uptake, where domestication can describe use, non-use (when people do not use a technology), as well as changing or evolving use of technologies [77]. Domestication, as Sørensen and colleagues [70], note, invites the evaluation of the "construction of a set of practices related to an artefact. This could mean routines in using the artefact, [...] The construction of meaning of the artefact, [and the] cognitive processes related to learning of practice as well as meaning." [69, p. 47]. For example, Vuojärvi and colleagues [76] described how college students use laptops in a wireless university campus setting through the lens of domestication, showing how there could be no 'one-size-fits-all' solution for student engagement with technologies as a part of their learning process as the process was highly individuated along the four aspects of domestication.

Other work has examined the adoption of iPads in schools as a tool for teaching [21], understanding patterns of use within Virtual Learning Environments [30]. Stephen Fox discusses how healthcare technologies can be challenging to domesticate within dynamic contexts, concluding that there is a continuum of when such technologies can be introduced and domesticated successfully [25]. Fox's [25] findings, as well as those by Vuojärvi and colleagues [76] demonstrate how the process of domestication is highly individual and shaped by perceptions of the technology, their perceived comfort with its use, and their confidence in their own ability to 'tame,' or domesticate, the technology in question.

There is also growing body of domestication scholarship focusing on how people come to domesticate constantly evolving digital platforms, including application-based social platforms such as Facebook by teens [77], dating applications for gay men [49, 80], WeChat's moments feature [37], and digital games for older adults [13]. Given the evolving nature of digital artifacts, some scholars have drawn a distinction between the initial domestication process of a technology and subsequent domestication actions, particularly in conversations around applications such as WeChat [37] or the use of text messaging [23]. While the theory of domestication encompasses the shifting use of a domesticated technology over time, recent work has shown that coping with technological change (such as software updates) can introduce new features which require a reassessment of the technology — a process known as re-domestication [23, 37]. Further, work by Matassi and colleagues [47] demonstrates how there are generational differences in domestication practices.

Similarly, studies note that for people at different stages in their life while undergoing a period of transition or disruption, the introduction of a familiar form of technology can lead to a shift in its domestication, or even the discontinuation of its use [33]. Huang and Miao [37] in-examining how individuals will discontinue use of WeChat's Moments feature as a way of 'rebooting' it, note that re-domestication breaks up what Baumer and colleagues [1] describe as a cycle of use and non-use. Instead, the process of use/non-use/reuse that they describe serves as a way for individuals to exercise their individual agency and disrupt the centrality of technology in their lives—it is a way for them to regain control [37].

This scholarship highlights how people’s perceptions of technology and how they come to domesticate that same technology are subject to politics and power dynamics both internal and external to the devices themselves [13, 25]. This leads to the question of how the politics and power dynamics both internal and external to digital platforms shape the domestication process?

2.2 Algorithmic Systems as Shaping the Domestication Process

To explore this question, we focus on people’s experiences in domesticating digital platforms that rely on algorithms to mediate people’s routine experiences. As technology becomes increasingly more integrated into our daily lives, the data upon which it relies to create our experiences has become increasingly under scrutiny. Specifically, people’s experiences on digital platforms are often influenced and informed by algorithms [2, 6, 9, 29]. Algorithms are black boxed systems that invisibly mediate people’s routine experiences with the world in potentially adverse ways [44, 45], such as by biasing personalization [5], reinforcing racism [52], or through their ability to determine relevance [29]. In essence, algorithms have become a part of the invisible substrate of our routine online experiences, becoming increasingly intertwined with peoples routine experiences of the world and a part of the infrastructure of the internet [44, 45].

Yet, despite this rendering of algorithms as invisible infrastructure that social platforms maintain, a looming fear of “the algorithm” and the potential negative impacts of what the introduction of such a tool can have on an online community or platform remains [17]. Once an algorithm is in place, members of a community may blame the algorithm for grievances around content moderation and unpleasant experiences they’ve had on the platform [7, 50]. While the common understanding of algorithms is that they are invisible to the lay user, people are often aware—at least on a basic level—of algorithms shaping their experiences online. Given the awareness of algorithms in people’s everyday experiences with sociotechnical systems, how do algorithms shape the domestication process?

When domesticating a technology, a user works to shift an object from how it is publicly understood to situating it within their private sphere. In doing so they tailor and personalize technology around their routine engagements with the world. In order to do this, the domestication approach suggests the technology must be personalized and serve a function for individual users. In terms of online spaces, previous work has shown that many of these online spaces act in concert to create a personal ecosystem [18] or assemblage [60] that reflects how people want to present themselves in various online spaces. Here, we define identity as a person’s self-concept, or how someone thinks about and views themselves both socially and physically [26]. Moreover, one’s identity can be drawn from membership to various social groups [73]. Thus, one can draw their identity from across groups, such as gender expression, racial identity, or sexuality. These identities can be co-occurring and can compound each other, particularly when one or more of the identities are marginalized, or pushed to the boundaries of society based on characteristics of that identity [11]. Having a strong understanding of one’s self and one’s identity gives people a sense of security in their daily lives [39] and their routines [27].

Enacting these routines in online spaces involves considering how individuals use assemblages of technology [60], as well as direct interaction with any platform algorithms to allow them to see the user as the user sees themselves. Yet, how an algorithm might see an individual can conflict with how that individual sees themselves, thus impacting the domestication process. To frame this articulation, we return to John Cheney-Lippold’s concept of algorithmic identity, which illustrates how our digital selves as constructed by algorithms may not actually reflect who we truly are or how we see ourselves, as they are constructed by trace data [4, 9]. Trace data are the evidence of human and human-like activity that is logged and stored digitally [36]. In the process of a user domesticating a digital space, the space is, in turn, able to construct a digital version of the user,

which allows the system to cater content to that digital double of the individual [9]. What are the tensions between teaching a system about yourself and domesticating it? How do these tensions this shape usage of the system?

2.3 Domesticating TikTok: Tailoring A Space as Teaching the Space Who You Are

To explore this question, we focus on how people domesticate one specific digital platform—the short-form video sharing application, TikTok. On TikTok, users can make and share videos of up to one minute, which are then shared with other users via personalized content recommendation on an individualized “For You” page. Each user’s For You Page (FYP) is unique to them, and is personalized based on interaction with the content users see on their FYP. The FYP is a feed of content users have shown they want to watch, based on these interactions, rather than what they actually indicate they want to watch [35, 68]. With each video watched, each like, each video shared, each user followed, every hashtag clicked into or used in a video, a user’s FYP becomes increasingly personalized. However, unlike other applications such as Snapchat or Vine, TikTok does not allow users to control the content they see on their FYP beyond their engagement with TikTok’s affordances [75].

Recently, news articles on TikTok have raised questions about the platform’s approaches to individual data privacy [8], a concern that has been echoed by scholars, who are critical of TikTok’s failure to protect children’s privacy [14] based upon this extreme personalization. Others have discussed how TikTok is actively shaping the content people see on the site by excluding creative content by Black people while also encouraging Digital Blackface [56], and have discussed how TikTok is hiding content created by LGBTQ+ people [34], fat, and disabled people [57] from many people’s personalized “For You” pages. Recent scholarly work in HCI has discussed how TikTok is a contradictory space for LGBTQ+ people that at once encourages creative identity work while also violating individual aspects of user’s identities [68]. Others have focused on TikTok’s livestreaming feature to preserve cultural practices and impart knowledge[42] as well as to experience and learn about outdoor activities [43].

2.3.1 The Challenges of Queer Identity in Online Algorithmic Spaces. In addition to recent popular press articles about TikTok’s suppression of people with marginalized identities [34, 57], growing attention in both the popular press [54, 72] and academic research has focused on “gay TikTok” as a place for queer identity work [68] and activism [10]. Previous scholarship from CHI and CSCW has focused on how LBGTQ+ people turn to online social spaces for social support and identity development [32], online spaces whose design often does not directly afford the social support needed for identity work [20]. Yet these spaces also afford the development of community infrastructures that afford people places to engage with aspects of themselves that they previously may have not felt safe to do so in other spaces [20, 58]. TikTok, too, presents these challenges. Yael Cohen identifies how a problematic trend on TikTok, videos of men dancing and lip-syncing to a song about women liking other women, spurred the queer women of TikTok to use TikTok’s affordances to protest against the old trope of the hyper-sexualization of queer women by society [10]. This illustrates what Simpson and Semaan [68] identify as the contradictory identity spaces of TikTok, where LGBTQ+ people are both presented with chances to see people like them on TikTok, while also experiencing TikTok’s algorithm transgressing and violating their identities in other ways. This presents a challenge for routine identity work on TikTok, and leads us to ask how might these contradictions present challenges to establishing routine use and the domestication of TikTok?

To our knowledge, a dearth of scholarship exists exploring how people domesticate algorithmic systems, especially TikTok. Previous work on Spotify’s algorithmic recommendation system examines the relationship between agency and algorithms [62]. Siles and colleagues [62] underscore how users had to perform specific actions repeatedly in order to ‘train’ Spotify’s algorithm to provide them with both desirable and enjoyable music. In another study, this time on Netflix’s content recommendation algorithm, Siles and colleagues [61] conclude that there is a mutual domestication of both users and Netflix’s algorithm. In personalizing their profiles, users turn their Netflix account into a technological reflection of themselves and their tastes, and Netflix, in turn, uses the inputs provided to create further recommendations [61].

Existing work on TikTok suggests that domesticating the platform might be challenging. As discussed, the formative work of Simpson and Semaan [68] highlights how the FYP can both inhibit and support identity work and affirmation as the FYP makes some LGBTQ+ identities visible while rendering others invisible. The authors introduce the concept of algorithmic exclusion, highlighting the ways in which algorithms can construct and reconstruct exclusionary structures within a bounded sociotechnical system, or more broadly cross societal structures. Building on their work, we examine the domestication of TikTok by 16 users, following Silverstone and colleagues’ conceptualization [67]. Specifically, we explore how people are actively domesticating the platform and trying to make it their own; how they actively work to shape their experiences with the platform through their own moral economy. We find that people are unable to domesticate TikTok as they are never fully in control of their digital selves, and are thus unable to fully integrate TikTok into their routine lives as it is in constant misalignment with their personal moral economy. This work contributes in that it moves beyond identity work and speaks not to the challenges of technology to individuals, but rather to how these challenges present further obstacles in integrating technologies into one’s day-to-day life. In the next section, we will discuss our methods and positionality, as well as some limitations of this study, following that we share our results and, finally, our discussion and conclusions.

3 METHOD

This work is part of a larger project where we are exploring the experiences of marginalized populations with and within algorithmic systems like TikTok. For this study, we draw these findings from a second round of analysis that focuses centrally on people’s experiences in adopting and incorporating TikTok into their routine lives, as opposed to the broader experiences of LGBTQ+ people with TikTok. This study was approved by our university’s Institutional Review Board. Participants were recruited from social media postings on Twitter, Tumblr, and TikTok. Prior to the interview, all participants were read an oral consent form, and all granted consent. This allowed us to record the interviews. Further, all participants agreed to continued contact with the first author to receive updates on the projects. The interviews were conducted prior to and during the first two weeks of social distancing due to the COVID-19 pandemic’s impact on our home state. Due to the social distancing conditions, all but one of these interviews were conducted using the video conferencing software Zoom or over the telephone.

3.1 Recruitment

Participants were recruited from TikTok via two one-minute long videos the first author made of themselves. This video introduced the first author, the project’s goals, explaining that the research was interested in LGBTQ+ people’s experiences with TikTok, and the eligibility criteria: participants must be (1) over 18; (2) a regular TikTok user; and (3) identify as LGBTQ+. The first author, a member of the LGBTQ+ community, embedded in TikTok for a month prior to creating the recruitment

#	Age	Gender and Pronouns	Sexuality	Race/Ethnicity
P1	23	Female - She/Her	Lesbian	White
P2	25	Female - She/Her	Lesbian	White
P3	22	Female - She/Her	Lesbian	White
P4	22	Female - She/Her	Lesbian	White
P5	19	Non-Binary - They/Them	Bisexual	Black/White
P6	21	Female - She/her	Bisexual	Black/Haitian
P7	18	Non-Binary - She/Her	Lesbian	White
P8	23	Genderqueer - She/Her	Gay	South Asian/White
P9	22	Female - They/Them	Lesbian	Hispanic/Latina
P10	20	Non-Binary - They/Them	Queer	White
P11	21	Female - She/Her	Lesbian	White
P12	37	Female - She/Her	Bisexual	White
P13	35	Genderqueer/Non-Binary - They/Them	Demisexual/Biromantic	White
P14	26	Male/Non-Binary - He/Him	Gay	White
P15	27	Female - She/Her	Queer	White
P16	21	Two Spirit - She/Her or They/Them	Lesbian	Native American

Table 1. List of study participants.

videos, ensuring that the recruitment videos were appropriately tagged¹ to ensure they would gain visibility. Interested individuals were welcomed to comment on the video and the first author then messaged them privately with a more detailed introduction of the study and an invitation to move to private email with our university's domain name clearly attached. This was done to ensure participants felt safe discussing their identities with the research team.

To ensure a diverse sample, we also created a short recruitment survey on Google Forms with questions based around the eligibility criteria. We shared this survey on Twitter and Tumblr, as the first author's social network is extensively connected with the LGBTQ+ community on both platforms, and tagged the recruitment tweet with #lgbtq, #tiktok, and #queer to broaden its reach. Subsequently, at the conclusion of each interview, we used a snowball sampling approach and asked participants to recommend anyone they thought might be a good fit for our study [3]. Additionally, on March 1, 2020, and ongoing sporadically for the subsequent two weeks, the first author messaged individuals whose content appeared on their FYP, as a form of cold-calling. Individuals with clear indicators of their age and sexuality (e.g. pride flag emojis, identity labels) in their profile. These multiple techniques were used to avoid sampling bias, and have been used in other HCI studies [31].

With this strategy, we identified and contacted 45 potential participants, and successfully recruited 16 people to interview. Two participants came from the TikTok recruitment videos, (P9 and P15), and 4 participants were recruited via direct solicitation via TikTok direct messaging (P5, P12, and P13) and Instagram direct messaging (P14). The remaining nine participants were recruited via the recruitment form circulated on Twitter and Tumblr by the first author (P2, P3, P4, P6, P7, P8, P10, P11, and P16). One informant participated in an exploratory interview and was recruited in person (P1) prior to the institution of physical distancing measures at our home institution. See Table 1 for a breakdown of participant demographics.

¹We used the hashtags: #lgbtq, #queer, #gay, #trans, #nb, #lesbian, and #tiktok

3.2 Interviews

Using the qualitative methodology outlined by Strauss and Corbin [71] and Yin [81], we conducted 16 in-depth semi-structured interviews between February 20 and April 4, 2020. Interviews lasted between 70 minutes and 2 hours (averaging at 90 minutes). The first interview (P1) was conducted in person, in a closed office at our home institution. The subsequent interviews were conducted using Zoom, a popular conferencing software. Participation was voluntary, and participants did not receive any compensation for their participation. Interviews ran an average length of 80 minutes;; given that we advertised an hour-long interview on our consent form, we informed participants when we reached 60 minutes and offered to pause and resume the interview later. Given that we were interviewing LGBTQ+ people, we took care before each interview to determine if the person we were talking with was in a space they felt was safe to discuss their LGBTQ+ identity freely. We added this question to our pre-interview discussion on March 15, 2020, after completing our first six interviews. We asked all subsequent participants this question prior to receiving their oral consent to participate in the interview.

We conducted interviews as life histories [78], asking participants to describe their lives, experiences coming out and enacting LGBTQ+ identity, finding community spaces both on and offline, and their experiences using TikTok. We asked participants to discuss how they defined and where they’d experienced community, as well as their motivations for joining these spaces. While discussing TikTok, participants were asked to describe TikTok’s algorithm and their For You pages, affordances, and the communities they encountered on the application. Additionally, we asked probing questions around how negative encounters with TikTok’s algorithm and more broadly across community spaces. We wanted to get a sense of the routine use of these spaces for community, and how TikTok use has impacted these routines.

Following the interview, the first author asked the participants to follow the first author on their personal TikTok account with the understanding that the first author was going to create TikTok videos to engage in a community-based discussion of the study’s results. The first author made five videos to discuss the initial analysis of this process. As seven of the 16 also followed the first author back on TikTok, we were able to ensure that the content produced would appear in their FYP feeds and/or on their Following page. Several participants and other community members commented on the videos or provided feedback in direct messages on Instagram and Twitter.

3.3 Data Analysis

This study builds on prior work, where we examined the data using a grounded theory approach [12], which is commonly used by HCI scholars [19, 43]. The first author conducted a preliminary round of open coding and memoing of the 16 interviews using MAXQDA, a qualitative data analysis program. The first author met with the research team frequently to discuss emergent codes. During this initial round of coding, several codes pointed to themes of adopting and integrating TikTok into our participants’ daily routines. Following our first, open round of coding, we conducted a separate round of coding to search for the four major themes domestication (e.g. appropriation, objectification, incorporation, and conversion) described by Silverstone and Haddon [65] with the help of two undergraduate researchers. With their insights, the pathways to appropriation of TikTok in our participants were made particularly clear. Additionally, we made note of how participants understood TikTok to work, noting instances where individuals referenced other platforms (e.g., Vine) to explain aspects of TikTok. We further noted issues that participants identified as potential challenges to the domestication themes (e.g., privacy concerns regarding personal data).

3.4 Limitations

This study has several limitations: first, it was difficult to recruit directly from TikTok due to the curated nature of its For You algorithm. Despite the first author embedding in the space for a month prior to creating recruitment videos to observe and interact with the LGBTQ+ community on TikTok, participants recruited directly from TikTok do not include users who choose not to interact with content tagged with the LGBTQ+ hashtags listed in section 3.1. In order to mitigate this, we recruited from several other venues, including Twitter and Tumblr. This allowed us access to a diverse participant pool. Despite the diversity of our participants, our sample is still very white, cisgender, and lesbian. Future work should do more to engage with communities of color, transgender communities – in particular binary transgender people, and cisgender men. Furthermore, while we can make inferences regarding the socioeconomic status and condition of our participants and their families, this was not something we chose to directly inquire about in our interviews, and therefore we cannot speak with to how family status, be it cultural, social, or economic may have potentially influenced people's adoption of TikTok in different ways.

3.5 Research Positionality Statement

The first and second authors identify members of the queer community. All authors are cisgender. The first author has previous connections to many LGBTQ+ people in transformative fandom communities due to previous professional projects. In order to mitigate these potential confounds to the study, we tried to recruit outside of common fandom spaces, and, if the projects the first author was involved in were mentioned, the project was acknowledged and then moved on from – with no further discussion. In coding our data, the first and second author collaborated on interpretation of both codes and emergent themes around the four stages of domestication in conjunction with the third author, who took an advisory role. The second author, who is in the field of computer science, provided valuable insight around algorithms and served as a sounding board for documentation of the user experiences in domesticating TikTok described in the subsequent sections.

4 APPROPRIATING TIKTOK: THE RELATIONSHIP BETWEEN SELF AND "OTHER"

Here, we first discuss the appropriation, or acquisition, phase of our participant's domestication of TikTok. We expand on the work of Simpson and Semaan [68] by providing a deeper insight into our participant's adoption of TikTok through the lens of appropriation. The first section focuses on what motivated people to download and subsequently use TikTok and the challenges they experienced when adopting TikTok.

Many participants shared how they had preconceived notions of TikTok prior to signing up for TikTok. For some, these assumptions or beliefs about TikTok presented a challenge to their domestication of the app. These preconceived notions were closely tied to participants' relationships to "others". By "others", we mean human and non-human entities with whom they had close personal relationships. During appropriation, where users are discovering new technologies and adopting them [65], the technology becomes personal and private to the user [76]. In this section, we discuss how TikTok started to find its way into our participants' lives through the sharing of videos from TikTok. We begin with a discussion of how encounters with TikTok videos outside of TikTok shaped our participants' perceptions of TikTok and how those perceptions, in turn, shaped their appropriation. We then discuss how some participants resisted or had an easier time appropriating TikTok due to similarities they saw between TikTok and a similar application, Vine.

4.1 TikTok, Proliferating: The Other Becomes Known

For the majority of our participants, social relationships with other users shaped their appropriation of TikTok. Twelve out of our 16 participants (P1-P7,, P9-P11, P15, P16) stated they joined TikTok because they had close personal ties to other people who used TikTok. Some of our participants said they joined TikTok to stay in touch with friends (P5, P9, P15) and loved ones (P1, P2, P11). Others joined for professional reasons, to potentially show off their artistic talent (P14, P16) or to further their knowledge of the platform for work (P12). For some of our participants (P1, P9) the people in their lives who used TikTok and shared TikTok content were family members, for others (P2, P11) romantic partners, and for the rest (P3-P7, P15, P16) friends or roommates. Many of our participants (P2, P3, P5, P7-P9 P11, and P15) reported being sent TikTok videos directly from others in texts prior to signing up for the app. The proliferation of TikTok videos across personal and professional social networks allowed our participants to form opinions which shaped their appropriation of TikTok.

For example, P8 describes her encounters with videos from TikTok on YouTube as piquing her curiosity about TikTok.

"I think I sort of got more curious about [TikTok], because then I sort of saw those like, oh, this is The Gay TikTok compilation we've all been waiting for videos. And because some of them had good ones in it, but also like pretty awful ones in it, I was like, oh, let me check this out. Maybe I can sift through all the crap and get to the good stuff."

P8's encounters with these video compilations hosted externally to TikTok shaped her perceptions of TikTok. Specifically, she deemed the videos as both good, but also awful. Her understanding of having to "sift through all the crap" in order to have a positive experience on TikTok presented a challenge to P8's appropriation of TikTok, as she perceived there was a great deal of work involved in finding the content she wanted to see without the inclusion of the "awful" TikTok videos. Her initial encounters with TikTok were also shaped by the perception of her having "a bit of a slow start" because she hadn't "really curated [my] own kind of humor into it." She continues:

"So I thought working [...] it was a lot of like, trying to click through and find so I actually I guess wanted to be recommended."

This presented a further challenge to her appropriation, as P8 came to understand that she had to work to "curate" her humor into her FYP in order to be recommended videos she wanted to see. In essence, P8 had to construct a digital version of herself in order to "curate" her humor into her FYP, a project which required "clicking through" a lot of videos in order to find things she liked and wanted to see more of, with each interaction with the FYP shaping that experience.

Our participants' adoption of TikTok was filtered through and informed by their social relationships to other humans and other technologies. In essence, a new meaning for the technology is created as the user begins to domesticate it, which is further constructed in the user's mind as they develop a set of practices around the object [69]. For some of our participants, the "other" was embodied best by another video sharing platform, Vine.

4.2 "It's a bit like Vine, and I used to love Vine"

For some participants (P1, P3, P6, P8, P9, P15), their appropriation and perception of TikTok was also shaped by their use of other technologies. The new "other" was understood through their relationship to an older "other"—they saw the new technology through the lens of how they'd used an older technology. Both P1 and P9, initially refused to appropriate TikTok because they considered TikTok to be a rip-off of the now defunct platform, Vine. P9 explains:

I kind of like rejected the notion of even using it because I was of that like camp that was “Oh, it’s just a rip-off of Vine.”

P9’s construction of TikTok as a “rip-off” of Vine presented a challenge for their appropriation because they saw the content shared on TikTok as being too similar to a platform they used frequently and viewed very favorably. “[Vine] was just hilarious to me,” they explain, “anything under six seconds is hilarious.” In noting the constraints of videos shared on Vine, P9 was drawing direct comparisons between TikTok and Vine and explaining how, when they were first considering appropriating TikTok, they found TikTok lacking based upon their experiences with Vine.

P1 took this a step further, explaining the migration of communities [24] across various short form video platforms:

“I was super big into Vine when that was happening. I used Vine up until it shut down. Once it shut down, people then went to Music.ly, which was literally just a lip-syncing app. I saw some of these videos on Facebook and decided it wasn’t really my thing and that I wasn’t going to download the app.”

For P1, there was a break in the platform journey between Vine and TikTok. Further, her impressions of TikTok were colored by both her fondness for Vine and her dislike of content she saw on Music.ly. These combined impressions made P1’s appropriation of TikTok challenging, as she had to contend with what TikTok was not (Vine), as well as what she assumed TikTok to be (Music.ly). Both P1 and P9 deemed TikTok too similar to a previous technology they had loved and lost [51], which presented challenges to their appropriating TikTok.

In contrast, for others, seeing similarities to Vine either in terms of style of humor (P3, P8, P15) or comedic form (P3, P6, P15), made appropriating TikTok easier. To them, TikTok was familiar, embodying something relatable and close. P15 explains:

“I find that TikTok has the same energy that Vine did [...] But TikTok is so much more versatile. If there are artists, there are rappers, there are producers, there are people who are doing makeup, and like crazy transformations with the graphics...”

In beginning to establish a routine and gaining familiarity with a new other, our participants found it useful to have something to fall back on, a known “other.” For many of our participants, TikTok felt familiar to them because of their previous experiences using Vine. This allowed for an easier appropriation on TikTok for some of our participants.

5 CHALLENGES IN “TAMING” TIKTOK: NEVER IN CONTROL OF THE DIGITAL SELF

After deciding to adopt and use TikTok, we next describe the challenges people experience across the final three phases of domestication—objectification, incorporation, and conversion—illustrating how participants were never able to domesticate TikTok as they are never able to fully control their digital selves and thus integrate the platform into their routine lives. The platform was in constant misalignment with people’s personal moral economies. We demonstrate this through the themes of: Expressing Myself to Construct “Myself”, Routinely in Limbo, and Experimenting with Being Seen.

5.1 Expressing Myself to Construct “Myself”: Objectification Challenges

A second major challenge to the whole domestication process came from our participant’s relationship with the FYP Algorithm directly. Participants struggled to find content that they consistently wished to see. In order to fully domesticate TikTok, our participants have to be willing to use TikTok, to take the time to teach TikTok who they are. Objectification, the phase of domestication centered around inscribing meaning and value to a new technology [38], emerges in how our participants attempted to “train” their FYP algorithm to express their values, tastes, and style. We discuss how the social adoption process of TikTok helped our participants teach TikTok who they

were, constructing digital version of themselves. We then discuss how, despite our participants work to teach TikTok who “they” are, TikTok’s objectification of the digital “them” comes into conflict with their values, making them feel like they were never in control of this process.

5.1.1 Seeking Help to See “Yourself”. TikTok can be overwhelming. When asked to describe their first experiences, many participants mentioned feelings of confusion (P7, P8, P10, P11, P15), disappointment (P1, P9, P16), being creeped out (P2, P14), enjoying the anonymity of TikTok (P4), or simply feeling sucked into TikTok (P3, P5, P6, P12, P13). An important part of acquiring any new technology is developing a working understanding of the technology being acquired and utilized. TikTok’s firehose effect of an unfiltered content on the FYP quickly narrows based on user interaction with the FYP. However, technologies are socially shaped, and their adoption is a social process [38]. Several of our participants (P2, P4, P5, P8, P9, P11, and P16) attributed their positive initial experiences with TikTok to receiving “starter content,” such as being recommended accounts to follow, or to directly seeking out help from established TikTok users, to cut through the chaos of the FYP they encountered upon first creating their TikTok accounts. This allowed participants to start to construct digital version of themselves which reflected their LGBTQ+ identities, as well as their values from content they received through their social ties to others.

Experiences with “starter content” are in contrast with the majority of our participants, who were left to figure TikTok out on their own. Several participants described the process of “teaching” TikTok who they were. P3 explains her strategy,

“I was on a trip we were in the car for nine hours so I was just on TikTok just scrolling through for like four hours. And I’m like kind of going through, like, oh like this person [is] super funny. Clicking on their page and then watching a couple of videos [...] if there was something that I was interested in, I would follow them. And like nine times out of ten for whatever reason, it’s all these like Queer creators.”

In doing “deep dive,” for several hours, P3 was not only able to express what sort of content she liked to TikTok, but also was able to see content that reflected her identity and values as a queer person.

Others reported appealing to peers who were already established TikTok users to figure out their FYP (P1, P2, P5, P14, P16). Relying on others led to their objectification of TikTok being far more socially shaped by their in-person relationships. Other users, such as P1 and P14 looked to external sources of information on how to express their values on TikTok and manipulate their FYP to show them what they wanted to see. Both P1 and P14 discussed how they had read news articles about TikTok to understand how the platform worked. P14 wanted to understand TikTok so as to better understand and control his audience for his content creation, and attributed his knowledge of TikTok to reading about it in trade reporting for content creators. P14 explains that TikTok

“was in the news about filtering out LGBT people [...] TikTok’s been doing this for a while. They cater the content towards what they want to put out into the world. [...] They’re catering – the vast majority and largest demographic of their users is the Far East market.”

In looking to external information sources, our participants sought to better understand *how* to express their identities and values on TikTok in a way that would allow them to see TikTok videos which reflected the same. For P14, this created a sense of distrust in TikTok, and an understanding that his values as a gay person may not be able to be fully expressed on TikTok. Understanding TikTok’s values and how to express their own in relationship to TikTok, allowed our participants to construct “themselves”, easing their objectification of TikTok.

5.1.2 *The Flaws in my Digital “Self”*. Demonstrating one’s personal values and style – and expressing their identities – to TikTok takes time. Similar to how Siles and colleagues’ [61] findings on Spotify, none of our participants believed they could express their values and identities to TikTok immediately. Rather, our participants believed that they had to spend time with TikTok in order to allow it time to watch and listen, creating a tailored experience, which they characterized as taking anywhere from a matter of hours (P3, P5, P6, P12, P15) to over a month (P14). This challenge to the objectification process came in how our participants viewed the versions of themselves that they constructed, and how they felt as though they had no control over some aspects of how they were seen by TikTok as reflected in their For You pages. P12, in observing how other TikTok users articulated this challenge, spoke about her relationship with TikTok,

“I told [TikTok] exactly who I was and what I wanted to see. So some people are like, it’s fucking creepy that TikTok knows, and it’s like no, you told it. It just listened.”

P12’s description of TikTok’s ‘listening’ to what she ‘told’ it presents how she views her objectification of TikTok as a part of the larger process of domestication. Part of domesticating TikTok requires telling it what you want to see, so it can better express your values and style.

In some contexts, such as P12’s experiences described above, telling TikTok was enough to have her values expressed. Other participants, however, characterized TikTok as surveilling them in how they were reflected on in the videos they saw. P10, who is from Washington State, indicated that they “get a lot of videos about Washington,” as well as outdoor activities that one can do in the state. P2 also characterized her initial experiences on the FYP as being directly related to her location in a more socially conservative part of downstate Illinois. Both P10 and P2 directly attributed TikTok tracking their location and using that information to place videos on their For You Pages, even if that content did not reflect their values or identities. Both indicated that they could not control this aspect of the FYP, and that it bothered them. This lack of ability to fully express their values on the platform due to the appearance of content that was related to their location, something which they did not feel they could tell TikTok they did not want to see, presented a challenge for P2 and P10’s objectification of TikTok as a means of expressing their values and identities, as they did not specifically identify with how TikTok characterized them based on where they lived.

Another challenge to the objectification process came from TikTok’s content recommendations based on what our participants believed TikTok “thought” they might like. Sometimes our participants expressed dissatisfaction with how they perceived the FYP algorithm to understand their identities and what they might value based on those identities. P13, who is both non-binary and a mother, explains an encounter with videos about unwanted content on their FYP:

“TikTok was doing those insertion tactics for a little bit where they’re trying to get me to go out of my bubble. I’m not interested in antivaxxer content.”

Interviewer: Why do you think the antivaxx content was appearing?

“I think it was because TikTok figured out that I had kids.”

While our participants perceived that they were being *seen* by TikTok for who they were, they felt, as P13’s experience so clearly shows, that they could not control the aspects of who they were that were seen, and what those aspects of their identities would be used to recommend them in terms of content on their For You Pages. This, too, was a challenge for their objectification of TikTok. What our participants told TikTok they wanted to see – and therefore who they *were* – was not how TikTok viewed “them.” This left our participants feeling out of control over how they were seen by TikTok, making it harder to see their values reflected in the content they saw in their feeds.

5.2 Routinely in Limbo: Incorporation Challenges

As people domesticate technologies, they start to develop routines around how they use the technology. Incorporation is the process by which a technology is integrated into a person’s routine over time [38]. One of the major challenges to the domestication of TikTok for our participants came in the incorporation stage. Specifically, our participants were unable to settle into a routine pattern of use because of the constant give and take in trying to curate a desirable FYP that reflected both our participants’ identities and values. What emerged in our conversations was a discussion demonstrative of how people are starting to think critically about who is creating the technologies they are spending time using. As some of our participants noted, the perceived values of a technology were in direct conflict with their personal values as individuals. This lack of trust, and the precarity that came with feeling as though their FYP could be “messed up” at any moment, kept our participants from exploring TikTok freely or using the app undiscerningly. They were unable to establish a routine pattern of use because the app kept them in constant state of limbo.

In this section we discuss challenges to incorporation, starting with how some participants felt stuck and unable to explore TikTok fully for fear of “messaging up” their FYP. We then discuss how these challenges to incorporation were exacerbated by concern over TikTok’s values as a platform, and how, despite these challenges, many users placed high value on the videos they saw on TikTok due to their familiarity and humor.

5.2.1 Getting Stuck. Oftentimes our participants (P1, P2, P5, P9, P11, P12, and P16) discussed that they had to be discerning with how they engaged with content on TikTok, or risk their FYP shifting in an undesirable way. While not explicitly stated, the idea is that this, in turn, can potentially impact the digital version of our participants that TikTok is recommending content to. As P11 explains,

“Sometimes [...] something will happen where I’ll like, go down a path that isn’t actually what I’m interested in on TikTok, and then they’ll try to feed me more of that content. [And I’ll] be like, No, no, no, no. I didn’t actually mean that when I said I was interested in it.”

P11 was unable to fully establish a routine in her use of TikTok because she had to be consciously aware of the content she engaged with on TikTok and how she engaged with it.

If the digital version of themselves got “messed up” at all, our participants felt as though their entire experience on TikTok could be thrown off. If they were not careful, there was a risk of messing their FYP up and thus having an undesirable experience on TikTok. As P13’s example in the previous section shows, and P11 reflects here, it is very easy to “throw off” the FYP with non-discerning content engagement. Further, P1 reflected that because she’d been so meticulous about maintaining and curating her FYP that she didn’t feel the need to explore TikTok beyond her FYP. She is, in essence, kept in a cycle of careful use of TikTok in order to maintain the experience has on her FYP.

These observations suggest that curating an FYP that reflects a person’s identity and values cannot be achieved through routine, everyday use. Participants reported having to be discerning in what content they consumed; they could not mindlessly scroll in a way that would allow TikTok to be fully integrated into their routines. Instead, participants are stuck in a limbo where they must be consciously aware of what they’re doing in order to continue to have a positive experience on it. They are never able to feel settled in their use of the platform; they could not establish a routine.

5.2.2 Techlash and TikTok’s Perceived Values. As our participants signed up and started to incorporate TikTok into their day-to-day routines, co-constructing meaning within the app, their

pre-conceived notions of TikTok also came up in conversation. When discussing if she felt that TikTok, as a platform, shared and reflected her values, P15 explained:

"No I don't. I just recently read an article where they talked about how they quote unquote used to have, like standards for people they would feature. And it literally said in the document that people who were fat or old or wrinkly or who had dirty surroundings wouldn't be featured [...] So I don't think that that TikTok and I have the same values at all."

P15's distrust of TikTok through her assessment of the application's policies lead to a challenge in her domestication of TikTok. This specifically emerged around the incorporation phase, as this tension between P15's perception of TikTok's standards around featuring people and her own values made it impossible for her to fully accept or see TikTok as a place that reflected her values. Moreover, her concerns over TikTok's policy demonstrates P15's inability to establish routine use of TikTok as is uncertain if TikTok is a place where she wants to be, as their values make incorporation harder.

Several of our Participants (P1, P2, P4, P6 and P12) all specifically mentioned TikTok's Chinese ownership as in relationship to the tensions they felt between themselves as users of TikTok and the platform's policies. P6 noted the tension between TikTok's Chinese ownership and her American values of freedom of speech:

"[I]t's a Chinese based company. They have certain algorithms because it got so popular. I think that's one reason why it's more open to LGBT stuff, but I know in the beginning there was a whole problem and a bunch of Americans complained and I think they switched up their algorithm issues so that more people of color and LGBTQ creators are actually like shown on the For You Page."

P6's perception of China led to her belief that the laws in China led to the censorship of LGBTQ+ and People of Color on TikTok and it was only with American protest that this policy was changed. This made P6 feel unrepresented on TikTok, as she is both Black and Bisexual, and this preconception of TikTok presented a challenge to her domestication of TikTok, specifically her incorporation, and the potential for TikTok to play some role in the production of P6's identity [69]. This lack of trust further challenged the establishment of a routine use of TikTok for P6, as she felt as though people like her were not welcome on the app.

For our participants, feeling as though TikTok's ownership and platform identity did not align with their own values made it challenging to fully incorporate TikTok into their day to day routines. As they saw TikTok's policies toward people like them as harmful or not reflective of important societal values, our participants treated TikTok and their encounters with it with some trepidation. They did not see themselves reflected in the digital "them" they constructed because they didn't like the underlying policy and values.

5.2.3 Building New Routines around Something Familiar. Despite the potential negative feelings and challenges some of our participants had in establishing routine use on TikTok, for others, incorporation of TikTok into their routines was helped by their fondness for Vine. P3, in particular, discussed this while describing TikTok content, explaining that TikTok was a lot like Vine, but the comedy was on another level. This sentiment, that what was seen on TikTok was like what was seen on Vine, but better, was also expressed by P1, who explains,

"[C]oming from Vine, where there was absolutely no queer visibility, no trans visibility; it was literally just white people and a token Black person. In a comparison between Vine and TikTok in terms of acceptance, visibility, support, not even just for the queer community, but people of color, as compared to Vine, for me, [TikTok is] a million

leagues ahead. That was one of the things that shocked me when I first got on TikTok – these equality ideals, feminist ideals. Back on Vine, if you saw any guy actively supporting women he got no support, he was torn down. On TikTok, it’s now cool to be a feminist in Gen Z, which I think definitely reflects on the platform.”

While P1 was initially hesitant to adopt TikTok because of her fondness for Vine, she was easily able to establish a routine around how and why she used TikTok. This routine was informed by her previous use of Vine, as she was immediately able to draw comparisons between what she had seen on Vine and what she saw on TikTok upon starting to use the app. Vine shaped P1’s perceptions of TikTok, where the diversity of people and experiences on the app stood in contrast to the Vine’s lack of diversity.

Further, the comparisons between platforms also indicate how TikTok recalled warm feelings of late-night entertainment in both P9 and P15. Despite reluctance around joining TikTok, upon joining, all of our participants who mentioned Vine indicated that TikTok served as a “better Vine.” They discussed this both in terms of the visibility of marginalized communities of which they were also members, but also in terms of how much better the comedy on the platform was. Their fondness and nostalgia for Vine allowed for an easier incorporation of TikTok both in terms of establishing routine use, and ascribing meaning to TikTok. Moreover, fondness for Vine made several of our participants more willing to continue to work to establish a digital version of themselves on TikTok, despite their misgivings about the platform’s values.

In general, humor was important to our participants in establishing routine use on TikTok. Many participants mentioned staying on the app specifically because it was “so funny” – where a user could log on for a few minutes and scroll and no doubt laugh out loud. P3 described this sort of comedy as “quick comedy” where P11 characterized the humor as “absurdist nihilism.” In the same way, P14, who used TikTok more to create than to view content, characterized the humor he tried to create on TikTok wanting people to “look at my shit, have a laugh, and forget that the world’s falling apart [...] for 15 seconds.” Through the value our participants placed on humor, and how that humor was used to fill their time on the app, they were more easily able to construct a digital version of themselves that, while they maybe were not fully in control of it, they were still able to control *enough* to enjoy TikTok’s humor.

By relying on fond memories of Vine, and looking at how TikTok took what they had liked about Vine and made it *better* our participants were able to successfully incorporate TikTok into their routines.

5.3 Experimenting with Being Seen: Challenges to Conversion

The final stage of the domestication process is conversion, where the user and the technology work together to construct new perceptions of the world. In this section we discuss how our participants wrestled with the tension between how expressing their values to TikTok, and thus construction of a digital representation of themselves, conflicts with their needs for privacy and safety as a LGBTQ+ people. As Simpson and Semaan [68] note, oftentimes the version of LGBTQ+ identity that is seen on TikTok is often white, cisgender, and conventionally attractive by western beauty standards. For our participants, in order to see content that reflected who they were and beyond these stereotypes, they had to engage with TikTok in more depth. This led some participants to think critically about how their privacy was impacted with their deeper engagement in order to construct a better digital “them.” Following this, we briefly discuss how our participants described experimenting with the TikTok as a way to get themselves out of the limbo described in the previous section, only to find that experimentation further exacerbates it.

5.3.1 Giving More to See More. Several participants described the tension between wanting a positive experience on TikTok and having to sacrifice more of themselves in terms of the content they engaged with to achieve this experience. Some participants (P1, P4, P7, P9, P10, P11) expressed concerns regarding their privacy through trying to see more videos on TikTok that reflected them, and their values. P7 contrasts TikTok to other social media by saying on TikTok:

"I'm seeing all the content I want to see [...] Because, you know, on any other platform, you have to search it up, you'd have to follow a couple of tags, find a couple accounts."

The underlying concern for P7 is to their privacy, later mentioning that they found the ease by which TikTok created FYP for them "scary." As the FYP is co-constructed between the user and TikTok, the experience of the outside world through TikTok is shaped through the collaboration between the two. Our participants had to give TikTok aspects of themselves - in the form of their data - in order to have a positive experience on the app and consistently see "good content." This impacts their domestication as the co-construction between the user and TikTok is not equitable, with TikTok amassing data about the user to construct a digital version of them [9], but our participants don't know what data they've provided. What's more, as P9 notes, "there aren't that many regulations on [TikTok] that I know of." TikTok itself presents a challenge for the user's domestication, as they have to consistently weigh their co-construction of their FYP against the unknown data they are providing TikTok. Put another way, participants knew they needed to give more to get more, and without knowing more about what is keeping that data safe, they struggle to fully domesticate and co-construct a new experience with TikTok.

Yet, despite these concerns, our participants associated the co-construction of their experiences on TikTok as freeing in some ways. P12, who has struggled with her identity as a bisexual woman for much of her life, recalls a conversation with a friend, who said:

"You're not faking it. TikTok made you realize that you're not faking it. I was like, yeah, no [...] it's an app. It's like a meme. And she's like, I know, but sometimes you can find validation in the weirdest places, just like, if you find it, take it."

P12's experiences on TikTok allowed her to feel more confident and validated in who she was. In co-constructing her FYP with TikTok, she was able to curate a space where she felt validated. As she associated the space with positive feelings about herself, P12's domestication of TikTok became easier. This was a recurring theme for our participants, where seeing content that reflected who they were back at them, allowed them to want to continue to use, and thus domesticate TikTok further.

5.3.2 Experimentation as a Means of Understanding. A further challenge to conversion comes in how a lack of stability within individual user's For You Pages comes in how it pushes users to experiment with TikTok itself. P12 explained that prior to signing up for TikTok she'd "been using it without an account because I needed to see how the algorithm worked." This theme of investigating TikTok was echoed by our participants across several contexts. Participants 1, 5, 9, and 14 discussed how they'd read news stories about TikTok, where Participants 1, 2, 10, 11, 13, and 16 all discussed experimentation or comparative observations with TikTok's algorithm directly. Participants 2, 11, and 16 all discussed how having significant others on TikTok made the differences between their two feeds more noticeable. P16 explains:

"[Girlfriend] and I are extremely different people. She is um [...] very cutesy and stuff and then there's me: sewer rat, basically. So, the content we take in is very, very different so... she'll be on my phone like doing whatever and then next thing I know it's nothing but videos of children for hours. [...] But one day to mess with her a little bit, I went and followed a bunch of like metal artists [...] metal heads and shit like that."

A video that popped up was somebody like making a fake goat skull or something and she was like, ‘What the fuck is this?’ [...] I don’t know. I think it’s pretty cool.”

P16’s experimentation with her girlfriend’s FYP shows how easy it is to alter how the digital version of “them” is constructed by the FYP. These comparison between individual user experiences as well as our participants reporting experimenting with trending tags (P10, P11, P12, P13) all point to how TikTok forces it’s userbase to experiment with the FYP in order to receive their desired content and better construct the digital “them”. However, this also traps the user in a cycle of constant experimentation, as mentioned previously, as staying in the “sweet spot” of the perfect feed also requires the continued, conscious use of TikTok. Users are not able to establish routine use that consistently allows them to feel completely comfortable with TikTok and thus successfully domesticate the app because they feel they cannot control on TikTok views the digital “them”.

6 DISCUSSION

In this section we discuss the moral economy of algorithmic systems. We argue that the nature of algorithmic systems shifts the ways in which we should think about the moral economy and whose morals are represented. Next, we consider the implications of this space in the context of data-driven algorithmic personalization, suggesting that the constantly shifting nature of the algorithm creates a sense of insecurity within users. To combat that, we turn our attention to how our participants based their understanding of TikTok in nostalgic feelings for the now-defunct platform, Vine. We conclude with a consideration of the implications of nostalgia on the domestication process.

6.1 The Moral Economy of Algorithmic Systems: Whose Morals?

The domestication and uptake of technologies into everyday life suggests that “judgments of appropriateness and practices of use are legitimated” within what Silverstone terms the ‘moral economy’ [64, p. 15]. In essence, the moral economy is how families define themselves in relation to their environs and the material objects within which they ascribe value. For example, the introduction of physical technological objects into the household, such as a television, disrupts and forces a reevaluation of the household’s moral economy, where the routine, everyday use of that technology is subject to power relations both internal and external to the household. Conversations over where a television should be placed within a home, or what will be watched and when, may be unequal. A teen may not be allowed a television in their bedroom, or adults and children may disagree on watching the news or cartoons. The value placed upon the television, in the context of domestication, shifts the moral economy of the household, as the household negotiates its’ use and value amongst themselves, with a fair outcome being enacted and reproduced over time.

Yet a television is a fixed object, and a family’s domestication of such a technological artifact is a fairly static endeavor. The television soon fades into the background and fabric of the family’s routines, rendered invisible through the family’s negotiation of it’s ascribed value within the moral space of the household. What happens when the technology is a non-physical object, and the moral economy is contained within a system that is mostly structured around an algorithm?

As we discussed in Section 4, our participants took many paths to adopt and appropriate TikTok. For the majority of the participants, this initial process was social, through friends, partners, or family. This social connection around adopting TikTok made the legitimating of use practices and articulated value of TikTok an equally social experience to the domestication of a television within a household. The moral economy becomes a dualistic relationship between more diffuse social networks (e.g. other TikTok users) and the algorithm. For our participants, we see that their evaluation of TikTok as part of their moral economy began as would be traditionally understood in

studies of domestication; they were evaluating the platform in relation to the values of their social relations and themselves

However, as our participants continued using and working to domesticate the platform, we see their understanding of the moral economy evolve to one whereby they were evaluating the platform and the dynamic way it continuously misaligned with their values. Our participants *use* TikTok, but the shifting moral economy of TikTok did not allow them to establish routine patterns of this use. They were not able to relax into a routine, or mindlessly scroll through the app for fear of messing up their FYP and seeing unwanted, and potentially harmful, content. The constant vigilance required to attempt to assert control over the construction of one's digital self presents a problem for our participants, as while they are using a technology, they are unable to move past the shifting moral economy of TikTok to something settled and invisible, routine – they are always aware of TikTok's algorithm.

Given that algorithms work to enforce and re-enforce certain identities, this manifests as a chronic battle between a user and the algorithmic system in working to define the moral space—a battle over whose values come to be represented. This leads to the question of whose morals shape this economy? To further build on this question, we return to the work of Simpson and Semaan [68], who in their exploration of TikTok use by LGBTQ+ people, found that the FYP algorithm was enforcing normative identities. Here, the authors described how people's experiences on TikTok were such that certain identities were represented, whereas others were removed or erased through the algorithm. In the age of Big Data, where corporations are using algorithms to analyze large-scale datasets to personalize our feeds within the broader data economy for myriad purposes, such as ads and social connections, this raises questions about the morality of these systems, especially when these systems are potentially working to normalize and popularize certain identities, redefine who we are, or erasing certain aspects of our identities. In this view, these algorithmic systems are defining who and what has value, removing agency from the user. This is a dangerous, slippery slope, with the potential to inflict harm on individuals, and society, more broadly.

In order to integrate an algorithmic system into one's day-to-day routine, a person must be aware of the algorithm and how their actions can effect it. Yet, even with this awareness we find that our participants were in a chronic moral battle, fighting with the algorithm to "tame" it and never feeling settled in their routine use of the platform. As we consider the moral economy of algorithmic systems, in the following sections we consider people's insecurity in routine use of an algorithmic system and the personalization paradox.

6.1.1 The Personalization Paradox in the Age of Big Data: An Identity Spiral. Our findings reveal that people's domestication of TikTok is mediated by their inability to control and, in turn, make the FYP algorithm their own. Domestication highlights the malleability of sociotechnical systems that enable people to, in some cases, take systems that were designed for specific purposes and tailor them to their own needs and values. What makes an algorithmic system difficult to tailor? In the case of TikTok's FYP algorithm, this difficulty arises not out of the system's rigidity, but its volatility. Participants struggle individually to find the FYP they are content with and struggle to maintain agency over their FYP by limiting interactions with TikTok as a platform, and that they will avoid watching content sent to them by others so as to maintain control in what they know to be a volatile space. Collective big data systems such as TikTok's FYP are inherently a collective experience, whereby recommender systems provide users content that similar users previously engaged with. This can, at times, have disastrous and dangerous effects on video-sharing platforms such as YouTube [74]. To this extent, "individualized" experiences based on Big Data-driven platforms are never local to the individuated user. Instead, they are individuated to a collection of data points and ever-shifting evaluative aspects of one's digital self through what John Cheney-Lippold calls

’dividualization’ [9]. This experience, while individual, is inherently collective—it can never be just about *you* and *your* experience, but rather “you” and “your” datafied experience and its relation to all other data points.

The collective nature of Big Data might explain why participants have such difficulty in taming and thus domesticating the FYP algorithm domesticated object. A continual supply of user-generated content means that the data space that comes to create people’s algorithmic identities, the same network where user accounts are situated, is always shifting and seeing users in different ways. This phenomenon, where people’s identities are constantly being revised and connected to identities with which they may not agree or have control, is what we dub the identity spiral. Whereas in other social media contexts people often experience self-presentation issues as related to managing the boundaries of their imagined audience [46], in spaces where algorithms come to define us, people lose control over setting boundaries on how they see or want others to see themselves. This is observed in how our participants are seen by the algorithm in ways that they do not agree; in ways that challenge how they see themselves or want others to see them. Our participants were operating on TikTok under the window-dressing of personalization: a misleading narrative that algorithmic specificity gives rise to the perfect consumption experience. Here, we observe a personalization paradox: big data systems are at once trying to “personalize” media-consumption experiences, in turn eliminating any opportunities for true personalization. Such systems, in effect, eliminate people’s personhood, or their individuality, two-fold. First, they claim to provide unique or individualized experience in the collectively generated and negotiated moral space of TikTok. Second, the system takes away people’s agency in how they see themselves, as well as in how they want systems to see them.

6.2 Nostalgia as a Factor of Domestication

Many of our participants referenced their previous experiences on other platforms as influencing the process of adopting TikTok over the course of our discussion. Foremost among them was Vine, which shut down in 2017 [41], and was at one point the Internet’s main tool for making short-form videos. As this is a space that TikTok now occupies, it follows that our participants would draw on previous experiences with Vine as a platform in how they came to understand and eventually domesticate TikTok. Our participants in several instances drew similarities between TikTok and Vine, particularly as a creative space. Even during Vine’s beta, the platform’s 6-second video length constraint was taken by its userbase as a creative challenge [51]. TikTok affords a similar creative space for its users to explore and challenge existing norms around identity [68], as well as to encourage creative endeavors through various affordances in both adults and children [48, 82]. Yet, from our findings, a connection to Vine, and in particular fondness for the content shared on Vine, played an important role in our participant’s adoption, integration, and eventual routinization of their use of TikTok. For some, like P1 and P9, the similarity in content created reluctance to sign up for TikTok, but for others this similarity was a draw. All told, prior exposure to vine, for those participants who used both platforms, shaped how they both adopted TikTok and attempted to create a routine around using TikTok.

What stood out in our conversations was the sense of loss that our participants felt after Vine shut down. This sense of loss, too, colored their appropriation and adoption of TikTok, and, in the case of P1, P3, and P9, why they didn’t adopt Musical.ly in the interim. The replacement option simply wasn’t that great in their eyes. Previous work by Fiesler and Dym [24] points to how for communities, there are both social motivations and need-based motivations that can pull people from one platform to another. Yet, as our participants tried fulfil their need for a replacement for the “vine-shaped hole in [their] heart,” as P9 so eloquently put it, they found Musical.ly lacking in content. In the process of domesticating TikTok, however, our participants came to understand

TikTok as the next step of Vine. Our participants took their nostalgic feelings for Vine and ascribed that same fondness and warmth to TikTok. This nostalgia, in turn, shaped how they came to routinely use TikTok.

Nostalgia is “a sentimental longing or wistful affection for the past for the past, typically for a period or place with happy personal associations” [53]. It is a complex emotion [40] that differs from other past-oriented subjective states in that it has unique affective signatures [59]. While the self is the central figure in the nostalgic experience [59], nostalgia often serves as an important social evaluation tool, where experiences recalled often involve interactions between the self and close others, bolstering social bonds [79].

Ten of our 16 participants referenced Vine often during our conversations, drawing on experiences of Vine as a platform and video content they enjoyed on Vine. Some participants described how TikTok, and the videos algorithmically recommended to them on their For You Pages, was an improvement of the videos they had seen on Vine. They noted the representation of diverse voices and feminist values they saw in TikTok videos both pushed TikTok beyond Vine, as P1 discussed above. In his piece on how nostalgia factors into the marketing of emerging technologies, Marc Olivier [55] explains that nostalgic symbols are often applied to new technological inventions in order to mask the true memories of what the technology was created to prevent. He explains, “[t]rue nostalgia, the nostalgia that kills, is replaced by the nostalgia that cures, that mitigates the detachment caused by the mechanisms that uproot family and community” [55, p. 140]. Our participants’ drawing comparisons between TikTok and Vine exemplifies this mechanism, where their nostalgia for Vine is filtered through comparison to TikTok, which they perceived as correcting many of the failings of Vine. Moreover, these feelings toward TikTok clearly transition from Olivier’s nostalgia that kills, in their sadness over the loss of Vine, to the nostalgia that cures, where TikTok is a *better vine*. “Vine evolved into TikTok” as P6 explained it. TikTok was understood by our participants to play host to the same comedy as Vine, but TikTok goes further; it allows for more innovation, affords more creativity. The nostalgia, further, shaped *how* our participants used TikTok, as they used it in the same way they had used Vine. Their routines around entertainment, where TikTok fills the “vine-shaped hole in their hearts” as P9 explained, were informed by and filtered through their nostalgia for Vine.

Central to the discussion of nostalgia is the relationship between what is at its core a conversation around technology adoption through the process of domestication [67] and routine use. Within the adoption of TikTok and acceptance of TikTok by our participants, our results show an emergent social and technical structure that exists independently of, but had direct impact on, how our participants both domesticated and came to understand TikTok. These social structures rely on two distinct features: their structural features, such as their “specific types of rules and resources, or capacities”, and their spirit, or “the general intent with regard to the values and goals underlying a given set of structural features” [15]. DeVito and colleagues [17] discuss how people perceive and come to understand platforms through the lens of other platforms in their work on Twitter. DeVito [16] further develops this concept of “platform spirit” in examining how users may adapt to change on a given platform, where past experience with a platform can influence their understanding of a platform.

Given the affective quality of nostalgia, where warm sentiment often colors perceptions of past events [59], our participants’ understanding of TikTok’s structural features was filtered through nostalgic understandings of Vine as a place where people made quick, funny video content, as well as the platform spirit they perceived in TikTok’s own design. The nostalgic spirit of TikTok to Vine, moreover, encourages users to interpret TikTok’s features through a lens of Vine. This push toward nostalgic spirit allows for users’ to associate their previous experiences with other platforms through the lens of another, which helped our participants as they started to domesticate TikTok.

“I find that TikTok has the same energy that Vine did,” P15 explains. For some users, platforms like TikTok, which they feel cannot be settled as the user does not fully see themselves in the construction of the digital “them” that TikTok recommends content to on the FYP [9], TikTok has to be understood through nostalgia. Here, our participant’s understandings of TikTok are filtered through fond memories of previous, and perhaps lost, online places.

6.2.1 Nostalgic Domestication: Building Upon Domestication Theory. In section 5.1, we discussed how the moral space of TikTok can never be fully settled as it is constantly in flux due to the lack of security in routine use. In reflecting on how prominently nostalgia shone through in our results, we suggest an extension of the domestication model, whereby the nostalgic spirit of the existing structural features of a technology are considered through how users come to understand, and thus render routine and invisible, these technologies. Here, when considering appropriation, the phase most concerned with acquisition and ownership of a new unfamiliar technology, one must now also consider the similarities a user may see to other platforms both in terms of the structural features of a platform, as well as the platform’s spirit. Following DeSanctis and Poole [15] and DeVito [16], these features bring meaning and control to group interaction, where here the group interaction is understood as the social and nostalgic process of understanding new technologies through understandings and memories of older technologies.

Next, in considering objectification, the personalization of a technology or the display of a physical technological device, one must also now consider how connected a person’s understanding of a particular technology are to their larger social circles. Technologies exist within a broader set of social relations, as do our understandings of them. In the objectification phase, personalization choices are filtered not just through one set of experiences, but rather an entire networks’ understanding of a technology. Recall how several of our participants discussed relying on friends to aid their objectification of TikTok. Asking about the perceived similarities and understood differences between technologies, the social relationships people associate with adopting a particular technology, will better establish the underlying social relations and community conception of a technology’s spirit as it is adopted within a social network.

Reflecting on incorporation, which relies on the integrating of a technology into one’s routines in order to perform a task, one must consider now that the process relies on referential understandings of previous platforms, and some of those are filtered through nostalgia. Moreover, these understandings are informed by a first feeling of the platform, a good experience, a well-remembered video or meme that captured the user’s attention. Nostalgia on a micro-level pushes the user back into a process of domesticating TikTok once more, not quite redomesticating it, but rather searching for the experience that was once had.

Conversion creates a new nostalgia, as Marc Olivier [55, p. 140] explains: “Nearly every invention that has made its way into the domestic sphere exemplifies to some degree a false *patrie* that prepares its user for an increasingly interchangeable identity as citizen of the world.” Yet Olivier’s understanding of interchangeable must be understood as referential and nostalgic for other times, other spaces. We see one space as evolving into another: “Vine evolved into TikTok,” as P6 so astutely explained, yet our understandings of these spaces as they come to mediate the relations between our private selves and the outside world are shaped by our memories of previous spaces. We look backwards as we move forward. We see technology as a continuum, rather than a constellation of unique, semi-related devices and platforms. In understanding conversion, it is important to know how users relate their experiences with one technology to another, and how those experiences collectively help them to develop their own interpretations of new technology they encounter.

7 CONCLUSION: TOWARDS A MORAL ECONOMY OF ALGORITHMIC SYSTEMS

This paper explored the moral economy of TikTok—how people were working to make TikTok their own. Our findings reveal that as the moral economy of algorithmic systems is unstable due to the dynamic, or "wild" nature in which social media platforms continuously shift their morality. This shifting moral space means people have trouble gaining control over the systems that they are working so hard to render invisible and integrate into their routines. This is especially difficult given that these systems are tied to people's identities and how they see and view themselves. Thus, while individuals may *use* a system, they may not necessarily ever feel truly comfortable with it. While nostalgic feelings toward a particular platform, such as Vine, can shape the development of routines use practices, they also cannot create that comfort. The goals of big data and algorithm-driven personalization are to make our lives easier, yet these systems can also work to define and redefine people's identities. If a sociotechnical system works to define or redefine who we are in ways that are contradictory to how we see ourselves, can we ever grow fully comfortable with it enough for it to fully integrate it into our lives and daily routines? How do we design to support a moral economy within the context of algorithmic systems?

This paper explored these questions, pointing to how in domesticating a technology, people must articulate what it is, and what the technology's purpose or use is for them. It is in doing this that people render that technology invisible and completely integrate it into their routines. Conversations about the design of algorithmic systems often center around their technical aspects, not how these systems are perceived, understood, and used. Through the lens of the moral economy, we can start to think about design in relation to how we might make algorithmic systems more malleable in the context of people's lived experiences. Our work exhibited how difficult this can be, highlighting how such systems are potentially creating chronic battles in defining the morality of these sociotechnical spaces for people with marginalized identities. Thus, it is imperative that we, as a community, continue to work towards shifting these systems to a space of morality.

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