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PUSHED TO THE EDGE: How push notifications and their notificatory flows impact daily life and culture

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PUSHED TO THE EDGE: How push notifications and their notificatory flows impact daily life and culture

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Dedication

This thesis is dedicated to anyone whose calls, texts, emails, or other messages I ignored or lost sight of over the past year. I do still love you deeply, I promise.

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This project would not have been possible without a number of people. Namely, the guidance and support of Drs. Suzanne Scott and Madhavi Mallapragada was invaluable in not only completing this thesis but also in convincing me that my scholarship was worthwhile. I would also like to thank the UT community at large and the Radio-Television-Film department in particular; despite my hardheadedness, this group of people has already given me something that I can never begin to repay.

Abstract

PUSHED TO THE EDGE: How push notifications and their notificatory flows impact daily life and culture

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Mobile phone push notifications are simultaneously one of the most prevalent media forms and one of the least critically considered. This thesis argues for a deeper look at the push notification with a critical eye for what sociocultural impacts and influences this form can have by grounding it within a cultural historiography of opaque computing and notificatory machines. By performing autoethnographic methods on my iPhone and the notifications that I receive, I introduce new valences for the push notification that extend beyond the screen of the phone. I examine three flavors of particularly prevalent notifications that have the ability to transform the 'user' into a 'user hyphenate,' whether this be through disrupting a user-player's daily life with an in-game message, playing with a candidate's identity to encourage campaign contributions for the user-voter, or changing the way that the user-inhabitant sees the neighborhood around them through messages sent by geolocalized social network platforms Nextdoor and Ring Neighbors. This thesis introduces a series of methods for closely reading individual notifications, chronologically grounding collections of notifications reading their

'notificatory flows,' and considering the narratives they tell us about the places around us through their 'notifictions.' Most importantly, this thesis calls for more critical consideration of a notificatory future.

Table of Contents

List of Figures

Introduction

Simply put, mobile phone push notifications have become the coin of the land in the information age. From text messages to postal tracking updates to flash flood warnings, notifications are about the most basic method any entity can use to redirect what any one person experiences in the flow of their everyday life. For this reason, there has been a great deal of popular and industrial focus on this media form; though third-party push notifications have only existed since 2008[1] and been pervasive across smart phone and tablet ecosystems[2] since 2010, they have been characterized in this time as everything from Pavlovian productivity-killers[3] to an information distribution system "especially useful for breaking news, sports scores or for social networking apps."[4] Yet for all of this attention on push notifications at a technical level, there has been relatively little in-depth analysis of what exactly a push notification does as a part of culture, or what sociocultural effects a push notification may have on society at large. My thesis intends to begin asking these questions from a critical perspective. What impact might a mobile game's automated notifications have on my schedule? If I receive an email from Vice President Joe Biden, will I be more willing to donate to his campaign? And, if I am bombarded by notifications that my neighborhood is under attack, do I begin to believe them over the truth I see outside my door? By looking at ubiquitous push notifications as they occur in my daily life, this thesis forms a taxonomy of various push notifications and

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[1] Christina Warren, "Now All Blackberry Apps Can Have Push Notifications," *Mashable* (blog), March 7, 2010, https://mashable.com/2010/03/17/blackberry-push-service/.

[2] Joshua Topolsky, "Live from Apple's IPhone OS 3.0 Preview Event," *Engadget* (blog), March 17, 2019, https://www.engadget.com/2009/03/17/live-from-apples-iphone-os-3-0-preview-event/.

[3] Steve Glaveski, "Stop Letting Push Notifications Ruin Your Productivity," *Harvard Business Review* (blog), March 18, 2019, https://hbr.org/2019/03/stop-letting-push-notifications-ruin-your-productivity.

[4] Warren, "Now All Blackberry Apps Can Have Push Notifications."

their potential impacts with the end goal of studying and problematizing the media form more generally.

PAY NO ATTENTION TO THE CODE BEHIND THE CURTAIN

One of the core arguments of this thesis is that a push notification is mechanically a great deal more complicated than it seems, and that this apparent simplicity is by design. Let us consider the process of a Facebook message sent to an iPhone user as the baseline example of a push notification. Though this communication appears to just be a message sent between two friends, the push notification itself is a rehearsed negotiation of forces involving the receiving user, their phone's operating system, and a third-party application's software and hardware. When another user 'sends' their message, they are uploading a coded data packet to a server that is owned by Facebook, Inc. Facebook's infrastructure then relays the information to the recipient's 'account' before 'checking' to see if there is a mobile device associated with this account that has also enabled push notifications for the Facebook Messenger app. If this is the case and the phone has access to broadband connection, Facebook will already have a persistent IP connection between the phone and its server via the Apple Push Notification service (APNs).[5] Using this connection, a message is sent to the user's Facebook Messenger application to display an alert in the notification center and on the phone's lock screen. More simply: when a message is sent, Facebook uses APNs to tell the recipient's phone that their account has received it, and a push notification is generated.

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[5] "APNs Overview." Apple. Accessed November 7, 2019.
https://developer.apple.com/library/archive/documentation/NetworkingInternet/Conceptual/RemoteNotificationsPG/APNSOverview.html#//apple_ref/doc/uid/TP40008194-CH8-SW1.

Though this workflow is a massive reduction of a complicated infrastructure that took countless technology industry workers years to perfect, it still takes many more steps than how this phenomenon appears to operate: in a masterful feat of illusion, the sent message and the notification arrive in tandem for the end user. However, explaining the technical aspect of receiving a push notification at the base level is important precisely because the process itself relies on a 'black box' model, often referred to as 'opaque computing.' In her characterization of early screen culture, Sherry Turkle locates a design philosophy of opacity in companies such as Apple. The classically postmodernist "precedence of surface over depth, of simulation over the 'real'" led to a pattern of consumer computing based on "the information and connections of the Internet and the World Wide Web, and in the windows, icons, and layers of personal computing"[6] to make the user feel connected to their 'life on the screen.' Writing in the early 1990s before Apple became an industry leader for a wide swath of mobile devices, Turkle continued that computer culture as a whole had largely shifted from "programming to the manipulation of simulations,"[7] forecasting a 'software society'[8] where most people using computers cannot quantify how the devices they use actually function. By encouraging users to interact with what they can see and ignore what they cannot, opaque software systems seem to operate magically with a familiar core philosophy: 'it just works.'

More contemporary scholars have come to approach opacity through looking at algorithms and how these "codes that can change reality"[9] create notions of seamlessness

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[6] Sherry Turkle, *Life On The Screen: Identity in the Age of the Internet* (New York: Simon & Schuster, 1995), 44.

[7] Turkle, *Life On The Screen: Identity in the Age of the Internet*, 63.

[8] Lev Manovich, *Software Takes Command* (New York: Bloomsbury Academic, 2013).

[9] Ed Finn, *What Algorithms Want: Imagination in the Age of Computing* (Cambridge: The MIT Press, 2018).

in everyday life.[10] Though algorithms dictate much of what we see on our screens and on the web, this project looks specifically at smart phones at an interface level. Mobile systems that 'just work' have been compounded in the smart phone, creating what Jeremy Morris & Sarah Murray call an 'appified' world. Omnipresent smartphone usage has allowed apps to become "embedded into the everyday routines and rituals of users,"[11] reifying a focus on 'front end' presentation with an at best ephemeral focus on 'back end' mechanics. Apps are also characterized by their utility, leading Morris and Murray to write that the general pattern of apps "built to solve mundane, everyday problems"[12] have fundamentally changed the flow of daily life. The authors write that apps are "a form of software packaging, presentation, distribution, and consumption that significantly shifts users' relationships with software and their understanding of what software does and can do."[13] The combined simplicity and utility of apps has "expanded the market for software and further integrated [apps] into leisure, commercial, educational, interpersonal, and other spheres of everyday life."[14] In other words, apps have allowed for opaque computing ('it just works') to enter our everyday lives.

Vincent Mosco writes that the "social impact" of new technologies is greatest when these technologies become "banal" and "withdraw into the woodwork,"[15] and this has become the case with mobile devices in particular. Returning to the example of a

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[10] See Alex Rosenblat, *Uberland: How Algorithms Are Rewriting the Rules of Work* (Oakland: University of California Press, 2018), Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism* (New York: New York University Press, 2018), Nick Couldry and Ulises A. Mejias, *The Costs Of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism* (Stanford: Stanford University Press, 2019), etc.

[11] Jeremy Wade Morris and Sarah Murray, eds., *Appified: Culture in the Age of Apps* (Ann Arbor: The University of Michigan Press, 2018), 7.

[12] Morris and Murray, *Appified: Culture in the Age of Apps*, 2.

[13] Morris and Murray, *Appified: Culture in the Age of Apps*, 6.

[14] Morris and Murray, *Appified: Culture in the Age of Apps*, 2

[15] Vincent Mosco, *The Digital Sublime: Myth, Power, and Cyberspace* (Cambridge: The MIT Press, 2004), 19.

Facebook message, it is safe to say that the typical user does not consider either the sent or received message as a complex negotiation of light, heat, and electricity between server farms and cell towers; in being joined to the phone, notifications further distort the difference between the mundane and the complex. From one perspective, opaque computing in favor of streamlined user experience can have the positive effect of making communication technology more accessible, and this user-friendliness has formed the basis of sharable content and participatory culture[16] in Web 2.0. On the other hand, judging a piece of software by what is visible without considering how exactly this result occurred or what it can cause too often results in a widespread erasure of problematic cultural effects.

The prime example of this within the realm of information technology is Google Search. In her recent study of this cultural engine, Safiya Noble noted that Search's "monopoly status, coupled with its algorithmic practices of biasing information toward the interests of the neoliberal capital and social elites in the United States, has resulted in a provision of information that purports to be credible but is actually a reflection of advertising interests."[17] Specifically, Noble found that Search's revenue model of driving users to the most profitable results came at the expense of Black women seeing themselves represented through porn and stereotypes. In this case, the search 'just worked,' but the results were problematic. Take for a discrete example the concept of a Uber ride home on a Saturday night; instead of thinking of using a device made overseas under inhumane working conditions to send a signal to a server farm with a huge carbon footprint that will then contact a gig economy driver trying to make ends meet through

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[16] Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2006).

[17] Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism*, 36.

their smart device, the user's interaction is boiled down to a button press that makes a car arrive. Hiding behind the smoke and mirrors of opaque computing, corporations are able to use whatever methods they deem profitable with minimal concern of users minding or even noticing the façade.

By creating opaque user experiences that rely on invisible labor, massive computing facilities, and complex algorithmic models to appear simple and user friendly, corporations like Google, Facebook, and Uber have come to thrive in a system where cell phones and information technology appear to be part of everyday life. More broadly, certain corporate strategies have come to rely on the opaque logic of applications and browser-based computing to make what are in fact complex systems with overt corporate interests appear as integral services within our daily routines, ripe for what Couldry and Mejias call "the capitalization of life without limit."[18] Looking specifically at smart phones, apps, and notifications, my argument becomes an assertion that push notifications represent an extension of opacity even further into daily life.

A SHORT HISTORY OF NOTIFICATIONS

Before we can discuss the push notification specifically, it is important to note the long history of technology disrupting life. For the intents and purposes of this thesis, I will consider a 'notification' as **an instance or combination of sound, vibration, image, light, touch, or other sensation that is meant to disrupt what a person is doing in favor of conveying an external message**. I am using this deliberately broad definition to counter any deterministic claim that the push notification is a radically new phenomenon;

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[18] Couldry and Mejias, *The Costs Of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*, 1-35.

just like the introduction of the cell phone fundamentally shifting communication itself "is probably quite unlikely", new technology more typically "[brings] long-lived, fundamental aspects of human communication to the surface."[19] To suggest the push notification is anything more than a streamlining and acceleration of previous methods to get someone's attention is to ignore a broad cultural history. Notifications are no newer than a name yelled across an open field, and machine-delivered notifications no more so than a church tower in Catalonia.

Across cultures, religious noise[20] is a fundamental example of sensation being experienced by a large group of people simultaneously in order to convey a distinct message. Historically, we can chart an early example to 14th century Catalonians hearing a bell ringing out of the church tower. As a loud noise rolling across the village, "[church bells] signalled the hours of the day and times for prayers; they warned of tempests and enemy armies; they heralded masses, funerals, and deaths."[21] The bell delivered a service to the people both as a community and as individuals far before any system based on networked computing could do something similar. Even if the only information being delivered was that an hour has passed, the sound of the bell notified everyone who could hear it that *something* had happened: "[the] echoes transformed private moments into collective experiences, elevating the mundane into the miraculous."[22] Though this thesis is relatively uninterested in theology, it is worth considering the mechanism of how a

19 Gerard Goggin, *Cell Phone Culture: Mobile Technology in Everyday Life* (London: Routledge, 2006), 5.

20 Olivia Remie Constable, "Regulating Religious Noise: The Council of Vienne, the Mosque Call and Muslim Pilgrimage in the Late Medieval Mediterranean World," *Medieval Encounters* 16, no. 1 (January 1, 2010): 64–95, https://doi.org/10.1163/138078510X12535199002677.

21 Michelle E. Garceau, "'I Call the People.' Church Bells in Fourteenth-Century Catalunya," *Journal of Medieval History* 37, no. 2 (June 1, 2011), 198.

22 Garceau, "'I Call the People.' Church Bells in Fourteenth-Century Catalunya," 198.

sound became what was conceived as a divine communal experience. In other words, why is the bell so powerful of a cultural force?

To answer this question, I turn to the notion of affect, a bodily force or set of "forces of encounter"[23] experienced communally between entities. Affect is a much-combatted term, but if we focus on a negotiation of forces passing between the bell and the bodies of the villagers then the sound itself becomes a force worth considering. The sonic waves emanating from struck metal and the rapid vibrations in the inner ears of the villagers caused the sensation of hearing but affect lied more nebulously in the negotiation of forces between the brass and the brains. If we treat the bell as an affective technology then it is the predecessor of such cultural phenomena as a full classroom receiving an Amber Alert across devices at the same time, the "networked affect" protesters experienced during the Arab Spring,[24] or even the now-infamous message of a "BALLISTIC MISSILE THREAT" that caused inhabitants of Hawaii[25] to panic when it arrived on their personal devices in early 2018. Though push notifications are highly personal in nature, the relationship between humans and affective devices begins from communal experiences of notificatory affect.

I also highlight the belltower's legacy in order to show that notifications inherently possess some motivating force or objective. This project's scope places little faith in a conception that any media created in order to be influential can ever be labeled

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[23] Melissa Gregg and Gregory J. Seigworth, eds., *The Affect Theory Reader* (Durham: Duke University Press, 2010), 2.

[24] Zizi Pappacharisi, *Affective Publics: Sentiment, Technology, and Politics* (New York: Oxford University Press, 2015).

[25] Amy B. Wang and Brittany Lyte, "'BALLISTIC MISSILE THREAT INBOUND TO HAWAII,' the Alert Screamed. It Was a False Alarm.," *The Washington Post*, January 13, 2018, sec. National, https://www.washingtonpost.com/news/post-nation/wp/2018/01/13/hawaii-residents-get-ballistic-missile-threat-messages/.

fully neutral. This is to say, even though the signal may not always be decoded[26] as intended, industrial production implies the intention of influence. In the case of Catalonia, the bell becomes not only a method of marking time but also an attempt at regulating activity. "By using bells at specific, liturgically important moments the clerics could tell [the villagers] what to think about" writes Garceau. "…Clerics used bells to teach the laity how and when to worship… Through the ringing of the bells the people were to learn the fashion and times in which God should be adored."[27] Here, members of the church used the bell's affective notificatory tendency to serve institutional interests, potentially transferring a regulatory force onto the listening body. Even though the villagers were by no means powerless dupes under the spell of the bell, those who could hear the vibration were somehow affected by the experience because they could hear the bell and know that the ringing signified an external desire. The bell in the church tower serves as an early example of notifications that serve the interests of a larger organization or cause being integrated into everyday life, for good or for ill.

Next, let us differentiate between affective influence and the potentiality for 'discipline' via notification. The latter term was developed by Michel Foucault in *Power And Discipline*, which theorizes a state that draws power from "a system of permanent registration,"[28] later characterized by panoptic surveillance. In this system, all of the people in a community (or, more fittingly, prisoners in a penitentiary) have their location and activity visible at all times to an anonymous state figure in order to create a "guarantee of order."[29] While the Catalonian steeple directly communicates its interests

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[26] Stuart Hall, "Encoding/Decoding," in *Media and Cultural Studies: Keyworks*, ed. Meenakshi Gigi Durham and Douglas M Kellner, 2nd ed. (Malden: Blackwell Publishing, 2006).

[27] Garceau, "'I Call the People.' Church Bells in Fourteenth-Century Catalunya," 204.

[28] Michel Foucault, *Discipline & Punish: The Birth of the Prison* (New York: Vintage Books, 1995), 196.

[29] Foucault, *Discipline & Punish: The Birth of the Prison*, 200.

via disconnected tolls that mark 'church time,' the silent tower notifies the prisoner they are being watched by its perpetual presence: "their visibility assures the hold that is exercised over [the subjects.] It is the fact of being constantly seen, of being always able to be seen, that maintains the disciplined individual in his subjection."[30] The panopticon's efficient and ever-present silence is the opposite of a notification, a constantly present tool to activate discipline via the subject's own paranoia.

To counter this non-notification, let us turn to Coopey and McKinlay's interpretation of Foucault in early 20th century Ford Motor Company assembly lines. Rather than the invisible supervisor in the panopticon, foremen that were often selected more for their "sheer physical presence than for any technological expertise"[31] directly managed these lines. Though there are a few notable differences, the scholars compare the assembly line to the Foucauldian concept of dressage:

> From the master of discipline to him who is subjected to it the relation is one of *signalization*: it is a question not of understanding the injunction but of *perceiving the signal and reacting to it immediately*, according to a more or less artificial code. This places the bodies in a little world of signals… it is a technique of training, of dressage.[32]

These "signals" the foremen sent to their employees usually took the form of shouts "in at least four languages,"[33] physical threats, and the occasional object thrown from across the room. Foremen would additionally use "covert signals such as banging a metal tray [in order to] telegraph the approach of a time-study official,"[34] the man who was effectively in charge of maintaining the foreman's pace. Rather than the constant

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[30] Foucault, *Discipline & Punish: The Birth of the Prison*, 187.

[31] Richard Coopey and Alan McKinlay, "Power without Knowledge? Foucault and Fordism, c.1900–50," *Labor History* 51, no. 1 (April 1, 2010), 112.

[32] Foucault, *Discipline & Punish: The Birth of the Prison,* 146. Emphasis mine.

[33] Coopey and McKinlay, "Power without Knowledge? Foucault and Fordism, c.1900–50," 112.

[34] Coopey and McKinlay, "Power without Knowledge? Foucault and Fordism, c.1900–50," 113.

normalizing gaze and regimented depersonalization of the panopticon, Ford's foreman enforced his brand of control via hypervisible actions "to compensate for the complete absence of any Foucauldian disciplinary system."[35] In other words, foremen relied on loud and visible inefficiency, the polar opposite of the panopticon's parsimonious silence.

Though the panopticon and the foreman are diametrical, their shadows merge in the legacy of certain push notifications that are covertly efficient and undeniably disruptive. Most of the scholastic and popular focus of surveillance has involved tools and systems that are used to observe, and for good reason. A recent survey by the American Management Association found that 43% of employers now monitor email communication, and 28% of employers say they have terminated at least one employee over the content or context of their email.[36] In the realm of the physical, Amazon warehouse employees carry mobile devices that record their efficiency and also measure how long their breaks take.[37] In everyday life, we now are beginning to see Apple and Google roll out 'contract tracing' and constant location surveillance as a native feature of their mobile operating systems as if it is purely a feature for the public good during the COVID-19 pandemic.[38] These are the classic tools of regulation in Shoshana Zuboff's conception of surveillance capitalism, where an overseer is replaced by the data-hungry 'Big Other' whose end goal is "observation, interpretation, communication, influence,

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[35] Coopey and McKinlay, "Power without Knowledge? Foucault and Fordism, c.1900–50," 114.

[36] American Management Association Staff, "The Latest on Workplace Monitoring and Surveillance" (American Management Association, April 8, 2019), https://www.amanet.org/articles/the-latest-on-workplace-monitoring-and-surveillance/.

[37] The Week Staff, "The Rise of Workplace Spying," *The Week*, July 5, 2015, https://theweek.com/articles/564263/rise-workplace-spying.

[38] Sidney Fussell and Will Knight, "The Apple-Google Contact Tracing Plan Won't Stop Covid Alone | WIRED," *Wired*, April 14, 2020, https://www.wired.com/story/apple-google-contact-tracing-wont-stop-covid-alone/.

prediction, and ultimately modification of the totality of action."[39] Though the concept of data flowing toward the panoptic overseer is problematic in its own right, the push notification as data flowing *from* the overseer becomes a new issue. In her 2015 study of truck drivers, Karen Levy found that drivers were not only monitored during their route but also actively disrupted during their breaks:

> Even when drivers are off-duty, employers can see where they are, and can contact them using systems' communication functions—which sometimes lack a "mute" function for drivers to silence employer attempts at communication, even during sleep breaks. One driver reported that other drivers in his fleet took technical steps like removing fuses to prevent being contacted during off-duty hours, but that this was a risky, fireable offense.[40]

The surveilled truck cab merges the panopticon and the foreman: the combined ability for overseer to see all and to forcefully interrupt leisure for labor. The employer in this case broadcasts without being seen, able to send signals while maintaining coldly efficient distance. If "interactivity will become functionally synonymous with surveillance"[41] in the coming years, then a push notification whose aim is to reengage through disruption becomes a notice to return to a certain type of behavior; in surveillance capitalism, push notifications are the flip side of constantly watching.

This quick track through history has showcased that notifications, either in their presence or their absence, have always been somehow tied to power. The push notification is therefore simply the most recent manifestation of a greater trend toward abuse of notification systems, an acceleration of preexisting forms on a new platform. In a missive near the end of the Cold War, Jacques Derrida claims that "capitalization - or

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[39] Shoshana Zuboff, "Big Other: Surveillance Capitalism and the Prospects of an Information Civilization," *Journal of Information Technology* 30 (2015), 82.

[40] Karen E. C Levy, "The Contexts of Control: Information, Power, and Truck-Driving Work," *The Information Society* 31, no. 2 (2015), 169.

[41] Mark Andrejevic, "Automating Surveillance," *Surveillance & Society* 17, no. 1 (2019), 7.

capitalism - always has the structure of a certain potentialization of speed."[42]   While Derrida is referring specifically to the stockpiling of nuclear armaments, there is something that rings true about capitalism itself as an eternally accelerating force- a "fast capitalism" that quickens the pace of everyday life "in order to meet certain economic imperatives and to achieve social control" as it erodes boundaries to create "a social order bent on denying people private space and time."[43] The examples we see in the church tower, the assembly line, the truck cab, and beyond are examples of a form that has been concentrated by the push notification in order to enact more efficient neoliberal capitalism. The ability to notify has become the necessity to interrupt, leading to a long series of problematic implications across the attention economy, political fundraising, and mass surveillance culture.

THE WHY, AND THE HOW

And so, the push notification catalyzes in strange parallax: ubiquitous in the user's life, but disruptive by developer's design. I write at the intersection of this tension, addressing how push notifications have become integrated into the flows of everyday life yet how they are also alarming intrusions into mundanity. Though there are many scholars who have studied cell phones for their ubiquity or pervasiveness, the push notification deserves individual recognition as a media text and cultural object. In the tradition of cultural studies, studying specific unconsidered objects can offer gateways into studying trends in culture more generally. Using methods such as the 'circuit of

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[42] Jacques Derrida, Catherine Porter, and Philip Lewis, "No Apocalypse, Not Now (Full Speed Ahead, Seven Missiles, Seven Missives)," *Diacritics* 14, no. 2 (1984), 20.

[43] Ben Agger, *Speeding Up Fast Capitalism: Cultures, Jobs, Families, Schools, Bodies*, 2nd ed. (New York: Routledge, 2016), 4.

culture' to critically consider all angles of consumer products such as the Sony Walkman[44] can allow for things that that were previously lumped in as a part of 'everyday life' to be radically recast and problematized. As such, the scope and focus of this thesis explicitly considers smart phone push notifications for both their role in opaque communication between sender and receiver and as the object that is produced as a result of this transmission.

The duality of a notification as both a media text and cultural phenomenon is especially important to consider given how prevalent push notifications are in culture. According to recent survey conducted by the Pew Research Center in 2018, 95% of Americans now own a cellphone of some kind while 77% own a smartphone.[45] Though most apps send out no more than a few notifications every day (with the exception of messaging and social networking apps,) the combined volume of notifications delivered to a typical user was estimated by a Spanish study in 2014[46] to be in excess of sixty per day. I can say that even before I began this thesis work, that number seems a little low. Even if only a third of the notifications that study predicted actually arrive on any given phone, this becomes three-quarters of the population receiving an average of roughly one notification an hour. Suffice to say, the notification is an active figure in everyday life.

Yet push notifications are unique from any other form of media because the vast majority are influenced somehow by the user's personal settings and data usage. Even among groups of similar people, the corpus of notifications every individual receives

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[44] See Paul Du Gay et al., *Doing Cultural Studies: The Story of the Sony Walkman*, vol. 2, 2 vols. (London: SAGE, 2013), Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism*, Goggin, *Cell Phone Culture: Mobile Technology in Everyday Life*, etc.

[45] "Demographics of Mobile Device Ownership and Adoption in the United States" (Pew Research Center, February 5, 2018), https://www.pewinternet.org/fact-sheet/mobile/.

[46] Martin Pielot, Karen Church, and Rodrigo de Oliveira, "An In-Situ Study of Mobile Phone Notifications," in *MobileHCI 2014* (Toronto, 2014), https://dl.acm.org/citation.cfm?id=2628364.

over the course of a day will differ vastly based on a variety of differences. At the software level, every single user has different settings for how often or how many push notifications they receive, and each user's use of each app influences how often they receive notifications within different phone operating systems (various iterations of iOS, Android, HarmonyOS, etc.) On the level of access, it is impossible to receive notifications from most messaging services (Gmail, Facebook Messenger, Slack, etc.) without access to broadband internet, and it takes an involved process to receive a notification from Twitter on a non-smart 'flip phone.' Even at the level of sensation, users who are hard of hearing or vision impaired are not as readily able to receive the audio-visual stimuli of push notifications, and the concept of a 'phantom vibration' has popularly come to represent a notification that was felt but never actually transpired.[47] This breadth makes studying either every single push notification or one unifying 'type' of notification nearly impossible, reinforcing John Fiske's claim that "the everyday culture of the people in capitalist societies [is] particularly difficult to study empirically or theoretically."[48] It is even more difficult to pin down a singular notification to study academically, especially when each has been designed with opacity in mind. Push notifications are by nature projections that are built to be destroyed when they have served their purpose (this is of course more appealing than a screen cluttered with the hollowed-out shells of last week's reminders.) This ephemerality makes their arrival difficult to record and nearly impossible to explain without a great deal of context.

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[47] Elise Hu, "Phantom Phone Vibrations: So Common They've Changed Our Brains?," *All Tech Considered* (National Public Radio, September 27, 2013), https://www.npr.org/sections/alltechconsidered/2013/09/30/226820044/phantom-phone-vibrations-so-common-they-ve-changed-our-brains.

[48] John Fiske, "Cultural Studies and the Culture of Everyday Life," in *Cultural Studies*, ed. L Grossberg, C Nelson, and P.A. Treichler (London: Routledge, 1992), 154.

In order to conduct research in digital spaces, some cultural studies scholars have turned to ethnographic methods. In their handbook for ethnographic research in "virtual worlds," four researchers point out "valuable empirical data obtained from ethnographic research are sometimes sidelined until 'verified' by quantitative methods."[49] Their systematic history of outsider (*etic*) and insider (*emic*) ethnography establishes that the study of groups leads productively to "an understanding of the cultural contexts in which human action takes place."[50] Though there are relatively fewer 'outsider' ethnographies about digital communities, but this method is used when studying communities or phenomena that are dangerous or volatile. For instance, I would characterize Whitney Phillips' study of online trolling and trolls[51] as an ethnography that would be impossible to conduct from the inside for moral reasons. The more common approach for recent ethnographies that highlight underrecognized communities and practices is exemplified by scholars such as Ralina Joseph, whose study of 'strategic ambiguity' led her to host a series of watching parties that in turn created a "dialogic women of color feminist space."[52] Taking this sort of 'insider' approach is useful because the researcher frequently has a built-in set of "specialized knowledge," allowing them to "move effectively in a field setting."[53] For these and many other reasons, ethnography is a valuable tool for studying how people live and interact in culture.

The particular sub-method of ethnography that this project utilizes is auto-ethnography, which relies on an "ethnographer [that] is a member of the community or a

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[49] Tom Boellstorff et al., *Ethnography and Virtual Worlds: A Handbook of Method* (Princeton: Princeton University Press, 2012), 6.

[50] Boellstorff et al., *Ethnography and Virtual Worlds: A Handbook of Method*, 16.

[51] Whitney Phillips, *This Is Why We Can't Have Nice Things: Mapping the Relationship between Online Trolling and Mainstream Culture* (Cambridge: The MIT Press, 2016).

[52] Ralina L. Joseph, *Postracial Resistance: Black Women, Media, and the Uses of Strategic Ambiguity* (New York: New York University Press, 2018), 111.

[53] Boellstorff et al., *Ethnography and Virtual Worlds: A Handbook of Method*, 66.

participant in an activity."[54] This methodology has been recognized widely for its interventions for a number of years,[55] and has been selected for a variety of reasons. First, because push notifications are impermanent media objects, I will be using screenshots from my own device (an iPhone XR running iOS 13) and data from my own digital presence to collect data. I have also purposefully allowed all of the apps I am working with to deliver as many notifications as possible. Though this is not necessarily the most normative user experience, prioritizing the *intention* of the push notification over its hypothetical *effect* will, in my opinion, lead to more productive analysis. Auto-ethnography additionally relieves me of ethical concerns of exposing an external subject's personal data without their consent (with the exception of presidential primary candidates, who are considered public figures.) Though this project will not explicitly take the form of an auto-ethnographic narrative, much of the data collection will rely on these methods. Auto-ethnography has built a rich history of scholars critiquing problematic trends through directly gazing at their personal data, and I aim to enter into larger conversations about culture through this method.

Autoethnography also brings in elements of my personal life in order to ground this study, and to draw attention to things that are not apparent from looking at the media object alone. In his famous reflection on photography *Camera Lucida*, Roland Barthes notes that all well-constructed photographs have two levels of affect. Barthes calls the first level '*studium*' from the Latin for study, noting that this affect comes from "application to a thing, taste for someone, a kind of general, enthusiastic commitment, of course, but without special acuity."[56] The *studium* facilitates a greater connection to a

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54 Boellstorff et al., *Ethnography and Virtual Worlds: A Handbook of Method*, 44.

55 See Deborah E. Reed-Danahay, *Auto/Ethnography* (New York: Berg, 1997).

56 Roland Barthes, *Camera Lucida: Reflections on Photography*, trans. Richard Howard (New York: Hill and Wang, 2010), 26.

photograph, but does so at a cultural level: "It is by *studium* that I am interested in so many photographs, whether I received them as political testimony or enjoy them as good historical scenes."[57] However, the contrasting force Barthes outlines in the '*punctum*' is more personal: "This time it is not I who seek it out… it is this element which rises from the scene, shoots out of it like an arrow, and pierces me… a photograph's *punctum* is that accident which pricks me (but also bruises me, is poignant to me)."[58] Barthes writes that the *punctum* disrupts his cultural appreciation of a photograph, pointing to small things in the frame such as a necklace on a woman that resembled one he had seen someone in his family wear. Yet, no matter how discretely he named the element that caused this reaction, the *punctum* could never survive any scrutiny.[59] Though push notifications are not photographs, there is still something inscrutable about the connection between them and the user that no method except autoethnography can address; omitting what specific parts of each push notification grab my attention would be leaving out an important part of their affective capacity.

And finally, this thesis is autoethnographic because I am personally upset by what I see in my notifications. As a critical scholar who has a hard time reading emotional cues, I frequently find myself overthinking all forms of communication that go in to and come out of my device. The way that my phone communicates to me through push notifications feels at times like a betrayal of an agreed-upon relationship between my real-world self and my device, as if my digital double is a flippant bad actor who is at odds with my personal values. This thesis is also selfishly a search for a balm to this wound and an attempt to make sense of the way these rectangles make me feel. It is only

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[57] Barthes, *Camera Lucida: Reflections on Photography*, 26.
[58] Barthes, *Camera Lucida: Reflections on Photography*, 26-27.
[59] Barthes, *Camera Lucida: Reflections on Photography*, 53

by looking at *my* notifications in *my* life that I can examine their potential and problematize them. I am certain that my biases and the positionality of my identity play a role in the way I see this project; as a young, able bodied, cisgender white man who studies technology at a major university in a city that houses offices for most major tech companies, I am lucky enough to be personally quite privileged. However, by looking at these notifications within this context and seeing what stands out to, I can perhaps expose a little bit about the wider cultural repercussions of this media form.

CHAPTER DESCRIPTIONS

In order to explore the push notification's potential role in culture, I will focus on a variety of notifications sent across a variety of industries for a variety of purposes. All of these notificatory flows use the rhythms and forms people see every day, modulating the cell phone operator's identity from 'user' to 'user hyphenate.' Bonding onto the device of the phone, the push notification continually disrupts the user hyphenate with external intentions and pressures, creating a potentially cascading series of sociocultural effects.

The first chapter of this thesis will explore the particular patterns of how cell phone push notifications sent from three mobile games (King's *Candy Crush Soda Saga*, Big Fish Games' *Cooking Craze*, and Godzilab's *Crush Them All*) can potentially influence a user's spending and ad-watching decisions. These games have been chosen intentionally to reflect how three vastly different game models use various styles of push notifications in order to extract money from me, the user-player. I begin the chapter by theorizing the role 'play' already takes in daily life, and how push notifications keep this play space in the front of the user's mind through timely disruption. By looking at

notifications that arrive immediately after play has ended and others that come to align and structure a user-player's daily routine, I highlight how game notifications can enter into the flow of daily life. Furthermore, seeing how notifications that are missing these elements fail to drive my spending allows me to introduce briefly the notion of a 'notificatory calculus.'

The second chapter of this thesis takes up emails sent from candidates in the 2020 Democratic primary campaign. By signing myself up for the mailing list of every candidate that appeared on stage at the fourth Democratic debate (7/21/2019), I have collected the emails candidates have been sending to their supporters throughout their campaigns. With this corpus, I have been able to theorize how the notification each individual email produces helps the campaign form a more authentic identity using the personalization of politics. In continuing through close readings of the notifications these emails produce, I also show how the notification as a media text can yield even more information about the campaign's engagement with logics of social gambling. However, looking at a collection of notifications as a 'notificatory flow' during the course of one of the candidate debates yields a new understanding of how these individual messages are brought into real time collision with everyday life. These notifications and notificatory flows become a part of the political world, further motivating a form of politics in which user-voters "do not play *for* money, but rather *with* money."[60]

Though the first two chapters explore trends that are alarming in their own right, the final chapter is where this project becomes most deeply personal. By looking at notifications from Amazon's Ring Neighbors app and email alerts from Nextdoor generated for my home neighborhood in Austin, Texas, this section exposes the potential

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[60] César Albarrán Torres and Gerard Goggin, "Mobile Social Gambling: Poker's next Frontier," *Mobile Media & Communication* 2, no. 1 (December 24, 2013), 104.

for notificatory flows to shape the ways people see and surveil their own neighbors and neighborhoods. I argue that geolocalized social network apps create a platform for user-inhabitants to form a digital 'Neighborhood Watch' organization that moderates those who are either off the platform or made Other by surveillance technology. This is greatly aided by the way notifications arrive from or are curated by Nextdoor and Neighbors, creating 'notifictions' about the neighborhoods and what happens within them. These notifictions create twin notions of the imagined geography, mapping an interior group on the network that helps each other because they should be helped juxtaposed against an external group off the network that is in need of monitoring and policing. In this way, certain notifications are in fact doing the opposite of their stated intention by making the neighborhood less safe and more policed.

Each of these chapters addresses how the push notification acts in a way that has unintended or unnoticed effects which need to be problematized. Taking a closer look at the contents, patterns, and potential effects of push notifications can lead to the end goal of potentially minimizing them. With this in mind, I can work on finding a new path forward for how we can handle mobile information flows differently.

CHAPTER 1: The User-Player's Lock Screen: How casual game notifications draw us in, become a part of our daily lives, and are rejected by us when they do not perform properly

The first chapter of this thesis covers how the *user* becomes *user-player* when push notifications are delivered by casual games. This chapter takes as its premise that the developers of casual and freemium games on mobile devices have practiced and perfected sending push notifications that can draw a user-player who has left a game's screen back into monetizable play. By studying push notifications sent by *Candy Crush Soda Saga* (2014)*, Cooking Craze* (2015), and *Crush Them All* (2017) harvested in autoethnographic play studies, I draw your attention to a pattern of how these games can shape and disrupt patterns of everyday life. When I became a user-player by electing to receive notifications from these games onto my phone's lock screen, I welcomed a series of distractions that by nature and design seemed a part of my daily life. As my study progressed, it became clear that these 'freemium' casual games rely on combinations of spectacle, competition, and routine in daily life in order to drive their revenue models. However, these notifications only engaged me up to a certain point, after which they became unpleasant to receive. The patterns I observed demonstrate ways casual games disrupt and integrate into daily life with the presumed goal of driving individualized spending.

PLAYING THEN AND NOW

Before we can deal with push notifications sent by casual mobile games, it is worthwhile to briefly unpack the concept of play as it has historically been related to everyday life and business. Johann Huizinga and later Roger Caillois define 'play' as a

type of fun action that does not involve capital, material objects, or any of the seriousness[61] associated with work for the player(s.) This idea fundamentally relies on all players following set rules at set times and in specific spaces,[62] taking the form of "regularly recurring relaxation[s]" called "games" that occur in an ephemeral "magic circle."[63] The magic circle itself is a "consecrated spot"[64] for people to play in without any connection to life or labor; play in this space is voluntary ("free"), is separated from everyday life ("separate"), leaves room for exploration ("uncertain"), has no use-value ("unproductive"), is "governed by rules," and creates a second reality ("make-believe.")[65] This holds true in the case of modern video games; per Ian Bogost, many players consider "a videogame [as] something one does *outside* everyday life."[66] Though many scholars have complicated the magic circle particularly in the context of information society, the original idyllic concept as conceived by Huizinga and Caillois represents a necessary space and time for play that exists outside of everyday life and labor.

This idea became more complicated when game production became industrialized through the arcades. Since at least the 'golden age' of American arcades in the 1970s-80s, there have been interactive video games which rely on people playing them to produce a revenue stream; the phrase 'plugging quarters' comes to mind. With the earning potential of these cabinets tied directly to the number of players that chose a specific machine out of all those at the arcade, hailing an audience became increasingly important. In her

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[61] Johan Huizinga, "Nature & Significance of Play as Social Phenomenon," in *The Game Design Reader*, ed. Katie Salen and Eric Zimmerman (Cambridge: The MIT Press, 2006), 98-99, 101.

[62] Huizinga, "Nature & Significance of Play as Social Phenomenon," 103-105, 114.

[63] Huizinga, "Nature & Significance of Play as Social Phenomenon," 104-106.

[64] Huizinga, "Nature & Significance of Play as Social Phenomenon," 105-106.

[65] Roger Caillois, "The Definition of Play, The Classification of Games," in *The Game Design Reader*, ed. Katie Salen and Eric Zimmerman (Cambridge: The MIT Press, 2006), 128.

[66] Ian Bogost, *How To Do Things With Videogames*, Electronic Mediations (Minneapolis: University of Minnesota Press, 2011), 117. Emphasis in original.

analysis of a typical arcade venue of the era, Carly Kocurek notes that these games used light, color, and sound to "attract" potential clients:

> The unoccupied games play in the attract mode, displaying top scores and titles and short bursts of simulated play. The screens tease. The giant ape takes the girl hostage and rushes to the top of the screen; aliens invade in pixilated unison, making steady progress toward the earth. The alternating images on the screens make the light in the room flash and shift in color.[67]

Though these sensations were spectacularly electronic, they served the same purpose as a carnival barker "enthusiastically leading young minds away from the cultural center and towards a sideshow."[68] As an evolution of "Victorian-era amusements like the Kinetoscope… and popular amusements like jukeboxes and pinball,"[69] arcades relied on acute sensory barrage to draw potential customers in. Though arcades were often placed in public spaces where consumer consumption was normalized (malls, bars, etc.) it is important to note that their bright lights and piercing noises had a limited range and audience in comparison to the ubiquitous cell phone.

The arcade was clearly separable from school or home for the young, male audience Kocurek profiles, but separating play space and time on a cell phone is more complex. Jesper Juul notes that gaming recently experienced a 'casual revolution' characterized by casual games that use simple gameplay and short time commitments to "fit into the lives of players"[70] more smoothly. Elizabeth Evans builds on this concept as it applies to games on cell phones, noting that "to a certain extent, app-based games… are

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[67] Carly Kocurek, *Coin-Operated Americans: Rebooting Boyhood at the Video Game Arcade* (Minneapolis: University of Michigan Press, 2015), Location 407, Kindle.

[68] Myra Mendible, "High Theory/ Low Culture: Postmodernism and the Politics of Carnival," *Journal of American Culture* 22, no. 2 (1999), 71.

[69] Kocurek, *Coin-Operated Americans: Rebooting Boyhood at the Video Game Arcade*, Location 395, Kindle.

[70] Jesper Juul, *A Casual Revolution: Reinventing Video Games and Their Players* (Cambridge: The MIT Press, 2010), 2-4.

to console games what YouTube videos are to film and television."[71] However, it is impossible to divorce these games from their devices of play. Parikka and Suominen write that a game played on a mobile phone represents a "phantasm of a mobile office intermingled with a mobile home sofa where mediatized work and leisure is something that you carry with you, on you, in you."[72] In other words, the cell phone's mobility and ubiquity makes it the perfect device for fitting gameplay and labor into the nooks and crannies of life, whether this be in the bathroom, the elevator, or during a lunch break. Because casual games constantly offer us the opportunity to reenter the magic circle, the "play space merges with the 'serious' spaces of our ordinary life."[73]

These same qualities also "[offer] novel opportunities to commercialize every moment irrespective of place and time,"[74] and the object of the mobile phone makes these "opportunities" particularly prevalent. Jason Kido Lopez wrote more broadly that "the app transforms any physical location… into a space where one can risk money."[75] I argue that the push notifications sent by mobile casual games create openings for developer capitalization by disrupting everyday life with sensations. When game messages and updates arrive through roughly the same form as a text message, they are attempting to engage the user-player through a daily occurence. Furthermore, though the

[71] Elizabeth Evans, "The Economics of Free: Freemium Games, Branding and the Impatience Economy," *Convergence: The International Journal of Research Into New Media Technologies* 22, no. 6 (2016), 564.

[72] Jussi Parikka and Jaakko Suominen, "Victorian Snakes? Towards A Cultural History of Mobile Games and the Experience of Movement," *Game Studies* 6, no. 1 (December 2016).

[73] Adriana De Souza e Silva and Daniel Sutko, "Merging Digital and Urban Playscapes: An Introduction to the Field," in *Digital Cityscapes: Merging Digital and Urban Playspaces* (New York: Peter Lang, 2009), 3.

[74] Parikka and Suominen, "Victorian Snakes? Towards A Cultural History of Mobile Games and the Experience of Movement."

[75] Jason Kido Lopez, "DraftKings: Daily Fantasy Leagues, Legality, and Shifting Mobile Spaces," in *Appified: Culture in the Age of Apps*, ed. Jeremy Wade Morris and Sarah Murray (Ann Arbor: The University of Michigan Press, 2018), 300.

user-player may leave the magic circle by closing the app, they may never leave the game's interests without leaving behind the phone itself.

This chapter will point out three patterns that push notifications followed in my studies that are indicative of wider trends. In the case of *Candy Crush Soda Saga*, notifications were delivered immediately after I as user-player had left a game seemingly in an effort to grab my attention before I strayed too far away. For *Cooking Craze*, notifications were delivered according to a daily schedule, becoming a part of my routine. Finally, *Crush Them All* revealed that delivering a barrage of notification is not effective, and that there are some rules that a push notification must follow to succeed in convincing me to spend money.

CASUAL GAMES AND THOSE WHO PLAY THEM

Though I have explained why I opted in to such a vast number of push notifications in the introductory section of this thesis, it is important to note that there are in fact legitimate reasons why any casual game player might want to enable push notifications. To explain this, let me begin by noting reasons why people play casual games. Jesper Juul notes that most people are motivated to play casual games by what he calls a "pull," or the feeling "of looking at a game and wanting to play it"[76] similar to looking at the last piece of a jigsaw puzzle and wanting to complete it. This feeling is entirely subjective,[77] and you and I might feel different strengths of 'pull' to a variety of games at different times or situations. Juul further writes casual games are able to reach more people since they are able to express a more universal pull for a wider audience,[78]

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[76] Juul, *A Casual Revolution: Reinventing Video Games and Their Players*, 2.

[77] Juul, *A Casual Revolution: Reinventing Video Games and Their Players*, 4.

[78] Juul, *A Casual Revolution: Reinventing Video Games and Their Players*, 4-5.

as making the pull more accessible is a key design component in all casual games. While console-based games and computer games typically have gameplay sessions that are based on keeping a player engaged for long periods of play, casual games' flexibility on mobile devices also leads a player to intermittent play periods of shorter duration. Evans notes that most casual games have "an initial period of set-up" to adjust the player to the game and all of its features, but after this time period "each game settles into a pattern that encourages accessing the game for a short period of time many times a day rather than longer, but less frequent, periods of gameplay."[79] This pattern of "asynchronous gameplay"[80] is based on the same concept as Juul's "flexibility" with the added assertion that the game will be played, put down, and played again later on.

Several casual mobile games reinforce this form of play by specifically requiring a player to wait. Bogost famously designed a parodically casual "Cow Clicker" game in 2010 where a player's reward structure is based entirely on a simple clicking mechanic only available at set intervals. After the unexpected success of his waiting-based game, Bogost noted that simple social games possess the ability to engage users not only when they are playing, but also when they are away. These games "destroy the time we spend away from them," making them into "ongoing, never-ending affairs that must extract time and money from players in the most efficient way possible." [81] Though some of this language is (purposefully) hyperbolic, games whose play necessarily relies on a waiting out a timer do encourage impatience; think of going from 'pulled' toward a game to

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[79] Evans, "The Economics of Free: Freemium Games, Branding and the Impatience Economy," 569.
[80] Ian Bogost, "Asynchronous Multiplay," 2004, http://bogost.com/writing/asynchronous_multiplay_futures/.
[81] Bogost, "Asynchronous Multiplay."

being unable to play it. This intolerance for waiting becomes something for games to "rely on, and exploit."[82]
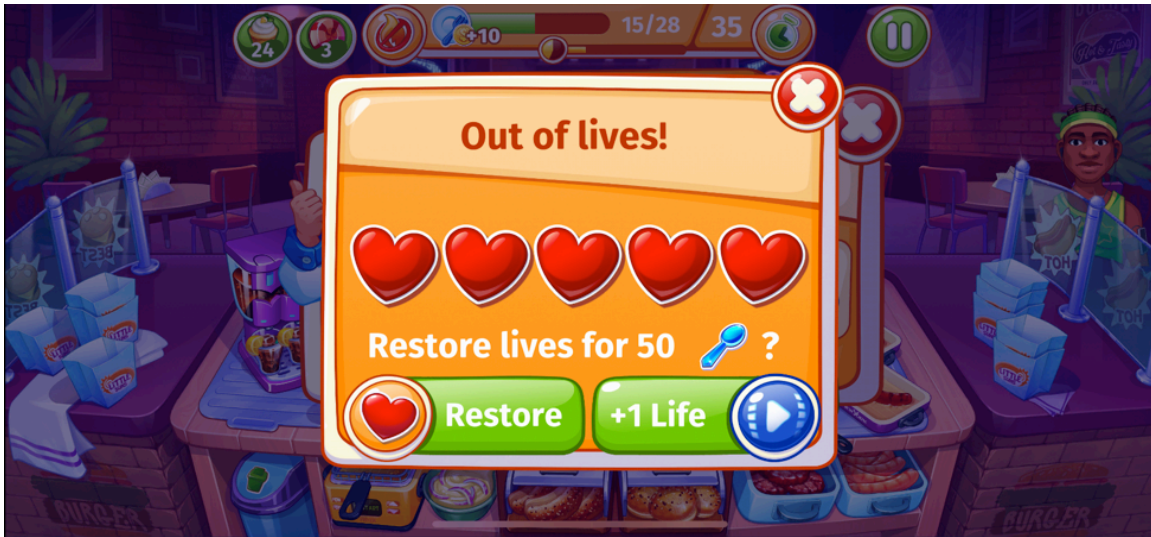
Figure 1:   In-game notification from *Cooking Craze* that the player is out of lives. There is an option to restore all five lives for 50 'spoons' (~$0.50) or to restore one life by watching an advertisement. This latter option disappeared for me after my first purchase of spoons.

All three of the games I am using for case studies possess some element of a planned wait. For *Soda Saga* and *Cooking Craze*, the player is only able to start a level when they have at least one life remaining. These lives regenerate at a rate of thirty minutes per life and reach max capacity at five lives. For *Crush Them All*, the player's team of avatars progresses at a much faster rate when the player does not have the app open on the screen. There are at this point two routes the user-player can take to end the wait: either spend money to purchase lives or wait out the clock. The first method is fairly common and how most games make the bulk of their revenue. Evans writes, "the most explicit form of monetization [after any initial purchase] is in the exchange of

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82 Evans, "The Economics of Free: Freemium Games, Branding and the Impatience Economy," 575.

money for digital items within each game,"[83] and a recent study of freemium gamers found that one of the top reasons they spend money on games was "as an 'impulse decision to continue play.'"[84] Though these time-saving purchases are not exactly the same as the "buffs" that have seen a "shift from gift to market economies"[85] in online multiplayer games, some casual game communities nevertheless view 'buying your way to success' as a form of cheating[86] and generally have a negative bias against the extremely lucrative practice.

The second option is of course to simply quit playing the game for a while. For all I can say about the pull and the can of worms that "gaming addiction" opens especially for casual mobile games,[87] this a realistic option that most players take frequently. Leaving the game space and time behind in the lunch break or other leisure time, the user-player can emerge from the recessed magic circle and return to their daily life. This is the importance of the push notification; with the knowledge that the game will notify them when they are able to play again, the user-player can put the game fully out of their mind until they are notified that they can return to free, fun, flexible gameplay.

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[83] Evans, "The Economics of Free: Freemium Games, Branding and the Impatience Economy," 574.

[84] Sally M. Gainsbury et al., "Who Pays to Play Freemium Games? The Profiles and Motivations of Players Who Make Purchases Within Social Casino Games," *Journal of Behavioral Addictions* 5, no. 2 (March 14, 2016), https://akademiai.com/doi/ref/10.1556/2006.5.2016.031.

[85] T.L. Taylor, "Gaming Lifeworlds: Social Play in Persistent Environments," in *Play Between Worlds* (Cambridge: The MIT Press, 2006), 59.

[86] See Marcus Carter and Staffan Björk, "Cheating in Candy Crush Saga," in *Social, Casual and Mobile Games: The Changing Gaming Landscape*, ed. Michele Wilson and Tama Leavar (Bloomsbury Publishing USA, 2017). For more on cheating, see Mia Consalvo, *Cheating: Gaining Advantage in Videogames* (Cambridge: The MIT Press, 2007), Marcus Carter, Martin Gibbs, and Michael Arnold, "The Demarcation Problem in Multiplayer Games: Boundary-Work in EVE Online's ESport," *Game Studies* 15, no. 1 (July 2015), http://gamestudies.org/1501/articles/carter.

[87] See Rob Cover, "Gaming (Ad)Diction: Discourse, Identity, Time and Play in the Production of the Gamer Addiction Myth," *Game Studies* 6, no. 1 (2006), http://gamestudies.org/06010601/articles/cover, Jason Begy and Mia Consalvo, "Achievements, Motivations and Rewards in Faunasphere," *Game Studies* 11, no. 1 (2/11), http://gamestudies.org/1101/articles/begy_consalvo, etc.

Christopher Hanson has also studied the role push notifications can play in a narrative sense by 'enlivening' games. Hanson writes that a game's level of engagement is related to its immediacy, "a direct and persistent insistence on the viewer's involvement."[88] The author particularly studies the 2015 game *Lifeline*, which strengthens a player's connection to the game by reaching out via notificatory 'text messages' that appear to be from in-game characters. These notifications that "[ask] the player to return to reanimate the game by continuing to play it"[89] create a new form of connecting the user-player to the game's narrative through integrating it into the flow of daily life.

While these examples of notifications add to the life of the user-player in exciting ways, game developers have taken advantage of push notification's inroad to daily life for other purposes. Using an attractive yet mundane sensation to draw the user-player back into pleasurable gameplay or a game's narrative is one thing, but interrupting mundanity with a reminder to reengage in potentially monetizable labor becomes morally suspect. Returning to the core argument of this thesis, push notifications delivered by games are an example of how a seemingly innocent and useful software mechanism has come to serve the interests of rapid neoliberal capital accumulation, seemingly built off the frustration that casual games cannot capitalize on a user-player's life at every possible moment. For the first pattern of how this occurs, let us turn to *Candy Crush Soda Saga* and how it hails a recently absentee user.

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[88] Christopher Hanson, *Game Time: Understanding Temporality in Video Games*, Digital Game Studies (Bloomington: Indiana University Press, 2018), 24.

[89] Hanson, *Game Time: Understanding Temporality in Video Games*, 43.
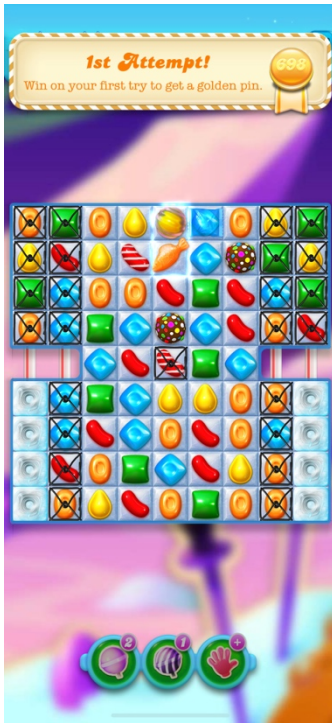
Figure 2:   The standard play interface of *Candy Crush Soda Saga*.

CASE STUDY 1: *CANDY CRUSH SODA SAGA* AND SWIFT RETURNS

The first game I played was King's *Candy Crush Soda Saga*, first released in 2014 as a sequel to the widely successful *Candy Crush Saga*.[90] As the successor to a self-proclaimed "almost perfect game,"[91] *Soda Saga* added minor tweaks such as a smoother interface, new level types, and the removal of timed levels. However, core gameplay remains the same as in the original: move one 'candy' at a time, match three or more 'candies' in a row or a square to make a match, and use the consequences of these matches to manipulate the grid-like field of play (see Fig. 2, above.) There are multiple

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[90] Ashley Lee, "Candy Crush Game Maker Banks on Soda Saga Sequel," News, *The Hollywood Reporter* (blog), July 8, 2014, https://www.hollywoodreporter.com/news/candy-crush-game-maker-banks-717123.

[91] Lee, "Candy Crush Game Maker Banks on Soda Saga Sequel."

types of levels that ask a user-player to complete various tasks, but these can be boiled down to: destroying antagonistic tiles ('chocolate,') 'rescuing' virtual gummy bears by raising them above or below certain lines (dependent on gravity norms,) or spreading 'jelly' to a certain number of squares in the grid by making matches in squares that already contain jelly. If a player does not accomplish the objective set out for them in the level, they lose one life, which takes thirty minutes to regenerate. However, upon completion the player is colorfully catapulted into a victory screen and awarded stars before being prompted to tackle the next level. As of this writing, a community wiki made by *Soda Saga* players speculates that there are 3550 levels[92] available to play.

Because *Soda Saga* is such an expansive title, the user-player is virtually assured to lose all five lives before completing the game. At this point, *Soda Saga* makes the player wait thirty minutes for each life lost, with a maximum total wait time of two and a half hours. The idea of a 'game over' state is not a new thing for games, nor is the concept that restarting is especially necessary for a game with simpler mechanics.[93] What is different is what happens after this moment of failure. Returning to the arcade, let us briefly examine *Silkworm*, an arcade cabinet first released in 1988 that I used to frequently play at a local brewpub. *Silkworm* is a side-scrolling shooter, pitting my virtual jeep against armies of helicopters, tanks, and bunkers. As these enemies launch projectiles at my jeep, I must return fire and avoid colliding with enemy sprites. Though this game is entirely different than *Soda Saga* in its mechanics, there is one similarity; no matter how often I play, I will likely lose all of my lives at one point and be unable to play. After I reach a game over state in *Silkworm*, text immediately flashes on the screen:

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[92] "List of Levels," *Candy Crush Soda Wiki* (blog), accessed December 6, 2019, https://candycrushsoda.fandom.com/wiki/List_of_Levels.

[93] See Colin Milburn, *RESPAWN: Gamers, Hackers, and Technogenic Life*, Experimental Futures (Durham: Duke University Press, 2018)

"Continue?" This form of notification is incredibly direct in informing me that, for a certain amount of quarters, I can have my lives refilled and begin to play again. Most of the time I ignore the visual cue; if I grow frustrated at the difficult and unforgiving game and leave before I run out of lives, I do not even see it for the first time.
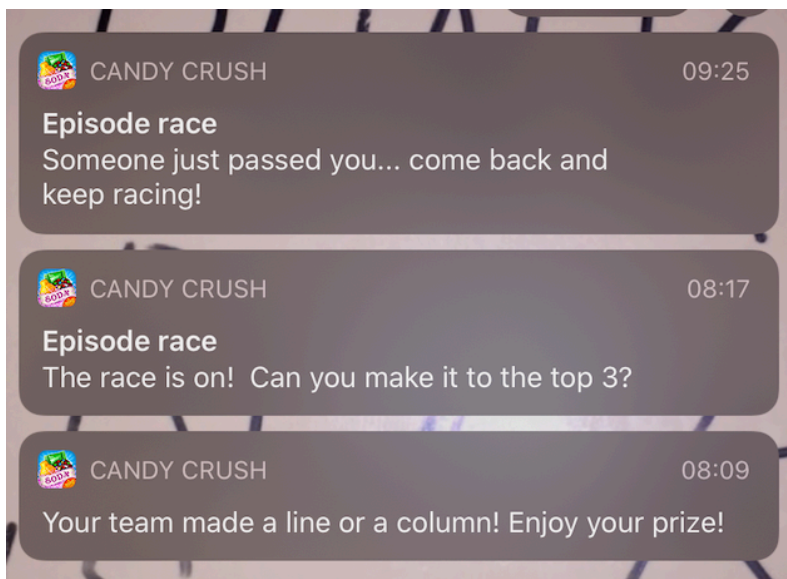
Figure 3:   Series of three notifications from *Candy Crush Soda Saga* delivered in the hour and a half after I had finished playing 11/24/19. In chronological order of delivery, they read: "Your team made a line or column! Enjoy your prize!" (08:09), "The race is on! Can you make it to the top 3?" (08:17), and "Someone just passed you… come back and keep racing!" (09:25.)

Compare this to the process of losing at *Soda Saga*. Because I conducted my play studies between 07:00-09:00 every day, I would often find myself rationalizing that I would stay in bed only until the inevitable moment I ran out of lives in *Soda Saga*. This meant an extra 10-20 minutes in bed (depending on if I had reached a level I was stuck on,) perfect for quick entertainment before a busy day. Once I had run out of lives, my engagement with the game was over I had another moment to spare during the workday.

I found that within the first ninety minutes of being away from *Soda Saga* after my game over moment, I would consistently receive a short string of notifications in quick succession. The sequence above (Fig. 3) was delivered to me on a Sunday morning after I had stopped playing at roughly 08:00. In the intervening hour and a half, I received no less than three notifications from *Soda Saga*. The first was simple: "Your team has made a line or column! Enjoy your prize!" This phrase was in reference to "Mr. Toffee's Fair," a game mechanic first introduced five full years after the game's launch.[94] This feature had randomly paired me with two other *Soda Saga* users without asking or consulting me, and offered me minor buffs based upon the 'team' completing in-game feats such as beating levels or matching specific candies. Though I ignored this notification, I received another soon after: "The race is on! Can you make it to the top 3?" Again, this was a reference to a mechanic I had neither requested nor opted into, where I was assigned with five random strangers to see who could complete the 10-15 level 'episode' first with a prize of in-game currency. Finally, just over an hour later the game reminded me that I was still 'racing' by notifying me that someone had passed me.

This notificatory corpus was clearly encouraging me to reengage with the game in order to compete both with and against my 'teammates.' In his work studying players and 'flow,' Mihaly Csikszentmihalyi noted that competition is one of the most basic ways for a game to "[provide] motivational elements which will draw the player into play."[95] Kocurek also writes that individualized competition was a key part of training consumers in arcades, using this social space to create a conduit for neoliberal ideology to "become

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[94] Xarly, "New Feature - Mr Toffee's Fair!," *Candy Crush Soda Saga* (blog), February 26, 2019, https://community.king.com/en/candy-crush-soda-saga/discussion/252010/new-feature-mr-toffees-fair.

[95] Mihaly Csikszentmihalyi, "Play and Intrinsic Rewards," in *Flow and the Foundations of Positive Psychology: The Collected Works of Mihaly Csikszentmihalyi*, ed. Mihaly Csikszentmihalyi (Dordrecht: Springer Netherlands, 2014), 135–53, https://doi.org/10.1007/978-94-017-9088-8_10.

the values of our daily lives."[96] In the case of *Soda* Saga, these notifications generally prioritized a speedy return to racing and competing over fitting moments of gameplay into my chosen flexible moments. Spending any real-world time away from the game state could result in losing the race, and it is only through reengagement that I could play the way the game notified me was correct. Theoretically, this method is successful; the same recent survey of freemium game players found that two of the most common reasons players purchase in-game items are to "take advantage of a special offer" or "to get ahead in the game." [97] To undo my game over, all I had to do was spend a certain amount of gold bars conveniently bundled in digital packages priced $3.99-$99.99.

More disturbing than the model of spending was the method of their engagement. While *Soda Saga* notifications were slightly less direct in their phrasing than *Silkworm*'s simple question, they caused the present sensation of a vibration in my pocket that was much harder to ignore. With the express interest of encouraging me as user-player to buy my way back into play, the push notifications King delivered became an unavoidable part of my day and, per Fiske, I was not able to separate[98] this moment of attempted capitalization from my everyday life. Eventually I did cave to these notifications: I have spent $3.99 plus tax on *Candy Crush*.

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[96] Kocurek, *Coin-Operated Americans: Rebooting Boyhood at the Video Game Arcade*, Location 357, Kindle.

[97] Gainsbury et al., "Who Pays to Play Freemium Games? The Profiles and Motivations of Players Who Make Purchases Within Social Casino Games."

[98] Fiske, "Cultural Studies and the Culture of Everyday Life," 154.

Figure 4:   The standard play interface for *Cooking Craze*. The player's goal is to prepare dishes and give them to the waiting customers. This particular level is set in the second 'kitchen' in the city of Paris.

CASE STUDY 2: *COOKING CRAZE* AND SCHEDULING DAILY LIFE

Though *Soda Saga*'s push notifications were delivered immediately after I left the game, this timing only relied on the context of when I would play. I found that when I tried playing *Soda Saga* to break up my afternoon (14:00-16:00) or in the evening (19:00-21:00), I would generally receive the same or similar patterns of a few notifications delivered in sequence right after stopping play. For an example of a game that uses the push notification to enter my schedule at a specific moment every day, I turn to Big Fish Games, Inc.'s *Cooking Craze* (2015.)

In this game the player takes on the role of line cook for various restaurants (see Fig. 4, above.) To progress, the player must serve increasingly complex combinations of food and beverages to a finite string of customers. As the player progresses, they are awarded coins and 'spoons' for passing levels as they cycle through different restaurants and locations. *Cooking Craze* is undoubtedly popular, ranking as the 39th highest

trending game[99] on the iOS app store in January 2020. Personally, I enjoyed playing this game more than *Soda Saga* because it is much more dynamic. While *Soda Saga* is challenging because the player must strategically plan each move to systematically destroy pieces of candy, *Cooking Craze* levels are thirty to ninety second adrenaline burns of preparing, plating, and serving various dishes.

Though I constructed all of my play studies to be consistently timed, I quickly established a tight morning routine with *Cooking Craze*. At 08:30, I would open *Cooking Craze* to play a few levels. This would usually last no more than ten minutes due to fast-paced and unforgiving gameplay, leaving me enough time to get dressed, brush my teeth, and get ready to go into campus. At 09:00 every day, *Cooking Craze* would deliver a variation on the following message via push notification: "Now you're cooking! You beat 19 [number varies] levels yesterday! How many can you beat today?" This would be followed soon after by notifications informing me when one life had regenerated, and another when my lives were refilled entirely (Fig. 5, below.) This pattern became so prevalent that one busy morning I did not even need to check my phone when I felt a buzz; *Cooking Craze* informed me that it was 09:00 already, and I knew that I would be late into the office.

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[99] Retrieved 1/30/20.

Figure 5:   Notifications sent by *Cooking Craze* in quick succession on 1/27/20. Note the notification delivered at 09:00. Additional notifications arrived as one life was restored and all lives were restored.

Many industries count on their product becoming a part of scheduled routines for their consumers, especially in the realm of entertainment. Consumer designers rely on routines becoming part of daily consumption, with one team of computer scientists looking to build a better alarm clock writing "people rely on routines because they accept the cost of their routine failing in the unusual case in order to minimize the cost of deciding for the usual case."[100] In other words, forming a routine generally makes everyday life more predictable, and adding consumer products into this routine makes them seem more mundane. The most basic example of this is television, whose timely

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[100] Brian M. Landry, Jeffrey S. Pierce, and Charles L. Isbell, "Supporting Routine Decision-Making with a next-Generation Alarm Clock," *Personal and Ubiquitous Computing* 8, no. 3 (July 1, 2004), 154.

broadcast "represents the standardisation and normalization of output."[101] Viewers come to expect certain programs at certain times, in turn expecting particular types of advertisements at these times; it would be bizarre to see an infomercial in prime time, or for a new ad campaign to premiere at noon on a Tuesday.

By standardizing a notification at the same time every morning, *Cooking Craze* became integrated into my morning routine outside of the game. Whether or not I had reached the point of needing to purchase something to continue playing, *Cooking Craze*'s reminder was something I could use to time my life by; I was a player in the game, but a user-player in my everyday life. It would also seem that this method was also the most commercially successful, since I have spent $9.98 plus tax on *Cooking Craze*.

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[101] Taisto Hujanen, *The Power of Schedule: Programme Management in the Transformation of Finnish Public Service Television* (Tampere: The University of Tampere Press, 2002), 7.
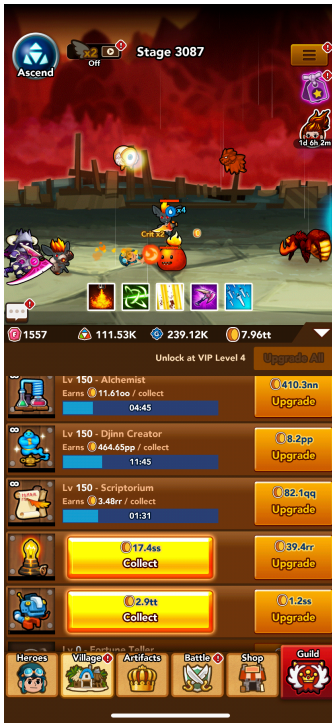
Figure 6:   The standard play interface for *Crush Them All*. The player manages the avatars moving from left to right, while there is a perpetual stream of enemies marching right to left.

CASE STUDY 3: *CRUSH THEM ALL* AND THE NOTIFICATORY CALCULUS

Crush Them All is an idle role-playing game developed by Godzilab in 2017, as well as the only one of my case studies that I have not spent any money on. In this game, the user-player does not actually actively control any of the players on screen. Rather, they take the role of commander, spending in-game currency to upgrade various autonomous units battling increasingly powerful series of enemies (see Fig. 6, above.) Though this mechanic seems simple enough, *Crush Them All* is much more complex than my other two case studies because of its wide range of features. There are player guilds to join, complex quests to complete, and different currencies that possess different in-game

advantages (increasing the strength of units, moving more quickly, and other guild rewards.)

As such, the number of options *Crush Them All* has for engaging me in monetizable gameplay has seemingly led them to a different model of delivering notifications based on volume. In one particularly egregious instance (see Fig. 7, below), I received no fewer than seven notifications from *Crush Them All* within the four hours after I stopped playing at 18:00. Certain notifications were fairly generically tied to gameplay, calling me back to play during a timed event. However, as time continued to pass without me playing the game, notifications began to offer more explicit information about the activity I was missing. These included specific notes that my heroes had reached the highest level they could without my assistance, that I had a free chest to unlock for prizes, and that a team I had sent out to collect currency was now returning. Over and over, *Crush Them All* reminded me of the things I was missing, filling up my lock screen with visual noise. The result was an overwhelming barrage of information that I did not enjoy. Making sense of it all came to be too much and, despite myself, I eventually turned off *Crush Them All*'s notifications without spending a red cent.
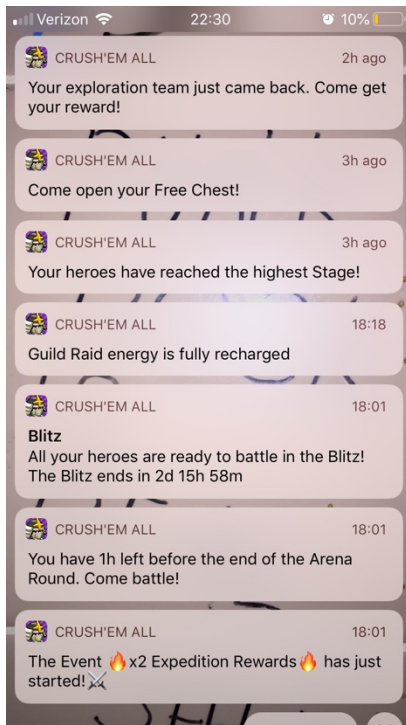
Figure 7:   A series of notifications delivered to me by *Crush Them All* directly after a play session ending at 18:00.

I am not exactly sure what made me act in this way. There has been academic work on mobile devices causing stress and overstimulation,[102] but a relative lack of scholarship on the notifications games deliver just being annoying. I turn back to Sherry Turkle's work in 2011 to explain what I felt. For Turkle's subjects, perpetual forms of engagement via mobile smart phones caused her subjects to become exhausted[103] and feel overwhelmed by the shallow obligations their phones connected them to. Yet despite any

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[102] See Gregory J. Robson, "The Threat of Comprehensive Overstimulation in Modern Societies," *Ethics and Information Technology* 19, no. 1 (March 1, 2017): 69–80, https://doi.org/10.1007/s10676-016-9414-0, Francisco Kiss and Albrecht Schmidt, "Stressed by Design?: The Problems of Transferring Interaction Design from Workstations to Mobile Interfaces" (Proceedings of the 13th EAI International Conference on Pervasive Computing Technologies for Healthcare, Association for Computing Machinery, 2019), https://dl.acm.org/doi/abs/10.1145/3329189.3329232?casa_token=5JqcIuY3OeoAAAAA:Lapkd7b2Vvww6Rt0niI56heBF5Paw9qQ4huypUhoGp4PH_VZp8vU3BfHY0nM5MLE3lmCOvbW5zHV1Q, etc.

[103] Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic Books, 2011), 184.

negative physical and emotional effects, most of her subjects chose to stay connected; in one particular case, a woman called 'Robin' chose to topically treat a skin rash caused by the anxiety of being constantly connected because it was a better option than disconnecting.[104]

Turkle's subjects continually engaged in mental arithmetic about their phones, choosing to suffer in these ways because of the social benefits they got from hypervigilance. I too have noticed myself being increasingly aware of how I check my phone as of late, especially with how many notifications I have enabled for this project. In fact, I have adopted a sort of personal 'notificatory calculus' to determine just how often a game's notification is worth returning to the game. Just as web users adopt a "privacy calculus"[105] to determine how much of their personal data they are willing to share in order to receive a service, as user-player I am only willing to expend a certain amount of my attention to each notification. To determine this amount, I began to divide the total amount of notifications (N) delivered by the time they were delivered in (T) to give me a sense of how much stimulus (S) these notifications being delivered gave me. If subtracting the amount of times this notification actually appealed to me enough to engage (E) from the total stimulation gave me a difference below a certain level, I began to view the app's notifications as less useful (U) to me.

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104 Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other*, 228.

105 See Tamara Dinev and Paul Hart, "An Extended Privacy Calculus Model for E-Commerce Transactions," *Information Systems Research* 17, no. 1 (March 1, 2006): 61–80, https://doi.org/10.1287/isre.1060.0080, Hanna Krasnova et al., "Online Social Networks: Why We Disclose," *Journal of Information Technology* 205 (2010): 109–25, Tobias Dienlin and Miriam J. Metzger, "An Extended Privacy Calculus Model for SNSs: Analyzing Self-Disclosure and Self-Withdrawal in a Representative U.S. Sample," *Journal of Computer-Mediated Communication* 21, no. 5 (August 4, 2016): 368–83, https://doi.org/10.1111/jcc4.12163, etc.

$$\frac{N}{T} = S$$

$$S - E = U$$

As U approaches 0, *I become less interested in keeping notifications on.*

As U approaches ∞, *I become more interested in using the app more often.*

Figure 8:   A visualization of the 'Notificatory Calculus.'

Though this 'calculus' should not be taken as a constant, it offers an interesting idea for visualizing an informal formula for casual game notification engagement. In the cases of *Soda Saga* and *Cooking Craze*, I would frequently engage with notifications that allowed me to better compete in the game or organize my everyday life. If the notifications these games sent were not engaging or helpful, there were few enough of them sent that I was able to dismiss or ignore them without much trouble. That is to say, the value of S was consistently low enough, while E was consistently high enough. The failure of *Crush Them All* for me was it sent notifications *en masse*, exceeding my tolerance for stimulus by notifying me constantly without delivering me enough information relevant to my gameplay or my daily life to mitigate the sensory overload.

More simply, I stopped allowing *Crush Them All* access to my lock screen because they were annoying, and it just wasn't worth it. This is the dangerous power of push notifications; because they are so ubiquitous and mundane, they are only distasteful when their intentions are so blunt and obvious that they would only

appear to the player, not the user-player. It was only in seeing *Crush Them All* cross

this line so blatantly that I realized how often games walk it.

THE RULES OF THE GAME

My case studies present three types of value propositions for push notifications

and casual games. In *Soda Saga*, we see a streamlined system that draws the user back

immediately after leaving play through continual timely messages. *Cooking Craze*, on the

other hand, builds upon these systems while simultaneously making play a part of daily

routines. Meanwhile, *Crush Them All* makes its own notifications irrelevant by trying to

take too much of my daily time and attention, resulting in me blocking the app's

notifications. The rules for casual game notifications are set up as such: they can be

helpful to the user-player, encourage their spending habits, schedule their playtimes into

daily life, and so long as they do not exceed a certain level, they will be tolerated as just a

part of the game.

Moving into the following chapter, I will begin to consider how push

notifications leave the realm of play and enter into the formation of political identities,

creating a user-voter. While there is a rather sizable difference between spending $3.99

on in-game currency and donating money to a presidential candidate, the push

notification plays a role in each of these transactions.

CHAPTER 2: All The President's Friends: How 2020 Democratic primary candidates used email notifications to brand their identities authentically and fund their campaigns

Though there are many analogies that lend themselves well to the turmoil of the presidential primary season, the one that seems to stick most for the Democratic primary in 2020 is a horse race. Washington Post columnist Philip described this dynamic on the gambling site PredictIt a full year before Super Tuesday, noting that the "raw head-to-head contest [of watching candidates go up and down in popularity] can be *intoxicating*. It's like watching the returns come in on election night, watching with rapt attention the number of precincts reporting ticking up even as you realize that the increases tell you little to nothing."[106] PredictIt may be a particularly egregious example of spectacle (with Mark Zuckerberg and Dwayne "The Rock" Johnson possessing equal house odds as Sen. Bernie Sanders as of 3/19/20,) but it goes to show that choosing a political candidate from a field of competing personalities remains a key part of the electoral system. For this reason, one of the highest priorities for Democratic presidential primary nominees was making a clear, distinct brand that could be communicated quickly and efficiently. This was not a job for lengthy debates, televised campaign ads, or complicated policy statements that took full minutes to discern the meaning of. Instead, candidates used authentic and timely small bits of information, delivered to the user-voter by push notifications.

The second chapter of this thesis looks at how candidates vying for the 2020 Democratic presidential nomination used the delivery of political communications and

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[106] Phillip Bump, "You Want a Democratic Primary Horse Race? Fine. Here's a Democratic Horse Race.," *The Washington Post*, February 14, 2019, sec. Politics, https://www.washingtonpost.com/politics/2019/02/14/you-want-democratic-primary-horse-race-fine-heres-democratic-horse-race/. Emphasis in original.

push notifications to help brand a specific identity. In order to get a view of how primary candidates behaved as a whole, I joined the mailing list of all twenty-two candidates registered for the second set of debates held on July 30-31st, 2019 and monitored the push notifications generated by the emails their campaigns sent to me between July 30th and March 3rd, 2020 ('Super Tuesday.') By reading the information flows generated by the push notifications these campaigns delivered to my phone as a series of cultural texts, I identify a consistent pattern of candidates self-branding that builds on how presidential candidates have historically communicated. Moreover, these information flows were sent and received via push notifications from a seemingly wide base of people, taking advantage of social gambling logic by making it seem like donating to a campaign is joining an activist movement. By reading the flow of push notifications at a pivotal campaign moment, I highlight the roles push notifications can play in the life of the user-voter.

POLITICIANS TALKING, TALKING POLITICS

Before diving into emails and push notifications, it is important to note the long history of candidates using evolving mediums to speak to their bases and drive voter decisions. The stakes for candidates were much higher than those for sitting presidents using media forms in unique ways (for instance, F.D.R.'s warm 'Fireside Chats,' or more modern factually inaccurate live broadcasts over Twitter during a global pandemic.) The most classic and classically interrogated example of campaign communications fundamentally changing is the first televised debates between Richard M. Nixon and Robert F. Kennedy in 1960. In these debates, the "ostensible difference [between candidates] in appearance led many to conclude that television viewers of the debate

thought Kennedy won while radio listeners, who did not see the candidates, favored Nixon. Television supposedly enabled Kennedy to win due to his superior image even though he was not necessarily better on the issues."[107] Though scholars have complicated the public notion that Nixon's disheveled appearance was the impetus for his opponent's momentum,[108] both candidates undoubtedly benefitted somehow from the medium of television. Drawing on literature in his field, Communications scholar James Druckman even recently used the debate's outcome to theorize that "television viewers will be significantly more likely than audio listeners to use personality criteria (e.g., integrity) when evaluating the candidates (debaters), all else constant."[109]

Rather than analyzing these broadcasts for how they impacted the election itself, what if we locate the televised debate as a medium shift that set the tone for how candidates were able to develop a personal brand on a national scale? This is not to deterministically praise television or to claim that 'the medium is the message'[110] per McLuhan, but rather to note that for the past sixty years the default for Americans forming an educated opinion of presidential candidates has been their televised debate performance.[111] Through ethnographic interviews of voters conducted in the wake of the Nixon-Kennedy debates, Samuel Lubell found that though "the TV debates did not stand

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[107] James N. Druckman, "The Power of Television Images: The First Kennedy-Nixon Debate Revisited," *The Journal of Politics* 65, no. 2 (2003), 563.

[108] See Sidney Kraus, "Winners of the First 1960 Televised Presidential Debate Between Kennedy and Nixon," *Journal of Communication* 46, no. 4 (December 1996): 78–96, https://doi.org/10.1111/j.1460-2466.1996.tb01507.x, Paul Myron Hillier, "Rethinking Media and Technology: What the Kennedy-Nixon Debate Myth Can Really Teach Us," *Online Journal of Communication and Media Technologies* 5, no. 2 (April 2015): 143–56.

[109]Druckman, "The Power of Television Images: The First Kennedy-Nixon Debate Revisited," 561.

[110] Marshall McLuhan, *The Medium Is the Massage / [by] Marshall McLuhan [and] Quentin Fiore ; Co-Ordinated by Jerome Agel.* (New York: Bantam Books, 1967).

[111] For more on the context of 'The Great Debates' in political broadcasting history of the time, see Sidney. Kraus, *The Great Debates: Background, Perspective, Effects.* (Gloucester, Mass: P. Smith, 1968).

alone as a campaign influence"[112] that changed votes, these debates did serve to make "both candidates and the election result more acceptable to the electorate."[113] This is to say, while the televised debates did not sway voters to cross party lines, the televisual images seemed to put a country critical of both candidates more at ease with the people they could see on their television. These debates could help voters determine who a candidate 'really was' outside of radio speeches or printed advertisements, helping the candidates in turn develop an added layer of authenticity.

I am borrowing the term 'authentic' intentionally from the work of Sarah Banet-Weiser, who establishes the notion as an increasingly important element in how corporate entities brand themselves. In a postmodern era where it is increasingly difficult (yet desirable) to quantify what is 'real' and what is not, Banet-Weiser chooses to focus instead on how authenticity itself can be branded, or how authentic actions and notions can also have brands attached to them. "Within contemporary brand culture the separation between the authentic self and the commodity self not only is more blurred, but this blurring is more *expected and tolerated*," writes Banet-Weiser. "…In the current moment, rather than representing the loss of authentic humanity, the authentic and commodity self are intertwined within brand culture, where authenticity is itself a brand."[114] This process has turned "areas of our lives that have historically been considered noncommercial and 'authentic'—namely, religion, creativity, politics, the self—[into] branded spaces."[115] The most adept blending of branded content and authentic everyday life typically comes from 'microcelebrity' practices, coined by

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112 Samuel Lubell, "Personalities vs. Issues," in *The Great Debates: Background, Perspective, Effects.*, ed. Sidney. Kraus (Gloucester, Mass: P. Smith, 1968), 159.

113 Lubell, "Personalities vs. Issues," 151.

114 Sarah Banet-Weiser, *Authentic TM: The Politics of Ambivalence in a Brand Culture* (New York: New York University Press, 2012), 13-14. Emphasis in original.

115 Banet-Weiser, *Authentic TM: The Politics of Ambivalence in a Brand Culture*, 14.

Theresa Senft in 2008[116] to describe the methods entrepreneurial women used to represent and brand themselves across platforms. This term has come to stand for the practice of candid self-branding more broadly,[117] though most usually over social media platforms. Alice Marwick built on this notion in her study of luxury Instagram influencers, finding that the practice of posting consistently candid pictures and communications served to humanize people whose lifestyle was functionally unattainable for their followers. Marwick writes that this method of "decoupling extreme wealth from fame [pulls] back the curtain on lifestyles typically unavailable to and unseen by most."[118] Though Marwick's article is about how Instagram is uniquely able to make uncommon lifestyles seem mundane, she notes that this occurs because the social media platform has an "always-on, mobile nature" that "lends an air of authenticity and truthfulness that mere tweets or blog posts may not."[119] The persistent, candid flow of extraordinary yet personal information builds the microcelebrity's identity as both 'authentic' and incredible, making them worth following.

It may seem odd to thrust political emails into the world of authenticity and microcelebrity unless we also consider the unique role push notifications play in everyday life. When networked communication like email was first emerging as a tool for political campaigning, scholars immediately seized on its utility. "New ICTs [Information Communication Technologies] offer political actors direct contact with citizens and thereby an advantage over existing media," wrote Andrea Römmele about American

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116 Theresa Senft, *Camgirls: Celebrity and Community in the Age of Social Networks*, Digital Formations (New York: Peter Lang, 2008).

117 Theresa Senft, "Microcelebrity and the Branded Self," in *A Companion to New Media Dynamics*, ed. John Hartley, Jean Burgess, and Axel Bruns (Malden: Wiley, 2013), 346–54.

118 Alice E. Marwick, "Instafame: Luxury Selfies in the Attention Economy," *Public Culture* 27, no. 1 (2015), 155.

119 Marwick, "Instafame: Luxury Selfies in the Attention Economy," 157.

political parties using email in 2003. "Parties are able to control the content and 'dosage' of political information that they emit via the Internet and so can offer unfiltered information to the public and also to more specific target groups."[120] The notions of 'direct contact' and 'dosage' lend themselves well to practices of authenticity, especially as they present candidates a way to connect to constituents while also unilaterally controlling the flow of information. Though email began as an exciting, less expensive alternative to physical mailers, the role of the push notification in everyday life and communication gives this form a new valence.

Figure 9:   My lock screen on Wednesday, 12/25/19. Though three different campaigns sent me emails within the span of one hour, these notifications blended in with those sent by *Candy Crush Soda Saga*, a podcast app, and my phone's operating system informing me about internal battery health.

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120 Andrea Römmele, "Political Parties, Party Communication and New Information and Communication Technologies," *Party Politics* 9, no. 1 (2003), 9.

When I am made aware of an email from a political candidate through the mundane push notification, this coded communication becomes inseparable from the flow of my everyday life. I can remember taking a look at my lock screen early in the afternoon on Christmas Day 2019 and seeing what is shown above (Fig. 9.) In the hour it had taken me to drive to my relative's home in rural Washington State, three separate campaigns had emailed what appeared to be holiday messages from the candidates themselves. In reality, the individual campaigns likely went through a prolific editing process with multiple people over an extended time period before scheduling these personally branded messages that convey a highly manufactured notion of authenticity, but in this moment of reception they became a personal communication from the candidates arriving in my life. Whereas televised debates were as a new way for candidates to seem more personable, the timeliness and apparent personalization of push notifications from candidates becomes a way of viewing orchestrated brand communications from candidates as an authentic part of everyday life. Emails have always been a reliable way for candidates to communicate with and brand themselves to their supporters,[121] but the push notification combined with individual messages can allow for a symbolic flattening of distance between the two parties based on notions of authenticity; the candidate sends information to me, and I receive it as part of my life.

There has been a rather recent uptick in digital communication on the campaign trail beginning with Barack Obama's 2008 campaign. "It has been widely acclaimed that Obama's historical campaign was masterful in harnessing the exponential growth, influence and pervasiveness of the Internet and other digital media technologies in his

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[121] See Caitlin M Fausey and Teenie Matlock, "Can Grammar Win Elections?," *Political Psychology* 32, no. 4 (2011): 563–74, David W Nickerson, "Does Email Boost Turnout?," *Quarterly Journal of Political Science* 2 (2007): 369–79.

phenomenal 2008 Presidential primary and general campaigns,"[122] writes Anna Everett in the final pages of her examination of the intersection between race and cyberspace. She proceeds that the Obama campaign's "coterie of tech savvy youths who have never known a world without the Internet, and those others who have learned to master its language and protocols…upped the ante of effective online grass roots activism"[123] that had been set up by previous digital activists of color. Scholars have also studied the social media accounts[124] of candidates and the "personalization" of political news as "a consequence of both media technologies and the strategies of political actors"[125] after the election of Donald Trump in 2016. However, there is still relatively little focus on the simulacral intimacy the moment of receiving an ostensibly personal notification from a candidate represents for the user-voter. The resultant moment of communion between an authentic candidate's communication and the user-voter represents a marked shift in dynamic from even the most spirited debates on the television.

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[122] Anna Everett, *Digital Diaspora: A Race for Cyberspace* (Albany: State University of New York Press, 2009), 199.

[123] Everett, *Digital Diaspora: A Race for Cyberspace*, 199.

[124] See David Norman Smith and Eric Hanley, "The Anger Games: Who Voted for Donald Trump in the 2016 Election, and Why?," *Critical Sociology* 44, no. 2 (2018): 195–212, Bethany A Conway, Kate Kenski, and Di Wang, "The Rise of Twitter in the Political Campaign: Searching for Intermedia Agenda-Setting Effects in the Presidential Primary," *Journal of Computer-Mediated Communication* 20 (2015): 363–80, John Sides, Michael Tesler, and Lynn Vavreck, "Hunting Where the Ducks Are: Activating Support for Donald Trump in the 2016 Republican Primary," *Journal of Elections, Public Opinion and Parties* 28, no. 2 (April 3, 2018): 135–56, https://doi.org/10.1080/17457289.2018.1441849, etc.

[125] Peter Van Aelst, Tamir Sheafer, and James Stanyer, "The Personalization of Mediated Political Communication: A Review of Concepts, Operationalizations and Key Findings," *Journalism* 13, no. 2 (2011), 205.

Beyond the new dimension push notifications bring to the connection between 'authentic' candidate communications and the user-voter's everyday life, we also need to contextualize the importance of citizen fundraising in recent elections. Even though the now infamous Citizens United v. Federal Trade Commission Supreme Court ruling in 2010[126] has allowed for corporations to finance political communication via Super PACs, a leading 25.4% of contributions to Donald Trump's 2016 campaign came from individual citizens donating amounts under $200.[127] Additionally, to make it on stage for the Democratic National Committee's official candidate debate in September 2019, each candidate needed 130,000 individually registered donors[128] with this number increasing for each subsequent debate. Campaign communications to voters presumably have the intention of getting them to vote for the candidate, but the user-voter has already indicated that they are interested in this candidate by signing up for their mailing list in the first place. With their vote assured (or at least more likely,) campaigns can begin to target the user-voters as members of a grassroots fundraising organization. While it is important for campaigns to establish an authentic brand for their candidate, it is just as important to have their followers understand that the importance of the campaign mechanism. The user-voter is aware that this candidate is 'real,' and that they *really* need more money.

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[126] Citizens United v. Federal Election Commission (Supreme Court of the United States January 21, 2010).

[127] "Summary Data for Donald Trump, 2016 Cycle" (Center for Responsive Politics, 2019), https://www.opensecrets.org/pres16/candidate.php?id=N00023864.

[128] Maggie Astor, "Only 7 Candidates Have Qualified for the the Next Democratic Debate," *The New York Times*, August 1, 2019, https://www.nytimes.com/2019/08/01/us/politics/next-democratic-debate.html.
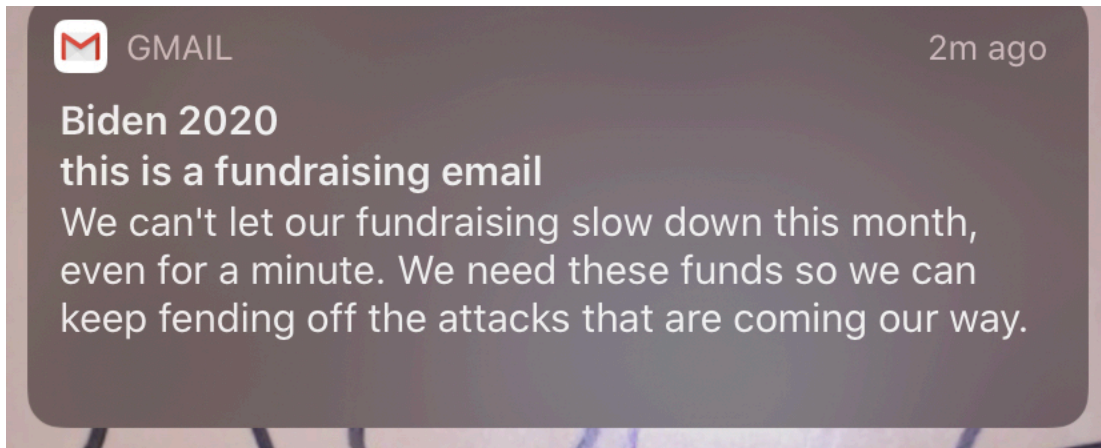
Figure 10:   A push notification delivered to me Thursday, 12/10/19 by Joe Biden's campaign. The visible text reads: "Biden 2020" / "this is a fundraising email" / "We can't let our fundraising slow down this month, even for a minute. We need these funds so we can keep fending off the attack that are coming our way."

Part of this motivation can perhaps be attributed to what Rupali Mukherjee and Sarah Banet-Weiser call 'commodity activism,' where "consumer-citizens [practice] moral and civic virtue principally through their pocketbooks"[129] and "consumers… act politically through consumer behavior… [and] brand loyalty to [specific branded] products."[130] Commodity activism is also a condition of late capitalism, which has made it seem like individually ethical consumption is the only way an individual can effect change; this seems to fit with the rhetoric of campaigns who openly and publicly rely tell their supporters that they rely on monetary support to "keep fending off attacks that are coming our way." (Fig. 10.)[131]

In contrast to ideas of neoliberal individualism generally accompanying notions of commodity activism, campaigns also encourage a communal identity amongst backers

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[129] Roopali Mukherjee and Sarah Banet-Weiser, eds., *Commodity Activism: Cultural Resistance in Neoliberal Times*, Critical Cultural Communication (New York: New York University Press, 2012), 12.

[130] Mukherjee and Banet-Weiser, *Commodity Activism: Cultural Resistance in Neoliberal Times*, 39.

[131] Biden 2020, "This Is a Fundraising Email," December 10, 2019.

based on the collective act of fundraising. This is perhaps unsurprising considering the tenets of the Democratic party and the farther-left values of candidates like Elizabeth Warren and Bernard Sanders. "Emails are such an important part of how we organize and how we raise money," reads a lengthy epilogue to all messages sent by the Sanders campaign. "In fact, there is no single greater source for our campaign's fundraising than emails like this one. And that's important, because no one person, not even Bernie Sanders, can take on Trump and the billionaire class alone."[132] These engines become the beating heart of a political movement, creating a strange dynamic where individually activist exchange of capital also facilitates joining an (at times countercultural) collective movement.

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[132] Bernie Sanders, "I Am Writing to Ask If You Can Split a $5 Contribution to Alexandria, Ilhan and Rashida," April 19, 2020.
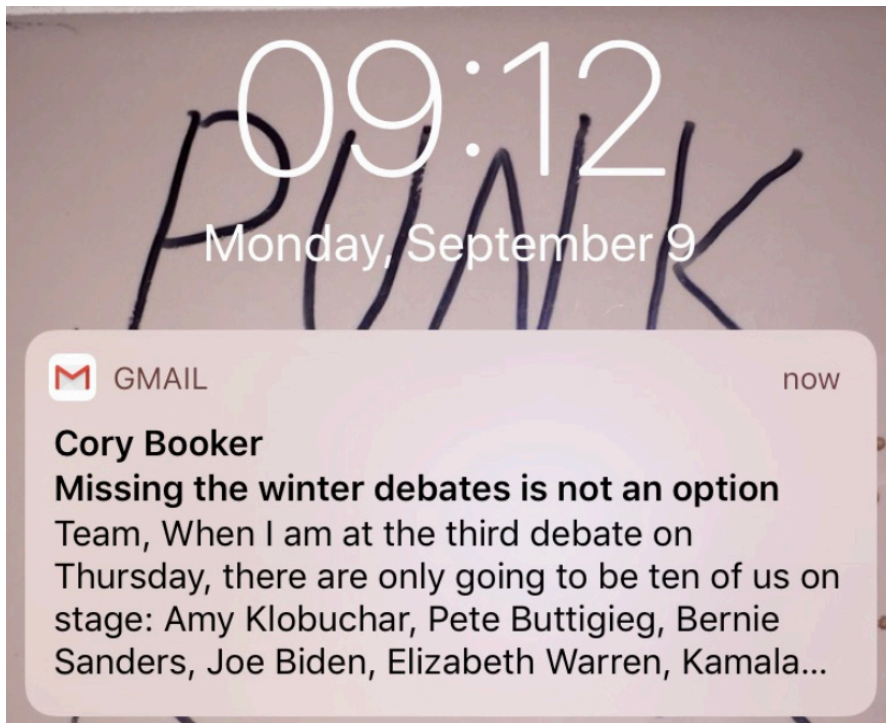
Figure 11:   A push notification delivered to me on the morning of Monday, 9/9/19 by
              Cory Booker's campaign. The visible text reads: "Cory Booker" / "Missing
              the winter debates is not an option" / "Team, When I am at the third debate
              on Thursday, there are only going to be ten of us on stage: Amy Klobuchar,
              Pete Buttigieg, Bernie Sanders, Joe Biden, Elizabeth Warren, Kamala…"

It is important to note at this point, that while most of the rhetoric surrounding various campaigns has focused on defeating the incumbent Trump and forwarding progressive legislation more generally, when I began my study in late July there were still twenty-two candidates who had a place on the debate stage. Returning to the notion of a horse race, making a campaign contribution in this climate possesses much of the same feeling as placing a bet in what Albarrán Torres and Goggin call 'mobile social gambling.' These scholars draw on the "parallel histories of technological development of gambling and mobile technologies" and the "bridging of social media and social

gambling practices"[133] to consider how a networked poker app played on a smartphone extends and distorts the magic circle into "the user's social networks… [facilitating] the new kinds of blended online and offline worlds of contemporary digital media in which everyday life occurs."[134] Building on earlier research by Goggin[135] and game studies scholars more generally, the researchers conclude that the mobile phone is "now deeply, pervasively embedded in the social and the way it is constituted" and that the way mobile social gambling enters into daily social life is potentially problematic due to the general lack of regulation.[136]
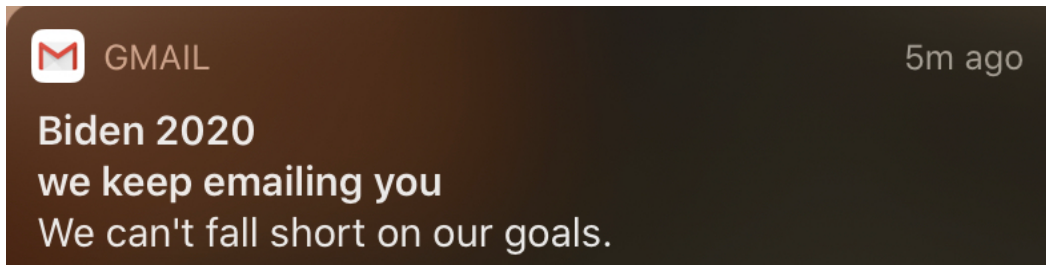
Figure 12:   Email from Joe Biden's campaign received Sunday, 2/16/20 at 19:25. The visible text reads: "Biden 2020" / "we keep emailing you" / "We can't fall short on our goals."

It is the collision of commodity activism in the political sphere and mobile social gambling in everyday life that makes the delivery of email push notifications so powerful. Conducting a close textual reading of the notification shown above (Fig. 12) can lead us to some clarity about all of the different moving parts that culminate in receiving a push notification. In the top left, there is both an iconographic and textual

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133 Albarrán Torres and Goggin, "Mobile Social Gambling: Poker's next Frontier," 99.

134 Albarrán Torres and Goggin, "Mobile Social Gambling: Poker's next Frontier," 105.

135 Goggin, *Cell Phone Culture: Mobile Technology in Everyday Life*, Gerard Goggin, *Global Mobile Media* (London: Routledge, 2010).

136 Albarrán Torres and Goggin, "Mobile Social Gambling: Poker's next Frontier," 105-106.

announcement that this notification comes from the Gmail application, which I use for various personal and business email accounts. Directly below this we can see the name of the sender, "Biden 2020." These candidates are using email software that is designed with the express purpose of allowing the group to 'blast' messages to wide supporter bases, and the same software allows them to cater what their title appears for each message; though both the emails shown above (Fig. 10, Fig. 12) list 'Biden 2020' as the sender, the Biden campaign alone uses senders varying from 'Joseph R. Biden Jr.' to former Democratic nominee 'John Kerry' to the basic 'Team Joe' among others, often sending several email from multiple 'sources' in the same day. This trend seemed to peak immediately after each major endorsement for the Biden campaign; the official communication of endorsement from 'Barack Obama' on 4/14/20 was followed by two identical reply-all emails from 'Joe Biden.'[137] Though all of these emails originate from the same account (info@joebiden.com), the ability to play with the sender's identity builds on the sense that there is not only a great deal of people supporting Joe Biden, but that all of these people are taking the time to reach directly into my daily life. By joining the collective of supporters and individually betting on Biden, a campaign donation that is compelled by these emails becomes an act of socially activist gambling.

Moving down our text, the subject line of this email reads in bold, "we keep emailing you[,]" with the visible body of the email reading "We can't fall short on our goals." Though I discussed game notifications persistently messaging the user-player in order to drive spending in the previous chapter, these notifications were clearly affiliated with the player's activity in the app and sent by an automated process. In contrast, the text of the email that is visible via the push notification both connects the user-voter with

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[137] Barack Obama, "I'm Proud to Endorse Joe Biden for President of the United States," April 14, 2020.

the candidate's campaign ('*we* keep emailing *you*') and a call to activist action ('We can't fall short on our goals.' might as well end in an ominous 'or else...') The notification exists as a parallel but separate text from the body of the full email, creating an alternate affective force that acted as part of my daily communication.

CASE STUDY: THE FLOW OF DEBATE DAY

In order to contextualize these two forces in the real-world context of a campaign moment, I turn my attention to a close case study of the third Democratic debate on September 12th, 2019. For many less visible campaigns, the first event to narrow the field from twenty-two candidates to ten frontrunners presented a make-or-break moment. Whether or not various claims that the Democratic National Convention purposefully excluded entrants hold any merit,[138] the discrete moment of the debate and the notifications I received from candidates during this time period lends itself well to what Raymond Williams calls "analysis of flow."[139] Williams first developed this method of analysis to claim broadcast television manifested a distinctive shift from "[experiencing] discrete events" [140] as singular occasions (for instance, reading a book or seeing a movie in a theater) to a "unification of [multiple] sequences"[141] into a media flow. While television programming reduced separation between media and everyday life in service

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[138] "Tulsi Gabbard's Campaign Wants the DNC to Change Debate Qualifying Poll Requirements," *ABC News Radio*, August 23, 2019, http://abcnewsradioonline.com/politics-news/tulsi-gabbards-campaign-wants-the-dnc-to-change-debate-quali.html.

[139] Raymond. Williams, *Television : Technology and Cultural Form / Raymond Williams ; Edited by Ederyn Williams ; with a New Preface by Roger Silverstone.*, 3rd edition, Routledge Classics (London ; Routledge, 2003), 97.

[140] Williams, *Television : Technology and Cultural Form / Raymond Williams ; Edited by Ederyn Williams ; with a New Preface by Roger Silverstone,* 87.

[141] Williams, *Television : Technology and Cultural Form / Raymond Williams ; Edited by Ederyn Williams ; with a New Preface by Roger Silverstone,* 91.

of the "at-once mobile and home-centered way of living" Williams called "mobile privatization,"[142] phone vibrations that continually promote a sponsored message represent a merging of campaign interests and my daily life.

Reading the push notifications generated by various campaigns that I received on my lock screen as a sequence of texts that make up a media flow lends a new dimensionality to the day of the third Democratic debate and the way I subjectively experienced it. I can make this clearer by displaying the 'notificatory flow' of senders and subject lines that crossed my lock screen on this day:

07:45: JoeBiden.com: "Become a Debate Day Donor?"

08:09: Cory Booker: "Today's the day, team."
08:37: Bernie Sanders: "I am writing to ask if you could please make a $2.70 contribution to our campaign before tonight's debate. This is a critical night for us, we have a lot of work ahead and an important fundraising deadline, and I cannot do it alone. Thank you."
08:41: Elizabeth Warren: "Add your name if you agree: We need to expand Social Security"

09:22: Team Yang: "#YangBeatsTrump"
09:43: Micheal Bennet: "tonight's debate"

10:06: AmyKlobuchar.com: "Show Amy you've got her back"

11:09: Team Kamala: "Three quick things"
11:21: Julián Castro 2020: "please"
11:39: Warren 2020: "Before the debate tonight:"

12:45: MichaelBennet.com: "hate to see it"

13:08: Bernie 2020: "Your name isn't on the Debate Donor list yet"
13:24: Beto O'Rourke: "Visa and Mastercard"
13:46: Team Kamala: "Before the big debate tonight"
13:46: Mike Morley [for Tim Ryan]: "hearts and minds"

14:05: Breaking News (via JohnDelaney.com): "2020 Poll Shows Delaney Momentum"
14:12: JoeBiden.com: "A Trump dynasty that will last for decades?!?!?"
14:35: ElizabethWarren.com: "Tonight"

15:35: Team Booker 2020: "Get the latest debate updates here >>"
15:40: Biden 2020: "this is a deadline email"
15:44: Team Bennet: "here's where we disagree"

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142 Williams, *Television : Technology and Cultural Form / Raymond Williams ; Edited by Ederyn Williams ; with a New Preface by Roger Silverstone,* 19-21.

16:05: John Hickenlooper: "A reminder about tonight's debate:"
16:23: Kamala Fundraising Team: "We can do this!"
16:36: Andrew Yang: "I'm walking onto the Houston debate stage in a couple hours"
16:41: Steve Bullock: "I won't be on the debate stage tonight"

17:15: Team Beto: "Just right:"
17:15: Beto O'Rourke: "Tonight"
17:23: Bernie Sanders for President: "Your name is not on the list yet"

18:05: Joe Biden: "I'm asking you"
18:09: Kamala Harris: "Houston"
18:13: Official Bennet Campaign HQ: "what you won't see"
18:44: Cory Booker: "I truly believe this:"
18:52: Tim [Ryan]: "about to head on stage"

19:00: DEBATE BEGINS
19:40: Warren HQ: "Elizabeth is on the debate stage right now"

20:31: Kamala 2020: "She's crushing it up there"

21:19: Bernie Sanders 2020: "Tonight's debate"
21:29: Debate HQ (Beto for America): "[Three fire emojis] Beto so far [three fire emojis]"
21:51: Cory Booker: "I just got off the debate stage in Houston"

22:00: DEBATE ENDS
22:03: Julián Castro: "I just stepped off stage"
22:06: Amy Klobuchar: "I'm ready for what's next"
22:08: Andrew Yang: "Hey, let's talk about tonight."
22:14: Team Joe: "NEW JOE BIDEN STICKER (debate night special)"
22:19: Kamala Harris: "I need you with me after tonight's debate, Andy"

22:21: Elizabeth Warren: "Deeply grateful"

Figure 13:   Analysis of the sequence and notificatory flow of the candidate emails were sent to my email inbox on 9/12/19.

Reading the flow of push notifications is an interesting experiment in media. Within this flow, we can see three separate sequences emerge before, during, and after the debate. Many campaigns[143] began the day with an interpersonal message from the

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143 There are three rather obvious exceptions here in the non-inclusion of Pete Buttigieg, Tom Steyer, or Tulsi Gabbard's campaigns. On reflection, it seems that while I did add myself to all of these mailing lists in July, the campaigns had stopped sending me emails by the time of the second debate. Whether this was due to my non-contribution is unclear, but these exclusions presumably do not change the patterns of the flow as a whole.

candidate or their direct team, though these did not necessarily need to address the debate itself. In fact, the frontrunner campaigns for Biden, Warren, and O'Rourke all took on timely issues that were more about the candidate's general platforms than the impending debate itself. All of these emails worked to enhance the individual candidate's authentic brand (including a request from the Sanders campaign imitating the senator's iconic verbal style,) serving to introduce candidates before the debate. These also included messages sent from potential candidates who had neither qualified for the debate nor dropped out from the race (Delaney, Bennet, and Ryan;) though these candidates were not afforded a televised platform, the push notification allowed them to enter into my daily notificatory flow. Once the debate began, emails from the campaigns dropped off dramatically, and all emails sent during the debate are attributed not to the candidate but rather to members of their staff. Though it is logistically unfeasible for candidates to personally compose and send me every single message that has their name attached to it, sending an email while on stage would break whatever illusion persists that these messages originate from them. It is only after the conclusion of the debate (or, in what appears an incorrectly scheduled moment from the Booker campaign, directly before) that each candidate 'directly messages' their constituents.; like *Candy Crush Soda Saga*, these notifications tried to catch the user-voter while the debate was still fresh in their mind.

However, this is a subjective study, and so all of these emails are notable for both the text of their messaging and for their place in the general proceeding of my life that day. Just like any Thursday of the semester, I woke up and began my morning routine of reading and grading undergraduate assignments before walking into UT Austin's campus for my shift at the University Writing Center (UWC) beginning at 10:00. In this relatively unstructured time between waking up and beginning my shift, I received a total of six

notifications from six separate campaigns. During my shift from 10:00 to 12:00 and an additional two-hour training with the UWC from Noon to 14:00, I received nine more notifications from eight separate campaigns. Shortly after this, I walked the short distance to my office on campus to work for a while before preparing for a film screening at 18:30, receiving sixteen notifications before the movie even began. By the time the film finished at 20:45, I had received five more notifications, and had another ten come in before the end of the evening. Through all of these stages in my day, push notifications from these candidates were the one constant. Whether I was working, studying, or in leisure time, the push notifications as conglomerate created their own sense of flow that made the Democratic primary debate inseparable from my daily life despite my non-attention.

I WISH I KNEW HOW TO QUIT YOU, AND I WISH I KNEW HOW TO MAKE YOU QUIT

Last chapter, I introduced the notion of the 'notificatory calculus' to rationalize why I had turned off push notifications for an annoying mobile game. In this case, the solution was simple: there was an app that disrupted my daily life more than I liked, and so I stopped letting it send me notifications. Though the combined campaigns have sent me several thousand emails in my time I have been subscribed, I found myself unwilling to unsubscribe. Take for example the campaign of Beto O'Rourke, whose presidential campaign retained and began using my home address, phone number, and email because I had supported his senatorial campaign in 2018; why did I not take myself off the mailing list for a campaign I did not ever support, especially after this gross invasion of privacy? For another example take the Biden campaign, which frequently acknowledges how many emails potential voters have received from candidates by using subject lines

such as "everyone emailed you" or "please read (don't delete)"; why would I not disassociate from a campaign that continues to spam my phone at all hours of the day? It might be the authentic brands that these emails create making it harder for me to stop emails from real people, or the affective nature of social activist gambling keeping me engaged. It may also be morbid curiosity as an academic researcher, or the desire to preserve what I consider valuable data.

Whatever the reason, something about these notificatory flows that involve the state of political affairs and the world seemed too independently important to just switch off. For all of my criticisms of these notifications and campaigns throughout this chapter, they do bear a much more real connection to the world outside of my lock screen because they involve a political race. After all, the candidate who sent the 'best' notifications theoretically stood the best chance of defeating the Republican incumbent. In his tenure, Trump has been impeached, surrounded himself with a cohort of criminals, fired or attacked those who would not bow to him, and (allegedly) colluded with a hostile foreign government. Trumpian logic operates on lies, embellishments, and conspiracies; paraphrasing Zizek, Andrejevic notes Trump's style of *jouissance* creates "a short circuit between fantasy and the real."[144] It is against this canvas of presidential manipulation and malfeasance that I received notifications from his opposition; their authentic representations of candidates and encouragement to donate to their grassroots causes seem like a necessary evil.

At the end of two chapters, I have argued that push notifications can integrate and disrupt my daily life in order to change my play and shift my political sentiments. Ultimately, both of these notification forms are discretely problematic from a cultural

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144 Mark Andrejevic, "The Jouissance of Trump," *Television & New Media* 17, no. 7 (June 7, 2016): 651–55, https://doi.org/10.1177/1527476416652694.

standpoint and deserve interrogation. However, neither form is as deeply personal nor as tied into the way I see the world around me as the geolocalized notifications produced by neighborhood surveillance apps. In the next chapter, I continue exploring how notificatory flows exist and influence the time and place they are affiliated with through what I come to call the localized 'notifiction.'

CHAPTER 3: The Notifiction: Geolocalized Push Notifications And What They Tell Us About The Places We Live In

From the at times problematic German concept of *heimat*[145] to the existential lack of homeland felt by the exile,[146] the affective feeling of being physically at home goes far beyond the four walls and a roof that the capitalist notion of private property has standardized. The central thrust of this chapter is that the corpus of push notifications created by geolocalized social networks, particularly Amazon's Ring's Neighbors and Nextdoor, create a series of cascading sociocultural effects. Primarily, a system of networked surveillance that continually notifies people either of a communal neighborhood network or of criminal others defined by non-presence on the network creates visceral simulations of the places people live in, spreading 'notifications' about a neighborhood that is both virtuous and constantly under attack by those who are outside of the network. Finally, the use of these networks by police officers and law enforcement agencies creates an actually overpoliced geography filled with privileged user-inhabitants and those marked other by them.

My neighborhood in Austin, Texas offers up a particularly compelling case study, especially considering the complicated history of disenfranchisement present in East Austin. While the west side of this city houses the Texas Capitol, the University of Texas at Austin's main campus, and a flourishing downtown, the East side has been intentionally shaped as a home for lower-income people of color. This dates back to a 1928 city plan that outlined a "Negro District"[147] by refusing city services to Black

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145 See Peter Blickle, *Heimat: A Critical Theory of the German Idea of Homeland* (Camden House, 2004).

146 Stuart Hall, "Cultural Identity and Diaspora," in *Colonial Discourse and Post-Colonial Theory: A Reader*, ed. Patrick Williams and Laura Chrisman (New York: Columbia University Press, 1994), etc.

147 Harold Hunt and Clare Losey, "Change and Challenges: East Austin's Affordable Housing Problem" (Texas A&M Real Estate Center, March 2, 2017), 1.

individuals living west of East Avenue and continued through a New Deal process of redlining[148] that later involved the Federal construction of Interstate 35 along the same longitude. As Austin has exploded in population over the past decade, however, these neighborhoods have begun to change demographically; a study conducted by nearby Texas A&M noted that minority population growth in East Austin has failed to keep pace with the city average, or in some cases (as with my home zip code of 78722) has outright declined. [149] A further report by UT Austin researchers on Census data found that from 2000-2010 Austin grew its overall population by 20.4% while losing 5.4% of its Black population, making it the sole city within the top ten fastest growing American cities to not increase its number of Black inhabitants. "These patterns do not square with Austin's reputation as a 'tolerant' city," the researchers write. "…The data analyzed in this brief suggests that Austin, as a liberal city, may have been unwelcoming to African Americans."[150] Additionally, the average monthly price of rent has

Increased severely in the past ten years, going from $1005 in early 2011 to $1545 in March of this year.[151] Many low-income families of color face what the A&M researchers call a "housing affordability crisis"[152] in a city that seems to not treat its Black residents particularly well. While there is much to analyze in this pattern of flight, we must also examine the turbid landscape that is left behind. The end result of low-income people moving out or struggling with rent prices and affluent tech industry

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[148] Dan Zehr et al., "Inheriting Inequality," *The Austin American Statesman*, August 17, 2018, https://projects.statesman.com/news/economic-mobility/.

[149] Hunt and Losey, "Change and Challenges: East Austin's Affordable Housing Problem," 1.

[150] Eric Tang and Chunhui Ren, "Outlier: The Case of Austin's Declining African-American Population" (The University of Texas at Austin: The Institute for Urban Policy Research & Analysis, May 8, 2014), https://liberalarts.utexas.edu/iupra/_files/pdf/Austin%20AA%20pop%20policy%20brief_FINAL.pdf.

[151] "Rent Trend Data in Austin, Texas," Industry Watchdog, *RentJungle* (blog), December 1, 2019, rentjungle.com/average-rent-in-austin-rent-trends/.

[152] Hunt and Losey, "Change and Challenges: East Austin's Affordable Housing Problem," 1.

workers[153] able to afford the new rent prices moving in is a community in violent transition.
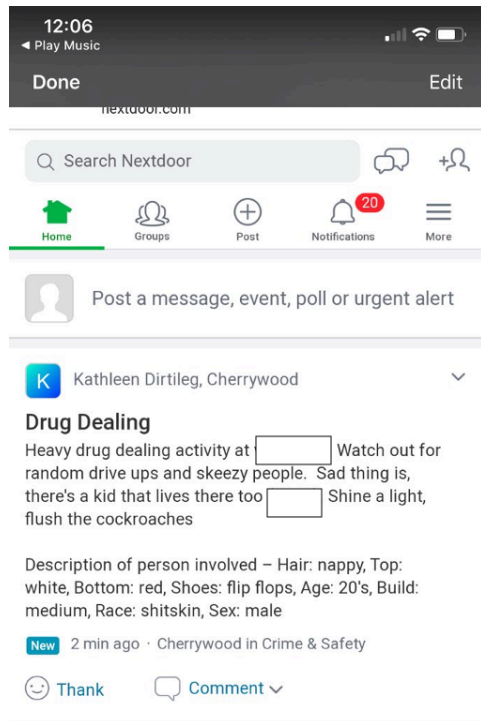
Figure 14:   Screenshot of a public Nextdoor post from 5/1/20 that aims racist slurs and allegations of criminal activity at the people living in the apartment directly above my own. I have censored the name of the building, as well as the unit number. This post was removed and the offending user banned within an hour.

Most importantly, this neighborhood is the one I live in. Cherrywood is home to my apartment, but also the place where someone made a vitriolic and racist post about my direct neighbor (Fig. 14), where a bemused police officer told me that I should make a post on Nextdoor profiling the two young Black men who had kicked in my girlfriend's

153 Mary Ann Azevedo, "Tech's Major Migration to Austin, TX," *Crunchbase News*, April 22, 2019, sec. Venture, https://news.crunchbase.com/news/techs-great-migration-to-austin-tx/.

back door, where three new luxury apartment buildings have been constructed and opened within one half-mile of my apartment in less than two years. The final chapter of this thesis is deeply autoethnographic because this place *really matters to me* and I'm *angry* about what I see around me. The push notifications I am shown create an imaginary neighborhood not only defined by myself and my neighbors, but also mediated through how our observations and reports of this place are harvested and rebroadcast. Though it may seem like an extremely particular context for a broader study, I argue that making this final chapter personal may show how push notifications act to recast an existing geography in a real case study; after all, "ethnographic work requires not just a clear head but fire in the belly."[154]

NOTIFICTIONS & SEEING SPACES AROUND US

Before looking at my neighborhood specifically, we must examine how perceptions of places are fundamentally influenced by the media we see about them, and how this is never a neutral process. From survey data to Google Maps, the tension between physical geography and perceptions of place is a point of tension that continues to be explored throughout the spatial humanities. Prominent projects in this field include David Turnbull and Helen Watson's collaboration with the Yolngu community at Yirrkala on the map as technology,[155] and the work of Yanni Loukissas, whose claim that "All Data Are Local"[156] rings true. Outside of this realm, there has also been a great deal of work on how narrative media shows places and the people who live in them. Stam and

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154 Boellstorff et al., *Ethnography and Virtual Worlds: A Handbook of Method*, 57.

155 David Turnbull, *Maps Are Territories: Science Is an Atlas* (Chicago: University Of Chicago Press, 1993).

156 Yanni Loukissas, *All Data Are Local: Thinking Critically in a Data-Driven Society* (Cambridge: The MIT Press, 2019).

Spence famously wrote that cinema about foreign places transforms western viewers into "armchair conquistadores, affirming our sense of power while making the inhabitants of the Third World objects of spectacle."[157] Take for instance *Black Hawk Down*; though the viewer knows that they are not seeing the real Muqdisho or its inhabitants, the film creates a 'magic carpet' that flies the viewer over a war-torn city filled with bloodthirsty natives.

These ideas become interesting in the realm of information technology, which Schramm called the "great multiplier of [Western] ideas" and "the great smoother of transitions."[158] For a specific example, I wanted to consider Cameron Blevins' project on how the people of Houston were shown their nation during the 19th century through the local paper. Though "maps of roads and rivers, letters from out-of-state relatives, or popular travelogues could all influence how people saw the world," the Houston Daily Post was "cheap, widely available, and timely."[159] By distantly reading a historical corpus of the Post, Blevins found that the publication located notions of corporate commerce and prosperity in coastal metropoles like New York while generally ignoring industrial development in the South and on the West Coast regions.[160] Whether this was due to implicit bias or not, the newspaper continually substantiated a myth that New York was not only a thriving metropolis, but that it was the *only* source of metropole energy east of Chicago. By contrast, the quickly industrializing towns in the South were "surprisingly muted in the newspaper"[161] despite their real-world development, leading

[157] Robert Stam and Louise Spence, "Colonialism, Racism and Representation: An Introduction," in *The Film Studies Reader*, ed. Joanne Hollows and Peter Hutchings (New York: Oxford University Press, 2000), 316.

[158] Wilbur Schramm, *Mass Media and National Development* (Palo Alto: Stanford University Press), 50.

[159] Cameron1 Blevins, "Space, Nation, and the Triumph of Region: A View of the World from Houston.," *Journal of American History* 101, no. 1 (June 2014), 128.

[160] Blevins, "Space, Nation, and the Triumph of Region: A View of the World from Houston," 136

[161] Blevins, "Space, Nation, and the Triumph of Region: A View of the World from Houston," 131.

the people of Houston to not be as aware of economic development. The newspaper's role as "one of the late nineteenth century's most ubiquitous sources of information" was important in helping it "define the geographical context of the world by printing some locations and ignoring others. To understand the Houston Daily Post's imagined geography is in part to understand the structural power of the age."[162] One way or another, the Post drew an ideological map for the people of Houston.

The 21st century has changed how people encounter media, and what they are told about the places they live in. The most significant new source is (hyper)localized social media networks, which broadcast what is happening right outside of my door. On these platforms, users can create, like, and comment on posts from people in their geofenced 'neighborhood' and the surrounding area; for me, this means Cherrywood and Austin. For this thesis, I studied two such platforms: Nextdoor and Neighbors. Though these two networks ostensibly share the same goal of uniting a neighborhood, they go about it in fundamentally different ways. Since its founding in 2008 and public adoption in 2011, Nextdoor has gone on to become the top name in localized social networks with an estimated international usership of nearly 27 million individual users across 236,000 defined neighborhoods as of March 2019.[163] Nextdoor's 'About Us' page reads as follows: "Nextdoor is the neighborhood hub for trusted connections and the exchange of helpful information, goods, and services. We believe that by bringing neighbors together, we can cultivate a kinder world where everyone has a neighborhood they can rely on."[164] It is important to draw out the key language in this statement: 'trusted,' 'helpful,'

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162 Blevins, "Space, Nation, and the Triumph of Region: A View of the World from Houston," 128.

163 Katie Roof, "Nextdoor Valued at More Than $2 Billion in Fresh Funding Round," *The Wall Street Journal*, May 14, 2019, sec. Pro VC New Money, https://www.wsj.com/articles/nextdoor-valued-at-over-2-billion-in-fresh-funding-round-11557833400.

164 Nextdoor, "About Us," Corporate, *Nextdoor* (blog), February 29, 2020, https://about.nextdoor.com/.

'bringing neighbors together,' all with the end goal of 'cultivat[ing] a kinder world.' Nextdoor as a platform seems to believe in cultivating communities based on people being kind to the people around them, becoming part of a trusted group living within a geofenced arena.

In contrast, Neighbors aims to create a community most interested in self-defense. Neighbors is marketed as a social network created by parent company Ring, a home security camera company started in 2013 and acquired by Amazon in 2018. In a company blog post prior to the Amazon acquisition, Ring stated that their name comes from "the 'ring' of security we create around your home, and then in time, your community."[165] The social network that Neighbors facilitates does not exactly hide its intentions either, stating an intention to deliver "real-time crime and safety alerts from your neighbors and local law enforcement" with the end goal of creating "stronger communities."[166] Neighbors uses these alerts as well as community posts to populate their platform with content, simultaneously creating push notifications on the lock screen of the user. An emphasis of the 'strong' community leading to a 'safe' group of neighbors is telling, especially when viewing what Ring emphasizes in their public communication about the consumer app. An information page describing Neighbors highlights four major uses of the network: Crime, Safety, Lost & Found, and Partnerships.[167] These uses show how a strong Neighbors community works: crime is prevented, safety is facilitated, lost property is found and returned, and law enforcement has access to the data they need to efficiently

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[165] Jamie Siminoff, "The History Behind Ring," Corporate, *Ring Company BLog* (blog), September 26, 2014, https://blog.ring.com/2014/09/26/scrappy-dedicated-humbled-proud-and-excited-the-history-behind-ring/.

[166] Ring, "Join the Neighborhood," Corporate, *Ring Company BLog* (blog), February 29, 2020, https://shop.ring.com/pages/neighbors.

[167] Ring, "Join the Neighborhood."

enforce the law. Per Ring, a community that uses Neighbors is a safer, stronger community because they help each other acknowledge wrongdoing and enforce justice.

Though these communities are composed of posts and comments tied to a certain location, there is something more complex operating in the way the platforms produce push notifications. If narrative media and information technology about a place can both produce conceptions of space, why should the same not be possible for the geolocalized push notification? I argue that notifications conveying information about a place and who exists in it can produce their own imaginative geography by broadcasting a singular message of *what happens in that place*. The interesting distinction between these 'notifictions' and the other forms of place-shaping are that these stories are part and parcel of daily life; whereas Blevins read a historical corpus distantly and media scholars read movies and television content closely, I read notifictions *intimately* at the intersection of media and everyday life my smart phone represents. There is neither the distinction of fiction nor the external object of the newspaper in push notifications. When I am told about a sequence of things happening in my neighborhood through my phone's reporting on neighborhood happenings, the notifiction's information flow dictates a notifiction interpreted at the level of everyday life. In the case of the notifictions I have been 'told' by Nextdoor, the neighborhood I live in is strong because we have are all communally trusting and helpful in our isolationist community. On the other hand, Neighbors narrates a notifiction of communal gatekeeping based on constant awareness of danger and safety. By looking at posts from my neighborhood as they were communicated to my screen, we can understand the personally affective power of the notifiction.

MAKING, MODERATING, AND POLICING THE OTHER

In order to understand the influence of these geolocalized platforms more completely, we must examine their cultural lineage. On the one hand, these networks owe much to community newsletters, neighborhood email chains, and other participatory technology. However, the more telling legacy of these platforms comes from Neighborhood Watch organizations. These citizen groups were originally organized in the middle of the 20th century as part of a much larger initiative to provide a "framework for citizen involvement in local crime prevention activities,"[168] and have often been criticized for encouraging vigilante justice, racial profiling, and extrajudicial violence. One particularly prominent story of Neighborhood Watch taking police work into their own hands comes from the 2012 slaying of Trayvon Martin by the coordinator of a Florida Neighborhood Watch organization. The purported motivation of these organizations is simple: "We Look Out for Each Other" by reporting "suspicious activity" to the proper authority (Fig. 13.) While there is certainly much good that comes out of a community looking out for each other, the organization of a group focused on searching out the 'suspicious' becomes looking for difference, which is too often found along lines of race, class, and ability.

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[168] Mike McConville and Dan Shepherd, *Watching Police, Watching Communities* (New York: Routledge, 1992), 3. See also George J. Washnis, *Citizen Involvement in Crime Prevention* (Lexington: Lexington Books, 1976), Ronald V. Clarke, "Situational Crime Prevention: Its Theoretical Basis and Practical Scope," *Crime and Justice* 4 (1983): 225–56.

Figure 15:   A Neighborhood Watch sign about two blocks from my apartment, faded from exposure to the sun.

Kathryn Woodward wrote that "identity is… marked out by difference,"[169] and this only becomes more evident when we consider how people identify based on the landscapes they occupy; it is clear that our identity is intimately tied to the places we call home. Edward Said writes in *Orientalism* that settling a place begins a process of

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[169] Kathryn Woodward, *Identity and Difference* (Sage, 1997), 9.

"imaginative geography," wherein people impose boundaries around their homes that create a "land of barbarians"[170] outside of these lines:

> In other words, this universal practice of designating in one's mind a familiar space which is "ours" and an unfamiliar space beyond "ours" which is "theirs"... It is enough for "us" to set up these boundaries in our own minds; "they" become "they" accordingly, and both their territory and their mentality is designated as different from "ours."… A fifth-century Athenian was very likely to feel himself to be a nonbarbarian as much as he positively felt himself to be Athenian.[171]

One of the core premises of *Orientalism* is that those who are seen as different are not inherently strange but intentionally differentiated, and that this Othering violently establishes who belongs and who does not based on race and nationality. Neighborhood Watch establishes this difference based on a notion of 'suspicious persons or activities,' but this is often built upon rejecting people who do not conform to norms of appearance, behavior, and identity that the Neighborhood Watch holds as their own. In a similar way, Katie Lambright writes of Nextdoor that "emphasizing the need for good neighborhoods, close communities, and well-watched gates effaces structural gatekeeping and reproduces the inequality that [redlined neighborhoods and boundary markers like fences] were created to produce."[172] Combine this with words from a recent report by Matthew Guariglia for the privacy rights group Electronic Frontier Foundation: "[These platforms] are marketed as localized social networks where people in a neighborhood can discuss local issues or share concerns. But all too often, they facilitate reporting of so-called 'suspicious' behavior that really amounts to racial profiling."[173] In this role, the

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[170] Edward W. Said, *Orientalism* (New York: Vintage Books, 1994), 54.

[171] Said, *Orientalism*, 54.

[172] L Katie Lambright, "Digital Redlining: The Nextdoor App and the Neighborhood of Make-Believe," *Cultural Critique* 103 (Spring 2019), 89.

[173] Guariglia, Matthew. "Amazon's Ring Is a Perfect Storm of Privacy Threats." Electronic Frontier Foundation, August 8, 2019. https://www.eff.org/deeplinks/2019/08/amazons-ring-perfect-storm-privacy-threats.

networked Neighborhood Watch reifies what identities belong based on bias in order to report difference to the police.

Neighborhood Watch is conceptually a network that connects neighbors together, and to the police department. However, domestic spaces have recently also become networks, especially when they are a self-proclaimed 'smart house.' 'The desire for domestic automation has a long history in "mechanical servants"[174] like the dishwasher, the microwave oven, and the laundry machine, but the smart house originally combined needs to protect the sanctity of the home and make this space easier to live through the "networked [smart] house whose appliances interact with each other, adapt to dwellers, and allow residents, via the Internet, to communicate with the outside world and to speak to the home while away at work or travel."[175] Lynn Spigel wrote in 2009 that this concept of mobile digital safe haven became especially prevalent in a post-9/11 America. "As the World Trade Center—that ultimate symbol of modernism's verticality and Western domination—falls down," writes Spigel, "the high-tech house is erected as a symbolic substitute for a new kind of economic power and social control."[176] At the time of Spigel's writing, smart houses were mainly viewed as means to "[conserve] familiar lifestyles,"[177] an evolution from an early 20th century "machine to live in"[178] to a 21st century "network for connecting to."[179]

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[174] Lynn Spigel, "Designing the Smart House: Posthuman Domesticity and Conspicuous Production," in *Electronic Everywheres: Media, Technology and the Experience of Social Space*, ed. Chris Berry, Soyoung Kim, and Lynn Spigel (Minneapolis: University of Minnesota Press, 2009), 61.

[175] Spigel, "Designing the Smart House: Posthuman Domesticity and Conspicuous Production," 57.

[176] Spigel, "Designing the Smart House: Posthuman Domesticity and Conspicuous Production," 57.

[177] Spigel, "Designing the Smart House: Posthuman Domesticity and Conspicuous Production," 61.

[178] Monsieur Le Corbusier, *Towards A New Architecture*, Second (London: Dover Publications, Inc., 1986), 4.

[179] Spigel, "Designing the Smart House: Posthuman Domesticity and Conspicuous Production," 63.

Per Spigel, this network is accessible even outside of physical home space thanks to phones and smart devices[180] that constantly tether the user to their smart home network. In this context, geolocalized social media are the platforms for connecting the smart house to the imaginative geography of the smart neighborhood, bringing notions of identity and gatekeeping expressed by the Neighborhood Watch into digital collision with the norms of platform moderation. According to Tarleton Gillespie, moderation is a fundamental condition of platforms and can be considered as the primary "commodity that platforms offer."[181] Moderation also possesses some of the same Foucauldian disciplinary goals implicit in the mission of Neighborhood Watch; the tension between the fantasy of a pure platform and the actual need to moderate unacceptable content[182] has the same valence as that between a separated pure community and a society segmented by discipline.[183] The platform's activity becomes a form of Neighborhood Watch, striving for inner virtue but externally surveillant. This becomes especially problematic when all it takes to be viewed as Other by this community is being off the platform or existing non-normatively; differentiation in this case is based primarily on either access to technology or on the tendency for surveillance technology to mark as Other "virtually anything that aberrates from the norm."[184]

For a perfect expression of the values of the smart neighborhood watch, let me draw your attention to a communication from Ring, the parent company of Neighbors and the maker of a security camera Nextdoor users in Cherrywood frequently reference. In

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[180] Spigel, "Designing the Smart House: Posthuman Domesticity and Conspicuous Production," 68.

[181] Tarleton Gillespie, *Custodians of the Internet* (New Haven: Yale University Press, 2018), Location 32, Apple Books.

[182] Gillespie, *Custodians of the Internet*, Location 16-17, Apple Books.

[183] Foucault, *Discipline & Punish: The Birth of the Prison*, 198.

[184] Patrick Tucker, "Here Comes AI-Enabled Cameras Meant to Sense Crime Before It Occurs," *Defense One* (blog), April 24, 2019, https://www.defenseone.com/technology/2019/04/ai-enabled-cameras-detect-crime-it-occurs-will-soon-invade-physical-world/156502/.

an August 2019 blog post, Ring founder Jamie Siminoff addressed concerns over Amazon sharing Neighbors posts and Ring footage with police departments:

> At Ring, our mission is to make neighborhoods safer, and we've learned that achieving this goal works best when communities work together. It's why we created the Neighbors app [hyperlinked to download,] which provides any member in a neighborhood with a place to share important local crime and safety information, and have discussions about what's going on around them… We've been thoughtful about designing how law enforcement engages with the Neighbors app to ensure users always stay in control of the information they share, and that their privacy is protected. The Neighbors Portal, [sic] is a tool that allows law enforcement to post important information about crime and safety events in their community, as well as view and comment on public posts as a verified law enforcement officer. Through the portal, law enforcement are also able to enlist the help of the community on active investigations by requesting footage from users through the Video Request [hyperlinked to info page] tool.[185]

This post was not meant to comfort any of the users about the implications of police departments having access to Neighbors posts and Ring camera footage, but rather to let them know that *their community* was still private. Furthermore, the use of words such as "communities working together" return to the obligation a user-inhabitant holds as a part of the law-abiding collective, what Gillespie might call "community flagging."[186]

In *Culture and Imperialism,* Said writes that America was founded on "a commitment… which, on the one hand, allowed decent men and women to accept the notion that distant territories and their native peoples *should* be subjugated, and, on the other, replenished metropolitan energies so that these decent people could think of the *imperium* as a protracted, almost metaphysical obligation to rule subordinate, inferior or less advanced peoples."[187] *This is the precise crux of the smart neighborhood platform:*

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185 Jamie Siminoff, "Building Better Communities Together: How and Why Ring Connects Communities and Law Enforcement Through the Neighbors App," Corporate, *Ring Company BLog* (blog), August 2, 2019, https://blog.ring.com/2019/08/02/building-better-communities-together/.

186 Gillespie, *Custodians of the Internet*, Location 165, Apple Books.

187 Edward Said, *Culture and Imperialism* (New York: Knopf, 1993), 10. Emphasis in original.

only the people who can connect to the platform can be a part of it, therefore only these members matter. Everyone else is made Other by lack of access, behavior or race, moderated by the smart Neighborhood Watch, and policed accordingly.

Won't *You* Be My Neighbor?

To showcase the narratives these networks create in their push notifications, I chose two separate types of notifications with two distinct flavors to illustrate how a smart neighborhood builds both an internal community and an external sense of otherness. As my first case study, I observed alerts sent by Nextdoor to my email address. Though these messages were not delivered to my phone through the Nextdoor app, the email alerts they sent entered my lock screen through my email application, creating notifictions over the course of their notificatory flow. Returning to Nextdoor's stated mission, these emails seem to show that the network 'cultivates a kinder world' and 'brings neighbors together.' The notifications create a notifiction of communal unity rather than division, where all inside the network are helping each other through using the platform.

The dual purpose of this 'kindness' is to rehabilitate public criticism of Nextdoor as a platform that fosters racial profiling. In a 2015 interview with NPR, co-Founder and CEO Nirav Tolia spoke about how Nextdoor was attempting to fix the known issue by adding more friction to the posting process, essentially treating racism as a 'bug' in the system. The new process for posting a crime report "[required] two physical descriptors — e.g. Nike sneakers, blue jeans, crew cut, brunette — if the user chooses to include the

81

race of the person,"[188] with the aim of removing any possibility for a user to simply list a 'suspect' by their race and perceived gender. In the interview, Tolia seems more motivated by the fact that these posts are not useful to police officers and alienate potential customers than the actual effect they had on lived communities, noting racism is frequently "in the eye of the beholder" and that any profiling is done "often not on purpose."[189] This thread runs through the core of Nextdoor's public philosophy; it is not the technology that is racially biased or the community that has the potential for acting badly, but the individual posts that are in need of moderation. In a 2016 post, Tolia lists one method for reducing racial profiling is "[leveraging] the community to create quick feedback loops" that inform the poster of their bias. Racial profiling may be something that individual users on Nextdoor can produce, but Nextdoor corrects this obvious wrongdoing by just making it more difficult to do.

Between Nextdoor and the email notifications I saw on my screen is yet another level of mediation. I chose to look explicitly at the subject lines of emails that Nextdoor thought were important enough to send me because of how complex the notifiction's production became in these texts. In one moment, a member of the networked Neighborhood Watch, Nextdoor, Google (through Gmail,) and Apple all acted together to deliver a message in my life. The media text of a notification tells me a single kernel of information that deserved delivery into my daily life, but the notificatory flow more generally of Nextdoor's email alerts reveal a notifiction and lays down an ideological map of the neighborhood within the rhythm of my day. To look at this trend more

188 Aarti Shahani, "Social Network Nextdoor Moves To Block Racial Profiling Online," *All Tech Considered* (National Public Radio, August 23, 2016), https://www.npr.org/sections/alltechconsidered/2016/08/23/490950267/social-network-nextdoor-moves-to-block-racial-profiling-online.

189 Shahani, "Social Network Nextdoor Moves To Block Racial Profiling Online."

closely, I return us to the previous chapter's notion of reading the notificatory flow for two specific time periods:

2/1
07:58: Nextdoor Cherrywood: "FRIDAY! Styrofoam recycling at Maplewood Elementary"
12:15: Nextdoor Digest: "Top post: Got a good shot of the lawn place burning down on Airport"
13:15: Nextdoor: "19 new free items from your neighbors"
19:04: Nextdoor Cherrywood: "Cherrywood Bungalow for Rent"

2/2
06:22: Nextdoor Cherrywood: "Hi!"
11:05: Nextdoor Cherrywood: "MAINE"
12:15: Nextdoor Digest: "Top post: Hi!"
13:57: Nextdoor Cherrywood: "Is someone in the Lafayette/34th st area missing a recycling bin??"

2/3
12:15: Nextdoor Digest: "Top post: a book list site--atypical for Nextdoor but I thought it might be..."
12:34: Nextdoor Cherrywood: "music suggestions for Cherrywood Mardi Gras parade Feb 25?"
15:34: Nextdoor Cherrywood: "Register to Vote"
15:35: Nextdoor Cherrywood: "Winter Weather Expected"
19:59: Nextdoor Cherrywood: "Man approaches my dark porch and leaves"

2/4
12:15: Nextdoor Digest: "Top post: Man approaches my dark porch and leaves"
14:59: Nextdoor Cherrywood: "Winter Weather Update"
16:12: Nextdoor Cherrywood: "Windsor Park Coyotes"
18:46: Nextdoor Cherrywood: "Hoping you might help - student project - One Question Survey - (two minutes, tops)"

2/5
09:11: Nextdoor Cherrywood: "Looking for someone who does meal prep"
12:15: Nextdoor Digest: "Top post: Injured Hawk Near Grackle Green 2/4"
17:39: Nextdoor Cherrywood: "Arroyo Doble/Twin Creeks Project Open House on Thursday, Feb 6, 2020"

2/6
08:06: Nextdoor Cherrywood: "Property Tax Protest"
10:17: Nextdoor Cherrywood: "Winter Weather Update"
12:15: Nextdoor Digest: "Top post: What's being built across from kerbey lane on Aldrich?"
13:22: Nextdoor Cherrywood: "What's being built across from kerbey lane on Aldrich?"
22:31: Nextdoor Cherrywood: "General Dentistry"

2/7
08:35: Nextdoor Cherrywood: "Periodontal Recommendation"
12:15: Nextdoor Digest: "Top post: Please and Thank You!"

2/8
12:15: Nextdoor Digest: "Top post: Black male dog with white throat -intact loose on Northridge Dr"

2/9
09:29: Nextdoor Cherrywood: "Reminder: we are entering coyote breeding season"
10:37: Nextdoor Cherrywood: "Any good pediatrician nearby?"
12:15: Nextdoor Digest: "Top post: Reminder: we are entering coyote breeding season"

2/10
08:15: Nextdoor Cherrywood: "Has anyone seen this kitty?"
12:26: Nextdoor Digest: "Top post: Mini Split repair"
13:21: Nextdoor Cherrywood: "What is this?"
17:04: Nextdoor Cherrywood: "Tents under highway?"

2/11
07:34: Nextdoor Cherrywood: "3 Questions!"
09:32: Nextdoor Cherrywood: "Coyote Sighting on Larry Lane"
12:32: Nextdoor Digest: "Top post: A gentle reminder for parents of Lee Elementary School"

2/12
11:55: Nextdoor Cherrywood: "Would love neighbor's feedback!"
12:14: Nextdoor Digest: "Top post: Dogs outside in cold and rain"

2/13
12:17: Nextdoor Digest: "Top post: White and Black Cat"

2/14
12:20: Nextdoor Digest: "Top post: AT&T"
13:37: Nextdoor Cherrywood: "Attempted break-in at [intersection listed]"
18:06: Nextdoor Cherrywood: "FREE DAY • Zilker Botanical Garden • Monday, February 17th"

2/15
12:15: Nextdoor Digest: "Top post: Attempted break-in near [same intersection listed 2/14]"
13:06: Nextdoor Cherrywood: "Borrow china?"

2/16
12:16: Nextdoor Digest: "Top post: food 2 dogs"
13:26: Nextdoor Cherrywood: "Random person ringing my doorbell at 3am"
17:14: Nextdoor Cherrywood: "Sweet Pit found with Ripley"

2/17
09:40: Nextdoor Cherrywood: "Julie Oliver Yard Sign"
11:18: Nextdoor Cherrywood: "Reminder of our Upcoming CEM/Human Trafficking Interactive Session"
12:15: Nextdoor Digest: "Top post: Sweet Pit found with Ripley"

2/18
04:06: Nextdoor Cherrywood: "Active night birds?"
11:24: Nextdoor Cherrywood: "Driveway repair and landscape work"
12:16: Nextdoor Digest: "Top post: greedy scumbag developers at [local address]"

13:09: Nextdoor Cherrywood: "Suspicious man on my Ring device."

2/19
08:53: Nextdoor Cherrywood: "Need a general contractor"
11:28: Nextdoor Cherrywood: "Looking for a dog sitter with herding dog experience"
12:15: Nextdoor Digest: "Top post: Mosquito Season"
14:47: Nextdoor Cherrywood: "Man stood at my gate looking in my yard"
19:01: Nextdoor Cherrywood: "Mosquito Season"

2/20
09:28: Nextdoor Cherrywood: "Free Petsitter"
12:16: Nextdoor Digest: "Top post: What to do with an old mattress?"
13:52: Nextdoor Cherrywood: "Plumber Inquiry: recommendations and experience with Radiant"
17:53: Nextdoor Cherrywood: "Package Thief"
19:07: Nextdoor Cherrywood: "Did anyone receive two FEDEX packages"

2/21
12:16: Nextdoor Digest: "Top post: Stolen Van"
16:11: Nextdoor Cherrywood: "Get Tree Smart"

2/22
12:16: Nextdoor Digest: "Top post: Stolen stroller from carport"
12:53: Nextdoor Cherrywood: "Recommendation for a good dermatologist"

2/23
12:17: Nextdoor Digest: "Top post: Found male black cat (51st/Berkman)"

2/24
08:12: Nextdoor Cherrywood: "Get Tree Smart post from city"
12:16: Nextdoor Cherrywood: "ISO toilet for film club installation"
12:19: Nextdoor Digest: "Top post: Need Hot Tub Repair"

2/25
11:22: Nextdoor Cherrywood: "PLEASE DON'T LEAVE DOG POO IN MAPLEWOOD ELEMENTARY!"
12:24: Nextdoor Digest: "Top post: PLEASE DON'T LEAVE DOG POO IN MAPLEWOOD ELEMENTARY!"
15:00: Nextdoor Cherrywood: "Town Hall for District 1"
19:49: Nextdoor Cherrywood: "car vandalism on Westminster?"

2/26
10:11: Nextdoor Cherrywood: "Presence: Opening Reception at Carver Museum"
11:52: Nextdoor Cherrywood: "Austin Energy offers no-cost weatherization improvements to eligible homeowners"
12:16: Nextdoor Digest: "Top post: This Sat, 29 Feb - Catio Tour - Keeping Your Kitkats Safe"
16:47: Nextdoor Cherrywood: "Get Hired! Get Trained! Get Working!"
20:41: Nextdoor Cherrywood: "Nocturnal animals in the area"

2/27
12:24: Nextdoor Digest: "Top post: Saw a fox on 56th & Bennett"
15:34: Nextdoor Cherrywood: "Saw a fox on 56th & Bennett"

22:37: Nextdoor Cherrywood: "Property tax protest"

2/28
10:42: Nextdoor Cherrywood: "Car inspection!"
12:16: Nextdoor Digest: "Top post: Stolen weed eater."
14:03: Nextdoor Cherrywood: "Anyone missing Fiat keys?"
16:03: Nextdoor Cherrywood: "Looking for [full name of person]"

2/29
11:03: Nextdoor Cherrywood: "February Newsletter"
12:17: Nextdoor Digest: "Top post: remember what happened to the other nine holes of the Hancock..."
15:53: Nextdoor Cherrywood: "Small Recycling Items Clarification"
17:18: Nextdoor Cherrywood: "fire stations can now scan pets for microchip information"

Figure 16:   Analysis of sequence and notificatory flow produced by Nextdoor emails I received during the month of February 2020.

There are a few immediate trends to note from this notifiction over the course of the month of February. These emails individually arrived as relatively shallow pieces of information about the neighborhood and its goings on, all originating from Nextdoor into my daily life. The two most prominent identities to send these emails are not individual citizens, but the networked neighborhood of 'Nextdoor Cherrywood' and the curated daily message from 'Nextdoor Digest.' With the exception of the 'Nextdoor Digest' email that seemed to arrive roughly between 12:15 and 12:30 every day, there are no visible trends in the time of these notifications being delivered or sign why these posts were chosen from the many that were posted by people in my neighborhood. This lack of pattern was especially clear in the case of the email for a post on "Active night birds" arriving just after four in the morning on 2/18 when the corresponding post was made the previous evening. Similarly, the 'Nextdoor Digest' email on 2/19 was shortly followed by the corresponding 'Nextdoor Cherrywood' email regarding the post. The 'Nextdoor Digest' emails also included popular posts from surrounding neighborhood as if reporting the happenings of the next town over during a slow news day.

When combined and read as one month-long notificatory flow, this notifiction that appears to be grounded in my neighborhood shows Cherrywood is home mainly to neighbors who want to interact with each other, and occasionally note some sort of suspicious activity. Of the over 90 notifications I received in the twenty-nine day period, thirteen of them concerned some sort of suspicious activity committed in the neighborhood; if we remove non-criminal acts such as being a 'greedy developer,' looking at a house from the sidewalk, leaving dog poop in a school, and simply being 'suspicious' (recall the loaded racial history of this term), this number drops to six reports of criminal activity, two of which are duplicates and three of which did not actually happen in Cherrywood. The overwhelming trend among these notifications is not of a dangerous neighborhood, but of one where neighbors communicate with each other about art openings, wildlife, and the tribulations of home ownership. Returning to Lambright's comparison of Nextdoor to the Neighborhood of Make-Believe shown in *Mr. Rogers' Neighborhood*, the notifiction I see represents a "resurrected discourse of small-town community values [that elides] the more pernicious effects of the entire project of upholding (and policing) 'communities.'"[190] Though gatekeeping against non-normativity occurred in my neighborhood, the notifiction hid problematic exclusion behind seemingly utopian postracial inclusion.

4/4
12:31: Nextdoor Cherrywood: "Covid-19 Testing at Hancock H-E-B"
13:17: Nextdoor Digest: "Top post: Dogs Ingested Toxin"
14:54: Nextdoor Cherrywood: "Covid-19 symptoms"
17:31: Nextdoor Cherrywood: "immaculate 1 owner"
20:42: Nextdoor Cherrywood: "Masks, Buy or Commission!?"

Figure 17:   Analysis of sequence and notificatory flow produced by Nextdoor
            emails I received on 4/4/20 during the COVID-19 Shelter-In-Place.

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[190] Lambright, "Digital Redlining: The Nextdoor App and the Neighborhood of Make-Believe," 89.

It is also worthwhile to zoom into one particular notificatory flow that took place three weeks after the first reported cases of COVID-19 in Austin. Again, it is unclear whether a human or an algorithm (or some combination therein) was moderating which posts were being transmogrified into emails and sent to my lock screen, but the message of notifiction is nonetheless an affective story about the neighbors around me. During this global pandemic, my neighbors in Cherrywood have continually performed support for each other and the community through such public displays as chalk drawings and coordinated 'howling' at 20:00[191] every night. The notification shown here is another visible display of social solidarity, with three of the individual notifications referencing resources directly related to controlling the spread of COVID-19 ('Testing,' 'Symptoms,' 'Masks.') However, looking past what is visible on the lock screen reveals that all three of these notifications have more than meets the eye. The post about the testing site at a nearby grocery store fails to disclose that the site has no public signage intentionally due to fears of overcrowding, or to speculate what the effects on public health may be of circumventing public health measures for the good of those on the platform. The post about symptoms wishes to mine the neighborhood for first-hand knowledge of the virus, presumably to supplement information spread by the CDC and the City of Austin. Meanwhile, the mask post is only interested in personally commissioning two cloth masks for themselves. Though the notifiction created by this notificatory flow is of a neighborhood primarily interested in communal betterment, in reality all of these events are either individual or actively subvert public health measures in the name of helping the privileged community that has formed on Nextdoor.

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[191] Bill Tinsley, "Howling to Encourage Each Other," *Austin American-Statesman*, April 14, 2020, sec. Lifestyle, https://www.statesman.com/lifestyle/20200414/tinsley-column-howling-to-encourage-each-other.

You Can't Be My Neighbor

      While Nextdoor creates a notifiction of a smart neighborhood that only focuses on the platformed people, Ring Neighbors creates a community that is more black-and-white in its disciplinary desire. Recall the core uses for Ring as described by the company: Crime, Safety, Lost & Found, and Partnerships (with the police). Merge this with the company's primary business model of selling security cameras, and this mission becomes akin to recording and distributing suspicious images. "Even though government statistics show that crime in the United States has been steadily decreasing for decades," writes Matthew Guariglia for the Electronic Frontier Foundation (EFF), "people's perception of crime and danger in their communities often conflict with the data."[192] The EFF's primary concern is both the implication of creating a network of cameras and social media posts that the police have access to, as well as the "vicious cycle in which police promote the adoption of Ring, Ring terrifies people into thinking their homes are in danger, and then Amazon sells more cameras."[193]

      This 'vicious circle' is no doubt caused by the general presence of Ring cameras, but I argue that it is perpetuated by the singular focus of the notifications Neighbors creates. The notifiction becomes a mechanism for Ring to 'terrify' home owners through releasing a unilateral narrative that danger is constantly right outside my own front door. In her analysis of the reality program *Cops*, Elayne Rapping wrote that seeing poor urban populations universally portrayed as lawbreakers created a conception of them as "incorrigibly 'other' and 'alien,' incapable of internalizing or abiding by the norms and

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[192] Guariglia, "Amazon's Ring Is a Perfect Storm of Privacy Threats."
[193] Guariglia, "Amazon's Ring Is a Perfect Storm of Privacy Threats."

values [of society.]"[194] Furthermore, Rapping suggests that such images do not present "a context that might explain their deplorable state of life or suggest ways to remedy it... these people [are presented] as alien, depraved, and inferior."[195] Suburban viewers of *Cops* came to view poor urban neighborhoods as sources of dangerous others, but what happens when these neighborhoods are recast and relocated in the analog space directly outside of a user-inhabitant's smart home network? When the only images I am shown of the people and spaces outside of my smart neighborhood is a of fire, violence, and policing, the notifiction becomes a phantasmagoric hellscape right on my front doorstep. The only image user-inhabitants receive of the people off the network of the smart-neighborhood are of these mythic Others who are *defined by and seemingly incapable of anything except for the things they are reported for*. When this disproportionately targets people of color and other populations that surveillance technology typically marks Other, a line in the sand is drawn.

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194 Elayne Rapping, "Aliens, Nomads, Mad Dogs, and Road Warriors: The Changing Face of Criminal Violence on TV," in *Reality TV: Remaking Television Culture*, ed. Susan Murray and Laurie Oulette (New York: New York University Press, 2004), 217.

195 Rapping, "Aliens, Nomads, Mad Dogs, and Road Warriors: The Changing Face of Criminal Violence on TV," 229.
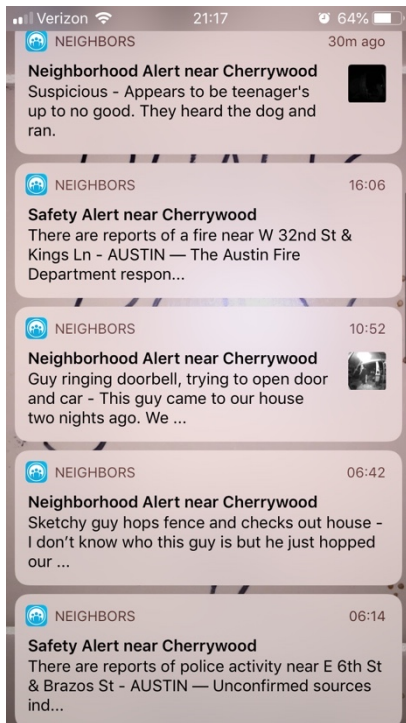
Figure 18:   A collection of Neighbors alerts delivered to my phone over the course of
              Saturday, 4/13/19. The five notifications all communicate and locate vague
              messages of danger.

For a personal example, I turn my attention to the notifiction my phone 'told' me
about Cherrywood on a Saturday night last spring. I had recently installed the Neighbors
app because a friend of mine recommended it to me, and I was curious to see what was
happening in my neighborhood. Checking my phone during an idle moment, I saw a
notification that made me stop everything and read: "Suspicious- Appears to be teenager's
up to no good [sic.] They heard the dog and ran" (Fig. 14.) Looking down the list of
notifications from my neighborhood, I saw that the remainder of the posts that day were
similar- a man had rung someone's doorbell, and another hopped a fence. At the same
time, there were reports of two fires that had broken out within this same time span. Over
the course of one day, my neighborhood had seemingly been bombarded with disasters

arriving in quick succession, though none of the people responsible for these deeds appeared to be from this place. The perpetrators were "teenager's," a "guy who came to our house," and a "sketchy guy" whom the poster couldn't recognize. These people once again "aberrate[d] from the norm,"[196] whether this meant that they were young, looked different than the person reporting the activity, or just acted differently. More disturbingly, they were reported (in one instance, with an accompanying video) in what could easily be their own neighborhood for nothing more than existing 'suspiciously.'
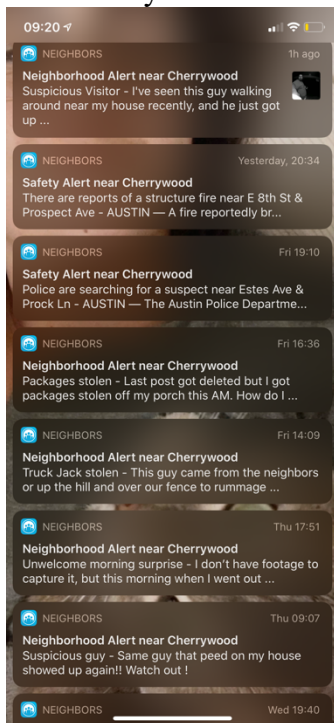
Figure 19:   Another collection of Neighbors alerts delivered to my phone between 1/16/20 and 1/19/20. Screenshot recorded 1/19/20.

The pattern of constant danger becomes even more clear looking at a slightly more longitudinal notificatory flow that the Neighbors app produced over a four-day span in January (Fig. 15.) As time passed over the weekend, my Neighbors feed was

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196 Tucker, "Here Comes AI-Enabled Cameras Meant to Sense Crime Before It Occurs."

dominated by warnings of imminent danger, whether this was a fire, a suspicious figure, or a stolen package. These notifications were both constant in their delivery and flattened by their ubiquity; seeing a notification from Neighbors could yield anything from a stabbing to a stolen package, but it rarely (if ever) communicated anything except danger to look out for. From my experience, the only form of communal solidarity on Neighbors was based on user-inhabitants and the company Ring warning each other, flattened by the notifiction into a perpetually intermittent communication of danger.

I have also intentionally presented the above figure as a visual screenshot instead of a notificatory flow diagram in order to demonstrate what these notifications visually looked like when I looked on my lock screen. As with most iPhone and iOS apps, notifications from Neighbors continually accrue until either one is used to open the app or the user dismisses them in bulk. Though I usually clicked through to Neighbors notifications or cleared them outright, this notificatory flow took place over the last weekend before the spring academic session began at UT Austin. On the recommendation of my partner, I was using this time to intentionally 'unplug' from my phone and decompress before what would be a grueling campaign a semester. Over the course of these three days, the notifiction built up into one large media text that I finally received on Sunday morning. Though most of this thesis has been built around myself as a hypervigilant user hyphenate, in this moment I was a more relaxed user-inhabitant who was confronted with this notification dump all at once, building a notifiction that was bound to a certain time period during its production but grounded in my daily life by one moment of reception.

CODA: LIVING IN MR. BEZOS' NEIGHBORHOOD

The net result of receiving notifications from both Nextdoor and Neighbors is a perpetual positioning of the user-inhabitant's smart neighborhood network as eternally helpful and vigilant, while those who are Other are cast outside of this metaphysical place and positioned as perpetual threats. This becomes even more problematic when we consider that Nextdoor and Neighbors have both been thoroughly criticized by civil rights activists for forming partnerships with police departments.[197] This has led to successful instances of user-inhabitants alerting law enforcement of legitimately dangerous individuals, such as when a community post on Nextdoor led to police arresting a member of domestic terror group QAnon for a reported hate crime.[198] This was the perfect use of the smart Neighborhood Watch; someone with the intent to cause harm entered the safe neighborhood and they were forcefully contained while the community was notified of their presence. However, trusting the way this system operates relies on the police being impartial arbiters. As the EFF notes, there are several obvious issues in having the smart police station become part of the smart neighborhood's network, including the 'Law Enforcement Neighborhood Portal' which could allow officers to circumvent a warrant in obtaining Ring camera footage,[199] and the incentive offered by

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[197] See Sarah Holder, "Nextdoor Wants to Be a One-Stop Shop for Police," *CityLab*, February 12, 2020, https://www.citylab.com/equity/2020/02/nextdoor-social-network-neighborhood-public-agency-app/605812/, Alfred Ng, "Ring Let Police View Map of Video Doorbell Installations for over a Year," *CNet*, December 3, 2019, https://www.cnet.com/news/ring-gave-police-a-street-level-view-of-where-video-doorbells-were-for-over-a-year/, Rani Molla, "The Rise of Fear-Based Social Media like Nextdoor, Citizen, and Now Amazon's Neighbors," *Recode by Vox*, May 7, 2019, https://www.vox.com/recode/2019/5/7/18528014/fear-social-media-nextdoor-citizen-amazon-ring-neighbors, etc.

[198] Melissa Yeager, "Vandalism at Sedona's Chapel of the Holy Cross Linked to QAnon Supporter," *The Arizona Republic*, October 1, 2019, https://www.azcentral.com/story/travel/arizona/2019/10/01/sedona-chapel-of-the-holy-cross-vandalism-qanon-supporter-arrested/3826336002/.

[199] Guariglia, "Amazon's Ring Is a Perfect Storm of Privacy Threats."

Amazon for police to encourage community adoption.[200] While police stations are already on a trajectory to further implementing racially biased automated detection of crime,[201] their presence on the smart neighborhood's network also affords the human officers access to the same notifictions the user-inhabitants see. If my neighborhood has more reports of danger or universally paints racialized identities as Other, than the police may logically think this place is in need of more attention, which leads to more police activity being reported. The cycle could perpetuate paranoid over-policing, especially of those 'off the network.'

It is no secret that the logical next step for information technology companies in neoliberal capitalism is to begin moving from worn devices and social networks to urban infrastructure and governance,[202] whether this be Alphabet attempting to develop cities "from the internet up"[203] in Toronto, Amazon opening using their existing logistics infrastructure and data from the acquisition of Whole Foods to open grocery stores in Seattle, or generally companies attempting to automate away autonomy in everyday life in pursuit of what Couldry and Mejias call "the capitalization of life without limit."[204] Perhaps the smart neighborhood and its Neighborhood Watch are a step along the path toward total automation, a way for testing out localized communities for their potential to

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[200] Caroline Haskins, "Amazon Requires Police to Shill Surveillance Cameras in Secret Agreement," *Motherboard: Tech by Vice*, July 25, 2019, https://www.vice.com/en_us/article/mb88za/amazon-requires-police-to-shill-surveillance-cameras-in-secret-agreement.

[201] Jason Koebler, Emanuel Maiberg, and Joseph Cox, "This Small Company Is Turning Utah Into a Surveillance Panopticon," *Motherboard: Tech by Vice*, March 4, 2020, https://www.vice.com/en_us/article/k7exem/banjo-ai-company-utah-surveillance-panopticon.

[202] See Mark Andrejevic, "Automating Surveillance," *Surveillance & Society* 17, no. 1 (2019): 7–13, Ava Kofman, "Google's 'Smart City Of Surveillance' Faces New Resistance In Toronto," *The Intercept*, November 13, 2018, https://theintercept.com/2018/11/13/google-quayside-toronto-smart-city/, etc.

[203] Daniel L. Doctoroff, "Reimagining Cities from the Internet Up," Corporate, *SidewalkLabs* (blog), November 30, 2016, https://www.sidewalklabs.com/blog/reimagining-cities-from-the-internet-up/.

[204] Couldry and Mejias, *The Costs Of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*, 1-35.

notify each other not only of 'suspicious activity' but of things that are anomalous to ideal consumer behavior. While the Neighborhood of Make-Believe created a safe space for the neighbors within, Mr. Bezos' Neighborhood creates safety for the Ring consumers and labels all others as criminals.

To return to my own personal case study, I do not see the trends that I have pointed out slowing down anytime soon in my neighborhood. All signs point toward Austin housing continuing its rapid pattern of gentrification, technology companies continuing to move into everyday urban spaces, and the corresponding effect of tactical discrimination against people of color living within the city limits to continue unabated. By making this study about my neighborhood and how I see it, we can see the notifiction's potential in this one case. I cannot ignore what I see on my screen about the places and people around me, even if I know that it contradicts with my lived experience of Cherrywood. But the siren song of Mr. Bezos' Neighborhood and the personal comfort it provides is tempting to me. *It feels nice to feel safe*, and for my digital window to the outside to connect me with friendly neighbors and the strong forces protecting me. But I am only able to take this comfort thanks to my access to a consistent address, constant access to my smart phone, and my ability as a young white man to walk these streets without fear. By emphasizing benefits to my privileged personal status through the notifiction, geolocalized social networks hide their societal effects behind the façade of their services to me as a neoliberal consumer. The resulting slippery slope of 'good' uses in Mr. Bezos' Neighborhood leads to an endless pit of inequitable consumption, surveillance, and policing, and even though I know all of this I can still feel the abyss pulling me in. The personal and powerful force created by the notifiction needs to be recognized for the societal ill it elides and resisted accordingly.

CONCLUSION: Toward A Notificatory Future, More Or Less

In these final days, I find myself examining notifications as they arrive during a global pandemic. Because COVID-19 is a disease whose exact mechanics are still not entirely known and whose economic impact has left me scrambling, I have found myself enabling every notification I can find in the hopes of any good news. Unsurprisingly, I have received even more frequent notifications from games, candidates, and social networks since Austin's Shelter In Place order began just before midnight on March 25. Though the frequency of notifications has changed, the content has not; as briefly covered in the third chapter of this thesis, none of the trends I have noticed in notifications or notificatory trends have been significantly altered by what is unarguably the single most devastating event to strike the American people at large in the 21st Century. That notificatory flows remain unchanged in this context is incontrovertible evidence that while they may appear to be personal, the notification has never have been about the. In an era where deadly misinformation is instantiated by the executive branch of the federal government and communicated widely through the mobile devices, it has come time to more tightly regulate the push notification.

In January 2020, the popular late-night television show *Last Week Tonight* posted a YouTube exclusive piece on the topic of push notifications. In the video, host John Oliver outlines two criteria push notifications need to follow in his ideal world: "Is there something I should be doing differently? Is this something I need to know now?" While the segment notably focuses on critiquing frivolous news stories that are delivered via push notification, it also poses an interesting and implicit question: what *should* push notifications be used for? The core of my thesis continually highlights push notifications for what they can do in late capitalism: interrupt daily life to promote profitable

gameplay, make the act of donation a form of social gambling, and influence what we think of our neighbors and the spaces we live in. As appealing as abolishing the push notification outright may seem after these case studies, this course of action is neither practical nor wise. Though Oliver sets out a starkly utilitarian standard for keeping only the most necessary notifications, it is from this shell that I can begin to theorize a more equitable notion of how push notifications *could* operate in daily life, or at least a method for neutralizing some of their negative effects. In the midst of a global pandemic, finding middle ground for the push notification to operate more equitably without sacrificing accuracy seems important.

As I have continually drawn your attention to, push notifications are designed to be disruptive. Though this feature can be useful in the case of emergencies or desired disruptions, it is also often abused in the name of profit. One way to mitigate the effects of this might be the notion of 'calm technology.' This user-focused design style was first conceptualized by Xerox PARC researchers Mark Weiser and John Seely Brown in 1995, and "engages both the center and the periphery of our attention, and in fact moves back and forth between the two"[205] with the intention of 'encalming' the user. Calm technology primarily operates in the periphery of attention, "informing without overburdening" the user. However, when something noteworthy happens, bringing it immediately to the center of the user's attention allows them to regain control of their attention. The duality these researchers set up relies on both of these states coexisting: "with centering the periphery is a fundamental enabler of calm through increased

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[205] Mark Weiser and John Seely Brown, "Designing Calm Technology," *Xerox PARC* (blog), December 21, 1995, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.135.9788&rep=rep1&type=pdf.

awareness and power."[206] Weiser and Brown continue that calm technology is meant to make the user feel at home and in control:

> The result of calm technology is to put us at home, in a familiar place. When our periphery is functioning well we are tuned into what is happening around us, and so also to what is going to happen, and what has just happened. We are connected effortlessly to a myriad of familiar details. This connection to the world around we called "locatedness", and it is the fundamental gift that the periphery gives us.[207]

Technologist Amber Case brought 'calm technology' into the 21st century in her 2016 design guide outlining the 'principles and patterns for non-intrusive design,' arguing that "most information that comes from devices can be presented in a calm way"[208] and that to not present information in this way is an issue of bad design. Case's conception of calm technology in the mobile age emphasizes design that informs uses without upsetting them, emphasizing the "lowest mental cost"[209] for the user to process information delivered by their technology.

There are a number of issues with an outright 'calm revolution.' Most notably, not all notifications should be accepted calmly; seamlessness created the user-hyphenate, and it comes as no surprise that Case's book features endorsements from user experience (UX) designers as well as a leading member of Google's Product Strategy team. Secondly, the parameters for what is 'important enough' to make it to the center is equally difficult to determine. Take for example the recent press conference in which President Trump alluded to injecting disinfectant into one's lungs as a potential cure or prevention method for COVID-19. On the one hand, this information is being delivered

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[206] Weiser and Brown, "Designing Calm Technology."

[207] Weiser and Brown, "Designing Calm Technology."

[208] Amber Case, *Calm Technology: Principles and Patterns for Non-Intrusive Design* (Sebastopol: O'Reilly Media, Inc., 2016), 20.

[209] Case, *Calm Technology: Principles and Patterns for Non-Intrusive Design*, 16.

from the highest singular figure in the structure of the United States government; on the other, it is introducing a frightened population to a clearly harmful home cure despite any claim of 'sarcasm' the president conveyed. Calm technology is broken asunder by the possibility of misinformation or bad actors, which is the condition society has fostered.

Perhaps then the answer is not in improving the software, but rather at the level of hardware. With opaque systems that 'just work,' there has come a distinctly American tendency to continue integrating new hardware into daily life, and specifically to the body. Nikki Stevens and Jacqueline Wernimont write that wearable mundane technology is hardly a new phenomenon considering that "eyeglasses date to the 13th century and artisans created wearable clocks in the 16th century."[210] Stevens and Wernimont write that what makes things like the popular Fitbit smart watch different from its 'non-smart' predecessors is the tendency for "digital technologies [to] situate the body not as a self-contained, sovereign subject but as a leaking, commodified data-producing body."[211] The reverse side of this constant monitoring that leakily harvests personal information is the fact that the person wearing a smart watch also has the notification thrust into their personal life. The smart watch streamlines the notificatory process by buzzing the wrist, bringing the notification to the body in an intrusive moment that can help the user decide when they need to pull out their phone and when they do not. To test out what happens when a user-hyphenate uses wearable technology, I bought an Apple Watch myself mid-way through this thesis. Though I enjoyed not having to pull my cell phone out of my pocket in order to know what the buzz signified, I also found myself more unable to escape the reception of things I would have previously ignored. Whatever the importance

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[210] Nikki Stevens and Jacqueline Wernimont, "Seeing 21st Century Data Bleed through the 15th Century Wound Man," *IEEE Technology and Society Magazine* 37, no. 4 (December 2018), 47

[211] Stevens and Wernimont, "Seeing 21st Century Data Bleed through the 15th Century Wound Man,"47

of a notification was, from a work email to a notice that I had fewer minutes above a set heartrate than I had the previous day, they all appeared on my wrist. Having a watch made all notifications more disruptive, yet by flattening their content and attaching them to my wrist I have begun to pay less attention to them. Aside from the privilege of acquiring another device, introducing hardware without addressing societal norms does not seem to be the answer either.

The takeaway from trying to improve either the software or the hardware is that making push notifications even more integrated into daily life is not the path forward. I can also say this personally as a researcher whose past year's work has focused on collecting, cleaning, and analyzing the data that have constituted my personal and professional life. This brings me to one final conclusion: the only solution to push notifications lays with me, and with us. We cannot trust technology companies to 'solve' what is still considered a feature, the federal government to regulate a sector they have historically had issues dealing with, or even for society to address our problematics as we live within them. Right now, we can begin at the level of simply pulling back the curtain and seeing what lays behind the sublime. By refusing to take for granted that these systems 'just work' and critically adding friction to the seamless, we can begin to see the push notification for what it is.

Bibliography

Aelst, Peter Van, Tamir Sheafer, and James Stanyer. "The Personalization of Mediated Political Communication: A Review of Concepts, Operationalizations and Key Findings." *Journalism* 13, no. 2 (2011): 203–20.

Agger, Ben. *Speeding Up Fast Capitalism: Cultures, Jobs, Families, Schools, Bodies*. 2nd ed. New York: Routledge, 2016.

Albarrán Torres, César, and Gerard Goggin. "Mobile Social Gambling: Poker's next Frontier." *Mobile Media & Communication* 2, no. 1 (December 24, 2013): 94–109. https://doi.org/10.1177/2050157913506423.

American Management Association Staff. "The Latest on Workplace Monitoring and Surveillance." American Management Association, April 8, 2019. https://www.amanet.org/articles/the-latest-on-workplace-monitoring-and-surveillance/.

Andrejevic, Mark. "Automating Surveillance." *Surveillance & Society* 17, no. 1 (2019): 7–13.

———. "The Jouissance of Trump." *Television & New Media* 17, no. 7 (June 7, 2016): 651–55. https://doi.org/10.1177/1527476416652694.

"APNs Overview." Apple. Accessed November 7, 2019. https://developer.apple.com/library/archive/documentation/NetworkingInternet/Conceptual/RemoteNotificationsPG/APNSOverview.html#//apple_ref/doc/uid/TP40008194-CH8-SW1.

Astor, Maggie. "Only 7 Candidates Have Qualified for the the Next Democratic Debate." *The New York Times*, August 1, 2019. https://www.nytimes.com/2019/08/01/us/politics/next-democratic-debate.html.

Azevedo, Mary Ann. "Tech's Major Migration to Austin, TX." *Crunchbase News*, April 22, 2019, sec. Venture. https://news.crunchbase.com/news/techs-great-migration-to-austin-tx/.

Banet-Weiser, Sarah. *Authentic TM: The Politics of Ambivalence in a Brand Culture*. New York: New York University Press, 2012.

Barthes, Roland. *Camera Lucida: Reflections on Photography*. Translated by Richard Howard. New York: Hill and Wang, 2010.

Begy, Jason, and Mia Consalvo. "Achievements, Motivations and Rewards in Faunasphere." *Game Studies* 11, no. 1 (2/11). http://gamestudies.org/1101/articles/begy_consalvo.

Biden 2020. "This Is a Fundraising Email," December 10, 2019.

Blevins, Cameron1. "Space, Nation, and the Triumph of Region: A View of the World from Houston." *Journal of American History* 101, no. 1 (June 2014): 122–47.

Blickle, Peter. *Heimat: A Critical Theory of the German Idea of Homeland*. Camden House, 2004.

Boellstorff, Tom, Bonnie Nardi, T.L. Taylor, and Celia Pearce. *Ethnography and Virtual Worlds: A Handbook of Method*. Princeton: Princeton University Press, 2012.

Bogost, Ian. "Asynchronous Multiplay," 2004. http://bogost.com/writing/asynchronous_multiplay_futures/.

———. "Cow Clicker: The Making of Obsession." *Ian Bogost* (blog), July 21, 2010. http://bogost.com/writing/blog/cow_clicker_1/.

———. *How To Do Things With Videogames*. Electronic Mediations. Minneapolis: University of Minnesota Press, 2011.

Bump, Phillip. "You Want a Democratic Primary Horse Race? Fine. Here's a Democratic Horse Race." *The Washington Post*, February 14, 2019, sec. Politics. https://www.washingtonpost.com/politics/2019/02/14/you-want-democratic-primary-horse-race-fine-heres-democratic-horse-race/.

Caillois, Roger. "The Definition of Play, The Classification of Games." In *The Game Design Reader*, edited by Katie Salen and Eric Zimmerman, 122–55. Cambridge: The MIT Press, 2006.

Candy Crush Soda Wiki. "List of Levels." Accessed December 6, 2019. https://candycrushsoda.fandom.com/wiki/List_of_Levels.

Carter, Marcus, and Staffan Björk. "Cheating in Candy Crush Saga." In *Social, Casual and Mobile Games: The Changing Gaming Landscape*, edited by Michele Wilson and Tama Leavar. Bloomsbury Publishing USA, 2017.

Carter, Marcus, Martin Gibbs, and Michael Arnold. "The Demarcation Problem in Multiplayer Games: Boundary-Work in EVE Online's ESport." *Game Studies* 15, no. 1 (July 2015). http://gamestudies.org/1501/articles/carter.

Case, Amber. *Calm Technology: Principles and Patterns for Non-Intrusive Design*. Sebastopol: O'Reilly Media, Inc., 2016.

Citizens United v. Federal Election Commission (Supreme Court of the United States January 21, 2010).

Clarke, Ronald V. "Situational Crime Prevention: Its Theoretical Basis and Practical Scope." *Crime and Justice* 4 (1983): 225–56.

Consalvo, Mia. *Cheating: Gaining Advantage in Videogames*. Cambridge: The MIT Press, 2007.

Constable, Olivia Remie. "Regulating Religious Noise: The Council of Vienne, the Mosque Call and Muslim Pilgrimage in the Late Medieval Mediterranean World."

Medieval Encounters 16, no. 1 (January 1, 2010): 64–95. https://doi.org/10.1163/138078510X12535199002677.

Conway, Bethany A, Kate Kenski, and Di Wang. "The Rise of Twitter in the Political Campaign: Searching for Intermedia Agenda-Setting Effects in the Presidential Primary." *Journal of Computer-Mediated Communication* 20 (2015): 363–80.

Coopey, Richard, and Alan McKinlay. "Power without Knowledge? Foucault and Fordism, c.1900–50." *Labor History* 51, no. 1 (April 1, 2010).

Corbusier, Monsieur Le. *Towards A New Architecture*. Second. London: Dover Publications, Inc., 1986.

Couldry, Nick, and Ulises A. Mejias. *The Costs Of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*. Stanford: Stanford University Press, 2019.

Cover, Rob. "Gaming (Ad)Diction: Discourse, Identity, Time and Play in the Production of the Gamer Addiction Myth." *Game Studies* 6, no. 1 (2006). http://gamestudies.org/06010601/articles/cover.

Csikszentmihalyi, Mihaly. "Play and Intrinsic Rewards." In *Flow and the Foundations of Positive Psychology: The Collected Works of Mihaly Csikszentmihalyi*, edited by Mihaly Csikszentmihalyi, 135–53. Dordrecht: Springer Netherlands, 2014. https://doi.org/10.1007/978-94-017-9088-8_10.

De Souza e Silva, Adriana, and Daniel Sutko. "Merging Digital and Urban Playscapes: An Introduction to the Field." In *Digital Cityscapes: Merging Digital and Urban Playspaces*. New York: Peter Lang, 2009.

"Demographics of Mobile Device Ownership and Adoption in the United States." Pew Research Center, February 5, 2018. https://www.pewinternet.org/fact-sheet/mobile/.

Derrida, Jacques, Catherine Porter, and Philip Lewis. "No Apocalypse, Not Now (Full Speed Ahead, Seven Missiles, Seven Missives)." *Diacritics* 14, no. 2 (1984): 20–31. https://doi.org/10.2307/464756.

Dienlin, Tobias, and Miriam J. Metzger. "An Extended Privacy Calculus Model for SNSs: Analyzing Self-Disclosure and Self-Withdrawal in a Representative U.S. Sample." *Journal of Computer-Mediated Communication* 21, no. 5 (August 4, 2016): 368–83. https://doi.org/10.1111/jcc4.12163.

Dinev, Tamara, and Paul Hart. "An Extended Privacy Calculus Model for E-Commerce Transactions." *Information Systems Research* 17, no. 1 (March 1, 2006): 61–80. https://doi.org/10.1287/isre.1060.0080.

Doctoroff, Daniel L. "Reimagining Cities from the Internet Up." Corporate. *SidewalkLabs* (blog), November 30, 2016. https://www.sidewalklabs.com/blog/reimagining-cities-from-the-internet-up/.

Druckman, James N. "The Power of Television Images: The First Kennedy-Nixon Debate Revisited." *The Journal of Politics* 65, no. 2 (2003): 559–71. https://doi.org/10.1111/1468-2508.t01-1-00015.

Du Gay, Paul, Stuart Hall, Linda Janes, Hugh Mackay, and Keith Negus. *Doing Cultural Studies: The Story of the Sony Walkman*. Vol. 2. 2 vols. London: SAGE, 2013.

Evans, Elizabeth. "The Economics of Free: Freemium Games, Branding and the Impatience Economy." *Convergence: The International Journal of Research Into New Media Technologies* 22, no. 6 (2016): 563–80.

Everett, Anna. *Digital Diaspora: A Race for Cyberspace*. Albany: State University of New York Press, 2009.

Fausey, Caitlin M, and Teenie Matlock. "Can Grammar Win Elections?" *Political Psychology* 32, no. 4 (2011): 563–74.

Finn, Ed. *What Algorithms Want: Imagination in the Age of Computing*. Cambridge: The MIT Press, 2018.

Fiske, John. "Cultural Studies and the Culture of Everyday Life." In *Cultural Studies*, edited by L Grossberg, C Nelson, and P.A. Treichler, 154–73. London: Routledge, 1992.

Foucault, Michel. *Discipline & Punish: The Birth of the Prison*. New York: Vintage Books, 1995.

Fussell, Sidney, and Will Knight. "The Apple-Google Contact Tracing Plan Won't Stop Covid Alone | WIRED." *Wired*, April 14, 2020. https://www.wired.com/story/apple-google-contact-tracing-wont-stop-covid-alone/.

Gainsbury, Sally M., Daniel L. King, Alex M.T. Russel, and Paul Delfabbro. "Who Pays to Play Freemium Games? The Profiles and Motivations of Players Who Make Purchases Within Social Casino Games." *Journal of Behavioral Addictions* 5, no. 2 (March 14, 2016). https://akademiai.com/doi/ref/10.1556/2006.5.2016.031.

Garceau, Michelle E. "'I Call the People.' Church Bells in Fourteenth-Century Catalunya." *Journal of Medieval History* 37, no. 2 (June 1, 2011): 197–214. https://doi.org/10.1016/j.jmedhist.2011.02.002.

Gillespie, Tarleton. *Custodians of the Internet*. New Haven: Yale University Press, 2018.

Glaveski, Steve. "Stop Letting Push Notifications Ruin Your Productivity." *Harvard Business Review* (blog), March 18, 2019. https://hbr.org/2019/03/stop-letting-push-notifications-ruin-your-productivity.

Goggin, Gerard. *Cell Phone Culture: Mobile Technology in Everyday Life*. London: Routledge, 2006.

———. *Global Mobile Media*. London: Routledge, 2010.

107

Gregg, Melissa, and Gregory J. Seigworth, eds. *The Affect Theory Reader*. Durham: Duke University Press, 2010.

Guariglia, Matthew. "Amazon's Ring Is a Perfect Storm of Privacy Threats." *Electronic Frontier Foundation* (blog), August 8, 2019. https://www.eff.org/deeplinks/2019/08/amazons-ring-perfect-storm-privacy-threats.

Hall, Stuart. "Cultural Identity and Diaspora." In *Colonial Discourse and Post-Colonial Theory: A Reader*, edited by Patrick Williams and Laura Chrisman. New York: Columbia University Press, 1994.

———. "Encoding/Decoding." In *Media and Cultural Studies: Keyworks*, edited by Meenakshi Gigi Durham and Douglas M Kellner, 2nd ed. Malden: Blackwell Publishing, 2006.

Hanson, Christopher. *Game Time: Understanding Temporality in Video Games*. Digital Game Studies. Bloomington: Indiana University Press, 2018.

Haskins, Caroline. "Amazon Requires Police to Shill Surveillance Cameras in Secret Agreement." *Motherboard: Tech by Vice*, July 25, 2019. https://www.vice.com/en_us/article/mb88za/amazon-requires-police-to-shill-surveillance-cameras-in-secret-agreement.

Hillier, Paul Myron. "Rethinking Media and Technology: What the Kennedy-Nixon Debate Myth Can Really Teach Us." *Online Journal of Communication and Media Technologies* 5, no. 2 (April 2015): 143–56.

Holder, Sarah. "Nextdoor Wants to Be a One-Stop Shop for Police." *CityLab*, February 12, 2020. https://www.citylab.com/equity/2020/02/nextdoor-social-network-neighborhood-public-agency-app/605812/.

Hu, Elise. "Phantom Phone Vibrations: So Common They've Changed Our Brains?" *All Tech Considered*. National Public Radio, September 27, 2013. https://www.npr.org/sections/alltechconsidered/2013/09/30/226820044/phantom-phone-vibrations-so-common-they-ve-changed-our-brains.

Huizinga, Johan. "Nature & Significance of Play as Social Phenomenon." In *The Game Design Reader*, edited by Katie Salen and Eric Zimmerman, 96–120. Cambridge: The MIT Press, 2006.

Hujanen, Taisto. *The Power of Schedule: Programme Management in the Transformation of Finnish Public Service Television*. Tampere: The University of Tampere Press, 2002.

Hunt, Harold, and Clare Losey. "Change and Challenges: East Austin's Affordable Housing Problem." Texas A&M Real Estate Center, March 2, 2017.

Jenkins, Henry. *Convergence Culture: Where Old and New Media Collide*. New York: New York University Press, 2006.

Joseph, Ralina L. *Postracial Resistance: Black Women, Media, and the Uses of Strategic Ambiguity*. New York: New York University Press, 2018.

Juul, Jesper. *A Casual Revolution: Reinventing Video Games and Their Players*. Cambridge: The MIT Press, 2010.

Kido Lopez, Jason. "DraftKings: Daily Fantasy Leagues, Legality, and Shifting Mobile Spaces." In *Appified: Culture in the Age of Apps*, edited by Jeremy Wade Morris and Sarah Murray, 299–308. Ann Arbor: The University of Michigan Press, 2018.

Kiss, Francisco, and Albrecht Schmidt. "Stressed by Design?: The Problems of Transferring Interaction Design from Workstations to Mobile Interfaces." Association for Computing Machinery, 2019. https://dl.acm.org/doi/abs/10.1145/3329189.3329232?casa_token=5JqcIuY3Oeo AAAAA:Lapkd7b2Vvww6Rt0niI56heBF5Paw9qQ4huypUhoGp4PH_VZp8vU3 BfHY0nM5MLE3lmCOvbW5zHV1Q.

Kocurek, Carly. *Coin-Operated Americans: Rebooting Boyhood at the Video Game Arcade*. Minneapolis: University of Michigan Press, 2015, Kindle.

Koebler, Jason, Emanuel Maiberg, and Joseph Cox. "This Small Company Is Turning Utah Into a Surveillance Panopticon." *Motherboard: Tech by Vice*, March 4, 2020. https://www.vice.com/en_us/article/k7exem/banjo-ai-company-utah-surveillance-panopticon.

Kofman, Ava. "Google's 'Smart City Of Surveillance' Faces New Resistance In Toronto." *The Intercept*, November 13, 2018. https://theintercept.com/2018/11/13/google-quayside-toronto-smart-city/.

Krasnova, Hanna, Sarah Spiekermann, Ksenia Koroleva, and Thomas Hildebrand. "Online Social Networks: Why We Disclose." *Journal of Information Technology* 205 (2010): 109–25.

Kraus, Sidney. *The Great Debates: Background, Perspective, Effects.* Gloucester, Mass: P. Smith, 1968.

———. "Winners of the First 1960 Televised Presidential Debate Between Kennedy and Nixon." *Journal of Communication* 46, no. 4 (December 1996): 78–96. https://doi.org/10.1111/j.1460-2466.1996.tb01507.x.

Lambright, Katie. "Digital Redlining: The Nextdoor App and the Neighborhood of Make-Believe." *Cultural Critique* 103 (Spring 2019): 84–90.

Landry, Brian M., Jeffrey S. Pierce, and Charles L. Isbell. "Supporting Routine Decision-Making with a next-Generation Alarm Clock." *Personal and Ubiquitous Computing* 8, no. 3 (July 1, 2004): 154–60. https://doi.org/10.1007/s00779-004-0274-y.

Lee, Ashley. "Candy Crush Game Maker Banks on Soda Saga Sequel." News. *The Hollywood Reporter* (blog), July 8, 2014. https://www.hollywoodreporter.com/news/candy-crush-game-maker-banks-717123.

Levy, Karen E. C. "The Contexts of Control: Information, Power, and Truck-Driving Work." *The Information Society* 31, no. 2 (2015): 160–74. https://doi.org/10.1080/01972243.2015.998105.

Loukissas, Yanni. *All Data Are Local: Thinking Critically in a Data-Driven Society*. Cambridge: The MIT Press, 2019.

Lubell, Samuel. "Personalities vs. Issues." In *The Great Debates: Background, Perspective, Effects.*, edited by Sidney. Kraus. Gloucester, Mass: P. Smith, 1968.

Manovich, Lev. *Software Takes Command*. New York: Bloomsbury Academic, 2013.

Marwick, Alice E. "Instafame: Luxury Selfies in the Attention Economy." *Public Culture* 27, no. 1 (2015): 137–60.

McConville, Mike, and Dan Shepherd. *Watching Police, Watching Communities*. New York: Routledge, 1992.

McLuhan, Marshall. *The Medium Is the Massage / [by] Marshall McLuhan [and] Quentin Fiore ; Co-Ordinated by Jerome Agel.* New York: Bantam Books, 1967.

Mendible, Myra. "High Theory/ Low Culture: Postmodernism and the Politics of Carnival." *Journal of American Culture* 22, no. 2 (1999): 71–76.

Milburn, Colin. *RESPAWN: Gamers, Hackers, and Technogenic Life*. Experimental Futures. Durham: Duke University Press, 2018.

Molla, Rani. "The Rise of Fear-Based Social Media like Nextdoor, Citizen, and Now Amazon's Neighbors." *Recode by Vox*, May 7, 2019. https://www.vox.com/recode/2019/5/7/18528014/fear-social-media-nextdoor-citizen-amazon-ring-neighbors.

Morris, Jeremy Wade, and Sarah Murray, eds. *Appified: Culture in the Age of Apps*. Ann Arbor: The University of Michigan Press, 2018.

Mosco, Vincent. *The Digital Sublime: Myth, Power, and Cyberspace*. Cambridge: The MIT Press, 2004.

Mukherjee, Roopali, and Sarah Banet-Weiser, eds. *Commodity Activism: Cultural Resistance in Neoliberal Times*. Critical Cultural Communication. New York: New York University Press, 2012.

Nextdoor. "About Us." Corporate. *Nextdoor* (blog), February 29, 2020. https://about.nextdoor.com/.

Ng, Alfred. "Ring Let Police View Map of Video Doorbell Installations for over a Year." *CNet*, December 3, 2019. https://www.cnet.com/news/ring-gave-police-a-street-level-view-of-where-video-doorbells-were-for-over-a-year/.

Nickerson, David W. "Does Email Boost Turnout?" *Quarterly Journal of Political Science* 2 (2007): 369–79.

Noble, Safiya Umoja. *Algorithms of Oppression: How Search Engines Reinforce Racism*. New York: New York University Press, 2018.

Obama, Barack. "I'm Proud to Endorse Joe Biden for President of the United States," April 14, 2020.

Pappacharisi, Zizi. *Affective Publics: Sentiment, Technology, and Politics*. New York: Oxford University Press, 2015.

Parikka, Jussi, and Jaakko Suominen. "Victorian Snakes? Towards A Cultural History of Mobile Games and the Experience of Movement." *Game Studies* 6, no. 1 (December 2016).

Pew Research Center. "Mobile Fact Sheet." Pew Research Center, June 12, 2019. https://www.pewresearch.org/internet/fact-sheet/mobile/.

Phillips, Whitney. *This Is Why We Can't Have Nice Things: Mapping the Relationship between Online Trolling and Mainstream Culture*. Cambridge: The MIT Press, 2016.

Pielot, Martin, Karen Church, and Rodrigo de Oliveira. "An In-Situ Study of Mobile Phone Notifications." In *MobileHCI 2014*. Toronto, 2014. https://dl.acm.org/citation.cfm?id=2628364.

Rapping, Elayne. "Aliens, Nomads, Mad Dogs, and Road Warriors: The Changing Face of Criminal Violence on TV." In *Reality TV: Remaking Television Culture*, edited by Susan Murray and Laurie Oulette. New York: New York University Press, 2004.

Reed-Danahay, Deborah E. *Auto/Ethnography*. New York: Berg, 1997.

RentJungle. "Rent Trend Data in Austin, Texas." Industry Watchdog, December 1, 2019. rentjungle.com/average-rent-in-austin-rent-trends/.

Ring. "Join the Neighborhood." Corporate. *Ring Company BLog* (blog), February 29, 2020. https://shop.ring.com/pages/neighbors.

Robson, Gregory J. "The Threat of Comprehensive Overstimulation in Modern Societies." *Ethics and Information Technology* 19, no. 1 (March 1, 2017): 69–80. https://doi.org/10.1007/s10676-016-9414-0.

Römmele, Andrea. "Political Parties, Party Communication and New Information and Communication Technologies." *Party Politics* 9, no. 1 (2003): 7–20.

Roof, Katie. "Nextdoor Valued at More Than $2 Billion in Fresh Funding Round." *The Wall Street Journal*, May 14, 2019, sec. Pro VC New Money. https://www.wsj.com/articles/nextdoor-valued-at-over-2-billion-in-fresh-funding-round-11557833400.

Rosenblat, Alex. *Uberland: How Algorithms Are Rewriting the Rules of Work*. Oakland: University of California Press, 2018.

Said, Edward. *Culture and Imperialism*. New York: Knopf, 1993.

———. *Orientalism*. New York: Vintage Books, 1994.

Sanders, Bernie. "I Am Writing to Ask If You Can Split a $5 Contribution to Alexandria, Ilhan and Rashida," April 19, 2020.

Schramm, Wilbur. *Mass Media and National Development*. Palo Alto: Stanford University Press, 11964.

Senft, Theresa. *Camgirls: Celebrity and Community in the Age of Social Networks*. Digital Formations. New York: Peter Lang, 2008.

———. "Microcelebrity and the Branded Self." In *A Companion to New Media Dynamics*, edited by John Hartley, Jean Burgess, and Axel Bruns, 346–54. Malden: Wiley, 2013.

Shahani, Aarti. "Social Network Nextdoor Moves To Block Racial Profiling Online." *All Tech Considered*. National Public Radio, August 23, 2016. https://www.npr.org/sections/alltechconsidered/2016/08/23/490950267/social-network-nextdoor-moves-to-block-racial-profiling-online.

Sides, John, Michael Tesler, and Lynn Vavreck. "Hunting Where the Ducks Are: Activating Support for Donald Trump in the 2016 Republican Primary." *Journal of Elections, Public Opinion and Parties* 28, no. 2 (April 3, 2018): 135–56. https://doi.org/10.1080/17457289.2018.1441849.

Siminoff, Jamie. "Building Better Communities Together: How and Why Ring Connects Communities and Law Enforcement Through the Neighbors App." Corporate. *Ring Company Blog* (blog), August 2, 2019. https://blog.ring.com/2019/08/02/building-better-communities-together/.

———. "The History Behind Ring." Corporate. *Ring Company BLog* (blog), September 26, 2014. https://blog.ring.com/2014/09/26/scrappy-dedicated-humbled-proud-and-excited-the-history-behind-ring/.

Smith, David Norman, and Eric Hanley. "The Anger Games: Who Voted for Donald Trump in the 2016 Election, and Why?" *Ciritical Sociology* 44, no. 2 (2018): 195–212.

Spigel, Lynn. "Designing the Smart House: Posthuman Domesticity and Conspicuous Production." In *Electronic Everywheres: Media, Technology and the Experience of Social Space*, edited by Chris Berry, Soyoung Kim, and Lynn Spigel, 55–92. Minneapolis: University of Minnesota Press, 2009.

Stam, Robert, and Louise Spence. "Colonialism, Racism and Representation: An Introduction." In *The Film Studies Reader*, edited by Joanne Hollows and Peter Hutchings, 315–22. New York: Oxford University Press, 2000.

Stevens, Nikki, and Jacqueline Wernimont. "Seeing 21st Century Data Bleed through the 15th Century Wound Man." *IEEE Technology and Society Magazine* 37, no. 4 (December 2018): 46–54. https://doi.org/10.1109/MTS.2018.2876214.

"Summary Data for Donald Trump, 2016 Cycle." Center for Responsive Politics, 2019. https://www.opensecrets.org/pres16/candidate.php?id=N00023864.

Tang, Eric, and Chunhui Ren. "Outlier: The Case of Austin's Declining African-American Population." The University of Texas at Austin: The Institute for Urban Policy Research & Analysis, May 8, 2014. https://liberalarts.utexas.edu/iupra/_files/pdf/Austin%20AA%20pop%20policy%20brief_FINAL.pdf.

Taylor, T.L. "Gaming Lifeworlds: Social Play in Persistent Environments." In *Play Between Worlds*. Cambridge: The MIT Press, 2006.

The Week Staff. "The Rise of Workplace Spying." *The Week*, July 5, 2015. https://theweek.com/articles/564263/rise-workplace-spying.

Tinsley, Bill. "Howling to Encourage Each Other." *Austin American-Statesman*. April 14, 2020, sec. Lifestyle. https://www.statesman.com/lifestyle/20200414/tinsley-column-howling-to-encourage-each-other.

Topolsky, Joshua. "Live from Apple's IPhone OS 3.0 Preview Event." *Engadget* (blog), March 17, 2019. https://www.engadget.com/2009/03/17/live-from-apples-iphone-os-3-0-preview-event/.

Tucker, Patrick. "Here Comes AI-Enabled Cameras Meant to Sense Crime Before It Occurs." *Defense One* (blog), April 24, 2019. https://www.defenseone.com/technology/2019/04/ai-enabled-cameras-detect-crime-it-occurs-will-soon-invade-physical-world/156502/.

"Tulsi Gabbard's Campaign Wants the DNC to Change Debate Qualifying Poll Requirements." *ABC News Radio*, August 23, 2019. http://abcnewsradioonline.com/politics-news/tulsi-gabbards-campaign-wants-the-dnc-to-change-debate-quali.html.

Turkle, Sherry. *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books, 2011.

———. *Life On The Screen: Identity in the Age of the Internet*. New York: Simon & Schuster, 1995.

Turnbull, David. *Maps Are Territories: Science Is an Atlas*. Chicago: University Of Chicago Press, 1993.

Wang, Amy B., and Brittany Lyte. "'BALLISTIC MISSILE THREAT INBOUND TO HAWAII,' the Alert Screamed. It Was a False Alarm." *The Washington Post*, January 13, 2018, sec. National. https://www.washingtonpost.com/news/post-nation/wp/2018/01/13/hawaii-residents-get-ballistic-missile-threat-messages/.

Warren, Christina. "Now All Blackberry Apps Can Have Push Notifications." *Mashable* (blog), March 7, 2010. https://mashable.com/2010/03/17/blackberry-push-service/.

Washnis, George J. *Citizen Involvement in Crime Prevention*. Lexington: Lexington Books, 1976.

Weiser, Mark, and John Seely Brown. "Designing Calm Technology." *Xerox PARC* (blog), December 21, 1995. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.135.9788&rep=rep1&type=pdf.

Williams, Raymond. *Television : Technology and Cultural Form / Raymond Williams ; Edited by Ederyn Williams ; with a New Preface by Roger Silverstone.* 3rd edition. Routledge Classics. London ; Routledge, 2003.

Woodward, Kathryn. *Identity and Difference*. Sage, 1997.

Xarly. "New Feature - Mr Toffee's Fair!" *Candy Crush Soda Saga* (blog), February 26, 2019. https://community.king.com/en/candy-crush-soda-saga/discussion/252010/new-feature-mr-toffees-fair.

Yeager, Melissa. "Vandalism at Sedona's Chapel of the Holy Cross Linked to QAnon Supporter." *The Arizona Republic*, October 1, 2019. https://www.azcentral.com/story/travel/arizona/2019/10/01/sedona-chapel-of-the-holy-cross-vandalism-qanon-supporter-arrested/3826336002/.

Zehr, Dan, Barry Harrell, Eric Webb, Roberto Villalpando, and Christian McDonald. "Inheriting Inequality." *The Austin American Statesman*, August 17, 2018. https://projects.statesman.com/news/economic-mobility/.

Zuboff, Shoshana. "Big Other: Surveillance Capitalism and the Prospects of an Information Civilization." *Journal of Information Technology* 30 (2015): 75–89. https://doi.org/10.1057/jit.2015.5.