Rhetoric Beyond the Digital/Physical Divide: The Internet and Digital and Physical Hybridity

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(ABSTRACT)

In this dissertation, I report findings from three case studies of rhetoric about the internet based on a rhetorical theory of the internet as physical and digital hybrid. I understand digital and physical hybridity as connections between physical and digital objects enabled by the internet that trouble a delineation between digital and physical space. I begin my study by tracing the history of the internet and its relationship with materiality. While the vastness of the internet is not something that can be readily understood, it is something that spreads across space and time, resulting in effects that demand rhetorical response. I describe rhetorics of purification as rhetorical responses to the internet that isolate physical and digital objects and ascribe to these objects different qualities. These rhetorics can be productive in rendering the internet and its effects salient within different discourses, but they can also be limiting in terms of aspects of the internet that they elide. To situate my work, I review literature in the field focused specifically on the emergence of digital rhetoric and its theories, methods, and objects of inquiry. I describe a primary method of rhetorical analysis for locating rhetorical strategies used to account for internet technology in different discourses, with supplementary methods including distant reading and interface analysis. In the first case study, I consider a social media app that leveraged smartphone geolocation technology to situate anonymous online discourse within physical locations and analyze responses to the service and posts on the app. In the second case study, I consider legal decisions in the United States focusing on the rhetorical moves that make internet interactions matter within the context of internet surveillance and privacy rights. In the final case study, I consider online-only writing courses and the impact of online platforms on pedagogy through a procedural interface analysis. In conclusion, I focus on the relevance of these studies to ongoing conversations in digital rhetoric concerning social media, internet privacy, and pedagogy.

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(GENERAL AUDIENCE ABSTRACT)

This dissertation considers the internet from the perspective of rhetoric, which is the study of the theory and practice of written, spoken, and other modes of communication and debate. I report findings from three case studies about the internet in terms of digital and physical hybridity and rhetorics of purification. Digital and physical hybridity refers to the internet in terms of connections between physical objects (like people, buildings, and the environment) and digital objects (like data and computer code) that make a distinction between the two kinds of objects difficult. This means that the internet itself cannot be completely reduced to physical or digital components, even though it sometimes is in communication. Rhetoric where this distinction between digital and physical occurs can be understood as a rhetoric of purification because digital and physical objects are separated, or purified, from the deeper network of relationships between physical and digital objects which makes up the internet and the common reality both kinds of objects share. Rhetorics of purification can make the internet easier to understand and communicate about, but they can also overlook the deeper effects of the internet and its relationships with places, people, and communities. This dissertation takes up three different case studies related to rhetorics of purification. To demonstrate how this theory relates to the field, I review literature in rhetoric that considers digital texts, interfaces, and the internet in different ways in response to changes in technology. To study rhetoric surrounding the internet, I used a method of rhetorical analysis applied to different texts related to the internet. I combined this method with several methods of computer-assisted analysis including analysis of large bodies of text and interface analysis. I applied these methods within three different case studies. Each case study considers examples of rhetoric that represents the internet as distinct physical and digital components. In my first case study, I consider a social media service that used location information from users' devices to situate anonymous online discourse within physical communities and analyze responses to the service. In my second case study, I consider legal decisions in the United States about internet surveillance and privacy rights. My analysis

focuses on the rhetorical moves that are used in the legal decisions that relate the internet to the privacy of individuals and groups. In my final case study, I consider online-only writing courses and the impact of online platforms on teaching. In conclusion, I focus on the findings from these case studies and their relevance to ongoing conversations in the field concerning social media, internet privacy, and online teaching.

Dedication

For my Mom, who taught me to read, and my Dad, who taught me to argue

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Contents

List of Figures

List of Abbreviations

ARPANET Advanced Research Projects Agency Network

BASH Bourne Again Shell

CATMA Computer Assisted Text Markup and Analysis

CLI Command Line Interface

CMS Content Management System

CSV Comma Separated Values

GUI Graphical User Interface

IoT Internet of Things

IP Internet Protocol

LDA Latent Dirichlet Allocation

LMS Learning Management System

MAE-East Metropolitan Area Exchange-East

NLP Natural Language Processing

NSA National Security Agency

OLE Online Learning Environment

OWI Online Writing Instruction

ROI Rhetorical Ontological Inquiry

TCP Transmission Control Protocol

TSV Tab Separated Values

WWW World Wide Web

Chapter 1

The Internet and Digital and Physical Hybridity

> As long as you seek for something, you will get the shadow of reality and not reality itself.
>
> —Shunryu Suzuki

The internet is a massive global computer network that today likely encompasses more than 17.6 billion devices (Nordrum, 2016). This number is expected to increase as a result of the growth of ubiquitous computing, a term that describes computing devices beyond desktop computers, and the Internet of Things (IoT), which comprises an increasing number of internet-enabled consumer products like refrigerators, thermostats, and lightbulbs (Hung, 2017). In the field of digital rhetoric, this growth of the internet has challenged existing rhetorical theories. Recently Zappen (2017) has argued that these increasing connections "pose new challenges for a digital rhetoric because they require active engagement with things in the physical world" (p. 55).

The purpose of this dissertation is to address the exigence raised by the rapid growth of the internet through exploring a rhetorical theory of the internet as physical and digital hybrid and to apply that theory to three case studies. Central to this project is the concept of rhetorics of purification, or rhetorical moves, strategies, metaphors, and commonplaces that

engage with the hybridity of the internet by distinguishing digital and physical objects and effects. These rhetorics produce digital objects with certain properties, such as a virtual materiality that renders the digital less than real. My interest lies in exploring both the limiting and productive effects of these rhetorics and identifying rhetorical methods to engage with the deeper hybridity of the internet.

Within the field of rhetoric and writing, this research speaks to the ongoing need in digital rhetoric for "sustained attention to the ways that rhetoric changes in a technological era and how technology is shaped by human expression both about and through the technology itself" (Hess, 2017, p. 3). In what follows, I will discuss the concepts of hybridity and purification in more detail with reference to the philosophical work of sociologist and science and technology theorist Latour. I will then consider the history of the internet and the development of hypertext theory as it relates to the emergence in rhetoric of a digital place as distinct from the physical world. To explore the reality shared between these digital and physical worlds, I will consider the town of Ashburn, Virginia, in some sense the home of the internet, as one example of physical and digital hybridity. Finally, I will summarize my research questions and the remaining chapters of this dissertation.

1.1 Rhetoric and the Latourian Concepts of Hybridity and Purification

In the section above, I introduced the terms hybridity and purification. I am borrowing these concepts from a theory of modernity described by Latour (1993). According to Latour, modernity is defined by a Constitution that "invents a separation between the scientific power charged with representing things and the political power charged with representing

subjects" (p. 29). This Constitution sets up a divide between natural and social, which Latour understood as a divide between nonhumans and humans. Latour traced this divide to the scientific revolution, and especially the philosophy of Kant, where "things-in-themselves become inaccessible while, symmetrically, the transcendental subject becomes infinitely remote from the world" (p. 56).

To maintain the divide between nature and culture canonized by Kant, Latour argued that the modern Constitution entails the practice of purification, or the separation of distinct natural objects and human subjects. Within each category, different disciplines and ways of knowing prevail, resulting in "a partition between a natural world that has always been there, a society with predictable and stable interests and stakes, and a discourse that is independent of both reference and society" (p. 11). This independent discourse enables the critical project that allows for a clean delineation between the two spheres of human and nonhuman. The discourse stands beyond the two spheres. As a result, it is equipped to distinguish between the two spheres and in so doing enact the modern critical stance entailed by the Constitution.

Parallel with the critical project of purification is the work of translation, a term that Latour used to mean the process of mixing nature and culture. In sum according to Latour, modernity reflects the concurrent practices of purification, or the division of the natural and social worlds, and translation, or the creation of hybrids connecting both natural and social elements. Purification results in distinct natural and cultural spheres, while translation creates new types of connections between them and new hybrids. Latour offered the daily newspaper as an example of these two processes (p. 1).

In the newspaper, Latour found chemists, ecologists, industrialists, and politicians all engaged with the hole in the ozone layer. Molecules of ozone, flora, and fauna belong to the natural world of the sciences, while business and political leaders concern themselves with

matters of the social. However, the hole in the ozone layer puts these distinct spheres in conversation. Through the hole in the ozone layer, ozone and ecology are combined through translation with business plans, policy decisions, and collective social actions. The result is that the crisis with the ozone layer does not fit comfortably within either modern category: It is at once a result of social activity and atmospheric chemistry with causes and consequences transgressing both spheres. It is a hybrid possessing a continuous natural and social reality.

These Latourian concepts can be adapted within digital rhetoric to inform a rhetorical theory of the internet. Applying Latour to the study of rhetoric is not uncomplicated, however. One apparent contradiction is that Latour distanced himself from "talking just about discourse, representation, language, texts, rhetorics," countering that he was really talking about things themselves (p. 5). As such, it is important to distinguish Latour's ontological project, concerned with the real existence of humans and non-humans, from an epistemological project concerned with human knowledge about humans and non-humans. In his analysis, Latour asked "Do we have to pretend that everything is rhetorical, or that everything is natural, or that everything is socially constructed, or that everything is stamped and stocked?" setting rhetoric up explicitly as divorced from engagement with the natural world of things and the material world of reality (p. 89). Barnett (2015) has argued that, while researchers in rhetoric should challenge Latour's limited conception of rhetoric's possibilities and engagements with the material, it is likewise important to "take the spirit of his concerns seriously," particularly as the field is considering the role of nonhuman things in rhetoric (p. 81).

In approaching the internet as a Latorian hybrid in terms of rhetorical theory, I suggest that the internet exists as a hybrid physical and digital network, the components of which share in a common reality (Figure 1.1). The stakes of this framing are different than in Latour's argument, which foregrounded the distinction between humans and nonhuman things. What

I would like to consider instead is the emergence of a divide between digital and physical materiality, where digital objects like data, code, and algorithms become "creatures of pure logic unsullied by materiality" that are distinct from the physical world (Haigh, 2013, p. 32). Nonetheless, the digital and physical exist within the same reality, even as they come to possess different qualities as they are produced as objects of discourse.

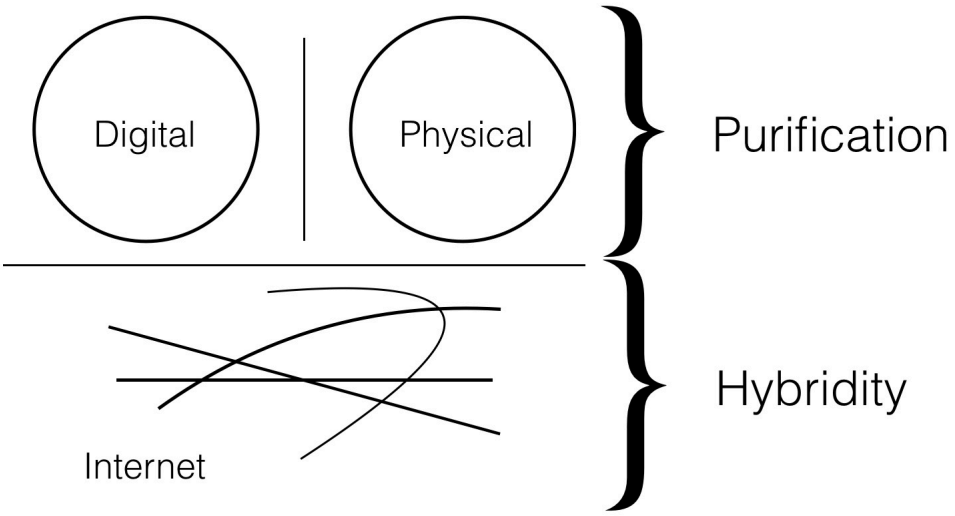


Figure 1.1: Purification and hybridity based on Latour (1993)

The internet allows for a growing range of interaction between digital and physical such that a distinction between physical materiality and the virtual realm of the digital becomes less clear. Digital objects like data, code, and software increasingly interact in complex ways with the physical world of people, places, and the environment. Rhetorics of purification seek to reduce this complexity by isolating digital from physical objects in specific ways using moves that can be analyzed and unpacked. It is important to note that this is not to imply that there are no digital or physical things, but rather that these categories and their reality in different discourses can vary and can be understood rhetorically (Herndl and Graham, 2015). In other words, digital and physical matter differently as a result of distinguishing between the two.

An example of the emergence of digital and physical zones in the context of modern computer technology can be traced to Nelson, a computer science researcher whose work has contributed to the modern World Wide Web (WWW). In 1965, Nelson delivered a conference presentation where the term "hypertext" was coined (Levy, 2001). In Nelson's paper, hypertext simply referred to a means of organizing text files in terms of topical links rather than using a linear order, a system that Nelson called an Evolutionary File Structure (ELF). While text in a traditional codex proceeds in prescribed directions across a page and pages proceed in a particular order, hypertext occurs in no necessary order and can be structured by others even after a particular text is written.

As a theory of textual arrangement, hypertext as such is not dependent on any particular media (Haas, 2007). But in the context of computing technology, this hypertext theory marked the arrival of the digital as place, a place defined by the interconnection of linked digital information contained within, yet materially distinct from, the computer and its physical machinery. According to Nelson (1965), "The ELF may be thought of as a place; not a machine, but a piece of stationery or office equipment with many little locations which may be rearranged with regard to one another" (p. 91, emphasis retained). This place of the digital wouldn't be stationary for long, however. Hypertext, combined with the growth of internet technology, would come to exacerbate the challenges of hybridity in the wake of a digital and physical distinction.

1.2 The Development of the Internet

The history of the internet spans decades, but it emerged around the same time as the foundational computational theory of hypertext. One of the earliest descriptions of an internet-like network facilitating the exchange of information between computers was written by Lick-

lider (1960) in a paper that explored the possibility of a network of interconnected "thinking centers," which the author predicted could be implemented by the 1970s. Licklider further articulated this concept in an August 1962 memo that "envisioned a globally interconnected set of computers through which everyone could quickly access data and programs from any site" (Leiner et al., 1997a, pp. 102–103).

Such a network, however, would be a huge undertaking, which Licklider and Clark (1962) documented in terms of cost as well as necessary technological development. But by this time Licklider had been hired by the Advanced Research Projects Agency (ARPA), which provided the impetus for the development, as well as the funding, for the technology Licklider described. Formed in 1958, ARPA was a response to Soviet Union missile development and space exploration during the Cold War (Lukasik, 2011). The goal of ARPA was to fund advanced research projects in the hopes of countering threats posed by Soviet technologies. Licklider, tasked with leading the command and control initiative at ARPA (O'Neill, 1995), promoted computer networking as a means to address concerns surrounding defense information processing and analysis.

The networking project ARPA undertook came to be called the ARPANET. The ARPANET functioned through the use of Interface Message Processors (IMPs), which served to send and receive messages between different computers. Perhaps the most important innovation implemented by these IMPs was packet switching, which is a way of sending data over a network connection (Abbate, 2000). Up to this point, long distance communication technologies like the telephone relied on circuit switching. In a circuit switching network, a direct and continuous connection between sender and recipient is created. During a telephone call, for instance, the callers are directly connected and that connection is persistent, even if no one on the line is talking.

A packet switching network is different. In this kind of network, a message is broken up into tiny pieces called packets to be sent and then reassembled by the recipient into the original message following an agreed-upon process called a protocol (Galloway, 2004). Packet switching enables each individual packet to take the fastest route from sender to recipient, even if that means different packets from the same message take different routes. As a result, the network can maximize resources and recover from failures at different points in the network by rerouting packets long the most efficient path between network nodes. In addition, a continuous connection is not required, so network resources can be shared more readily. The packet switching architecture meant that the ARPANET would be more resilient in the event of a disaster, such as the nuclear conflict anticipated in during the Cold War; however, some of the designers of the ARPANET contest that this was the rationale for packet switching (Leiner et al., 1997b).

The first test of the ARPANET was on October 29, 1969. The first message sent over the network was "lo," the first two letters of the word "login" that were transmitted successfully before one of the computers crashed (Cerf, 2009). From this modest beginning, the ARPANET would develop into a network linking military installations and academic research networks across the United States. In 1971, around 20 hosts were connected to the ARPANET, a number that would grow to around 562 by 1983 (Fidler and Currie, 2016, p. 52). The first "killer app" on the ARPANET was email, something of a surprise to researchers who developed the network to facilitate remote terminal access for time sharing systems and file transfers (Metcalfe, 1993).

Email was the result of a discussion of several possible protocols among users, one of which involved printing copies of messages at their destination for physical delivery. Presumably this would save system resources because it would not require storage of digital messages on the few computer systems connected to the network. A digital storage system did win

out, however, which gave rise to modern email and presaged the possibilities of computer networking as more than simply the remote sharing of computational resources. Identifying an exact date to mark the shift from ARPANET to our modern internet is not straightforward. If one were hard-pressed to point to the birth of the internet, however, January 1, 1983 would be as good a date as any. This marks the date network engineers established for ARPANET to adopt Transmission Control Protocol/Internet Protocol, or TCP/IP, which technology journalist Blum (2012) described as "the computing equivalent of a single international language" (p. 53). These protocols allowed for different kinds of computers and networks to communicate with one another, and they remain at the heart of the internet today.

The memoranda describing these protocols were released in a series of requests for comments (Postel, 1981a,b,c) in September 1981, but the 1983 ARPANET TCP/IP conversion deadline marked their first mandatory widespread adaptation. Prior to TCP/IP, individual networks used their own idiosyncratic protocols to exchange data. This made communication between networks, or internetworking, difficult due to the need for translation. Standardizing TCP/IP allowed disparate networks to link to one another, without the need for complex translation processes, and exchange data across different network protocols. Following the initial shift of ARPANET to TCP/IP, many private networks, including the local area networks (LANs) used by businesses, began switching to the new protocol as well.

This shared protocol allowed more and more networks to communicate with one another and solidified the decentralized structure of internetworking. It also set the stage for the fragmentation of ARPANET into different networks, some of which would be subsumed as subnets of the modern public internet (Kahn, 1994). Today, TCP/IP protocols allow for connections between a proliferating variety of both networks and devices. Were it not for this shared language of exchange, integration of local computer networks, smart phones, and

internet of things (IoT) devices with the larger internet would not be possible, or would at least be more difficult. These protocols have made the internet more accessible and popular to many users, and in so doing has connected an ever-broader range of people and devices.

Our constantly growing demand for more and faster data suggests that this type of development will continue, at least for the time being. While internet services originally catered to business communication, the rise of the popular internet through the 1990s spurred demand for new types of internet services. Email, instant messaging, and today social media and smartphone apps generate more digital data than ever before, data which needs to be stored and routed around the world. And now, it's no longer only humans who are communicating over the internet (if it ever has been). The growth of ubiquitous computing and the Internet of Things demands an ever-increasing supply of storage and bandwidth.

Recent changes in internet protocols illustrate the magnitude of the trend toward smart everything. While earlier internet protocols (IPv4) allowed for 4.3 billion individually addressable internet devices, the current implementation of internet protocol (IPv6) allows for an exponentially greater number: 340,282,366,920,938,463,463,374,607,431,768,211,456, to be exact (RIPE Network Coordination Centre, 2011). This is to accommodate all of our devices, from computers and phones to refrigerators and lightbulbs, as individually addressable devices on the internet. As a consequence, digital data, code, and protocols have increasingly emerged from Nelson's digital place within computers to impact physical things ranging from the environment and electrical grids to a small town in northern Virginia.

1.3 The Common Reality of Digital and Physical

If you've never heard of Ashburn, a small town about an hour away from Washington, DC, you could certainly be forgiven. Compared to the sprawl of the northern Virginia

suburbs immediately outside Washington where I grew up, Ashburn looks positively quaint. Originally called Farmwell, Ashburn offered little of interest except perhaps to local sports fans when the Washington football team moved their headquarters there in 1992. But a funny thing happened shortly after the football team came to town. Ashburn began to grow, and it had little to do with football fans coming to watch their favorite players during training camp. The same year that the Washington football team moved to Ashburn, a few telecommunications executives met for lunch at the Tortilla Factory in nearby Herndon (Blum, 2012). While they ate, they committed to a peering agreement, a novel arrangement that was beginning to take off in internet circles where rival companies would agree to freely connect their networks.

It might seem strange for companies that invested so much in their own networks to allow competitors to freely hop on, but peering made each individual network better. It allowed for easier communication between clients on different networks, which otherwise would have required extensive routing, assuming it was possible at all. The switch connecting the different corporate networks was called Metropolitan Area Exchange-East (MAE-East). It was set up in a parking garage in Vienna, Virginia owing to its proximity to technology firms and military bases around the nation's capital. Thanks to its location near MAE-East, Ashburn started to attract data centers. These facilities took up massive amounts of land, which was easier to find in Ashburn than the dense suburban enclaves around Washington. Today in Ashburn, agricultural farms have been replaced with server farms. It was data centers, and not professional football, that would eventually put Ashburn on the map. Ashburn exemplifies one place where the digital escapes its confines and expresses itself in physical terms as huge amounts of digital data are translated across the physical landscape.

In its early days as a public network, the internet was of niche interest to those outside of the technology industry. Hobbyists were beginning to experiment with the network, but its

main consumers were businesses and the government. As the internet grew during the 1990s dot com bubble, however, data centers seemed to spring up overnight. So much data was housed in Ashburn that portions of the MAE-East infrastructure were moved there in the early 2000s in order to be nearer to the data being stored and accessed. An estimated 70 percent of the world's internet traffic passes through what used to be farmland owned by John Janney, a prominent Virginia politician who nearly became Vice President and argued against secession before the Civil War (Kanowitz, 2018). The internet is strange like that. It can take things that would have been seen as liabilities for businesses, such as relative distance from a city center and a lack of existing development, and it turns them into assets.

Ashburn is still the same farmland it was before, but internet Ashburn looks a lot different than bucolic farm Ashburn. And the Ashburn story has played out again and again across the United States in places like The Dalles in northern Oregon, a town of just over 10,000 people that now plays host to two football fields worth of data for Google (Rogoway, 2018). The cool pacific northwestern climate, along with nearby hydroelectric power and a confluence of underused fiber optic cable, made The Dalles a natural choice for Google even though the closest major city, Portland, is some two hours away. The real estate was so prime that Google worked to hide its interest in the site. The secret got out, however, and now eastern Oregon also hosts data centers for the technology company Apple, online retailer and web service provider Amazon, and social media giant Facebook (Krazit, 2017). San Francisco may be the center of technology in the popular imagination, but around the country the internet has suddenly made towns like Ashburn and The Dalles into their own centers of technological industry, bustling hubs of international commerce and intellectual exchange.

The growth of Ashburn and other internet hubs illustrates a powerful site of interaction between the physical and digital and the hybridity of the internet. The data centers of Ashburn translate the ephemeral digital objects people engage with everyday into physical traces that

shape the landscape. Here, websites, emails, memes, and cat gifs become towering, monolithic physical structures surrounded by tall chain link fences and barbed wire. Beyond their physical footprint, these centers consume massive amounts of resources, especially electricity to keep the servers running and the structures cool enough to operate all day, every day. Some experts estimate that up to one-fifth of the world's electricity will be consumed by data centers by 2025 (Andrae, 2017), which will impact global emissions of carbon.

Consider just one example of global internet use: Cryptocurrencies, or computationally intensive digital currency systems. It's currently estimated that cryptocurrency mining, the process of realizing new units of digital currency through complex digital algorithms, already consumes more energy than the entire nation of Serbia and mining and bitcoin exchanges could soon account for more energy consumption than the entire United States (Rogers, 2015). The environmental impact of these activities could be compounded if mining is carried out in developing countries such as China, where power generation relies more on non-renewable resources than in other countries.

Beyond their energy and environmental impact, cryptocurrencies can further extend beyond the digital as they compete with existing currencies and support all manner of underground transactions from criminal activity (Malik, 2018) to political movements (Mathew, 2018). Meanwhile the internet marches on, complicating the nature of physical and digital as it goes. The ephemeral materiality of the growing amount of data encompassed by the internet produces strange apparent paradoxes, such as the fact that researchers can "weigh" the internet through summing the infinitesimal masses of all the electrons currently sequestered to store digital data. It weights about as much as a strawberry (Peck, 2011). So where does the place of the digital end?

1.4 A Rhetorical Theory of Internet Hybridity

The above discussion has taken us from the digital place of a linked file system, to the protocols of communication between devices that allowed this place to proliferate, to farms in northern Virginia, up to carbon in the atmosphere, and down to the electrons that compose the internet. Through complex interactions, things like tweets and bitcoins transformed the community and economy of small towns, contributed to geopolitical instability, and actively participated in geologic phenomena like global warming. Like Zappen (2017) noted in an analysis of the growing sprawl of the internet, "As more physical things become digitized and the Internet of Things becomes the Internet of Everything, the challenges posed by discursive-material-digital entanglements will increase exponentially" requiring rhetorical theories that extend to address these challenges (pp. 62–63).

Although not a perfect parallel, the Latorian concepts of hybridity and purification can help to inform this conversation. Just as the modern Constitution as theorized by Latour produced subjects and objects through the process of purifying human subjects and culture from natural objects and science, rhetorics of purification applied to the internet establish real physical objects and virtual digital counterparts. Purification is at work in rhetoric when objects are classified as digital or physical by means of an assumed distinction for which no warrant need be produced, the omitted warrant reflecting the physical and digital as simply divergent ontological categories (Haigh, 2014). In some cases, these rhetorics can be productive because they allow the complexity of the internet to be taken up meaningfully in different discourses. In other cases, these rhetorics can be limiting because they elide certain realities of physical and digital interaction.

Examples of this distinction can be found in internet research in different fields. In *The Virtual Community*, an early project studying human interaction online, Rheingold (2000)

defined cyberspace as a place, but "a cognitive and social one, not a geographic place," a distinctively digital place that would support pioneering virtual communities untethered by a physical reality (p. 61). Woolgar (2002) called for a reconsideration of the ontological status of the virtual, yet offered a rule that "Virtual technologies supplement rather than substitute for real activities," leaving the digital once again alienated from the real (p. 17). Castells (2015) carried this into studies of contemporary social media, claiming that overlapping "cyberspace and urban space constitutes a third space that I call the space of autonomy," creating yet another removed space to contrast with physical space and, presumably, reality (p. 250).

But what if this physical and digital place that Castells identified as a third place has sneakily been reality all along, hiding in the trappings of an ongoing project seeking to delineate the physical from the digital? In all of the works mentioned, the digital and the physical are prefigured as separate such that it is the work of the critic to recognize boundaries between the two spaces, between the actual and the virtual. But as Haigh (2013) has argued, "Despite its apparent immateriality, software has always been tied to a platform and has always been physically embodied in one form or another" (p. 34). The distinction does not hold because the seemingly ephemeral nature of digital technology in fact both exists and shares in the exact same reality and materiality. Latour and Woolgar (1986) came to a similar conclusion regarding facts and artifacts in their study of the construction of scientific knowledge, writing that observation of laboratory activity reveals how "'out-there-ness' is the consequence of scientific work rather than its cause," or that the status of a scientific fact as such is not a consequence of a correlation with reality, but in fact produces that reality (p. 182).

If the objective validity of a physical and digital distinction in discourses is rooted in such an "out-there-ness" produced through practices of purification, then specific moments where this field of objectivity emerges can be located and analyzed rhetorically in terms of rhetorics

of purification. The questions central to the following chapters relate to this concept of rhetorics of purification, where they emerge, and how they may be challenged by methods in digital rhetoric that seek to relocate digital objects within broader ecologies spanning the physical and digital divide. These are the questions that I take up in the following chapters:

1. How do rhetorics of purification result in physical and digital objects? What rhetorical devices, commonplaces, and strategies are used within different discourses to account for the internet? What underlying ontologies, or sets of concepts pertaining to the existence and reality of physical and digital objects, are revealed in those rhetorics?

2. What are the effects of rhetorics that seek to purify digital and physical objects? What outcomes are discernible as a result of an understanding of technology rooted in a divide between digital and physical?

3. How can we offer constructive criticism that shifts digital object from matter of fact to matter of concern? How can we talk about and engage with digital objects in ways that recognize their deeper reality and their politics?

1.5 Chapter Overviews

In chapter 2, I offer a review of the literature in digital rhetoric that considers how digital technologies have been theorized and analyzed in the field. This review begins from the earliest incorporation of computing technology within the humanities and then traces the origins of digital rhetoric as a specific field within rhetoric and writing concerned with digital computers as more than "handy engines to produce printed texts about printed texts" (Lanham, 1993, p. 3). I then consider how different researchers have defined the object of inquiry in early studies of digital rhetoric, many of which focused on applying rhetorical theory to

digitized text or adopting practices from visual rhetoric to study the design of computer interfaces. Later research shifted to the internet and began to take up internet hybridity by considering dynamic affordances of the growing network, including user-generated content, online circulation, and remixing. This shift in research demonstrated how the object of inquiry in digital rhetoric has shifted over time and how theories of digital rhetoric have developed in response to the growing complexity of the internet.

Finally, I consider the recent movement in digital rhetoric and the field more broadly toward speculative realism, which reflects a return "the realities of worldly existence" (Barnett, 2016, p. 6). Conversations related to realism and digital rhetoric include the rhetorical action of digital algorithms (Bogost, 2011), the agencies of visual rhetoric online (Gries, 2015), and recently the challenges of accounting for the internet of things (Zappen, 2017). Through addressing my research questions related to the practices and effects of rhetorics of purification, I see my work as building off of these conversations because it takes up the reality of digital technology and the internet in rhetoric. A rhetorical theory of the internet as hybrid is productive in that it allows both a means for the analysis of rhetoric about technology and suggests rhetorical approaches toward digital technologies that seek to situate digital objects like messages and websites within more complex relationships between digital and physical objects. Work in this area will grow especially important as ubiquitous computing and the internet of things makes a clean divide between digital and physical more complicated.

In chapter 3, I explore several methods I have selected to address my research questions concerning rhetorical moves that produce physical and digital objects and the effects of those rhetorics. I begin by introducing the three case studies that I will explore in this dissertation and my rationale for selecting them. My case studies relate to (1) discourse on and about social media, (2) the legal rhetoric of internet surveillance and privacy, and (3)

online pedagogy. Each case study is related to the internet and relevant to specific ongoing conversations within the field of rhetoric and writing. My primary method for addressing these case studies is rhetorical analysis of texts about the internet. For each case study, I used different methods to identify, reduce, and analyze texts for analysis, in some cases using digital tools to build large corpuses of text and reduce them in terms of key words and topics.

Within the different case studies, I supplement rhetorical analysis with several methods drawn from digital rhetoric including distant reading and interface analysis. My goal in applying these supplementary methods is to compare the implications of rhetorics of purification surrounding the internet with moments where the internet emerges and becomes meaningful for users. In applying both of these kinds of methods, I aim to demonstrate productive effects of rhetorics of purification and some of the limits of specific rhetorics of purification. This addresses my third research question related to building on existing rhetorics of technology by offering constructive critique of rhetorical moves that diminish important realities of the internet and their relationship to users and communities. In the following chapters, I describe how I have applied these methods and my results from three different case studies. I have done my best to keep the chapters independent so that you can begin from whichever topic strikes your interest.

In chapter 4, I present my first case study. In this case study, I consider the social media application Yik Yak. Yik Yak belonged to a class of anonymous, geolocated, and ephemeral (AGE) social media platforms that allowed users to share short anonymous posts with other users within local area defined by geolocation technologies. This application was short-lived, but it proved popular among college students and attracted a great deal of critical attention while it was in service. In this case study, I consider how the hybrid space of Yik Yak, which placed online content within specific geographic locations, created an exigence to

address the reality of the app when negative content appeared within specific communities. In local newspaper articles responding to the app, writers used rhetorics of purification when addressing Yik Yak by distinguishing between the negative digital content of Yik Yak and the physical world of people and places. These stories produced Yik Yak discourse as a digital object distinct from the communities where it was used.

These rhetorical moves were productive in that they contributed to movements responding to bullying behavior on the app, but they also served to belie the complexity of Yik Yak and its relationship to the specific communities where it was used. In order to explore this relationship, I studied one Yik Yak college community and found that discourse on the app did not appear to differ substantially from general college discourse. Ultimately I conclude that rhetorics of purification that suggest virtual and actual discourse differ substantially cannot represent the complexity of how users engaged with Yik Yak, and in fact an effect of these rhetorics could be to diminish the reality of social issues reflected by negative discourse when it did appear on the app.

In chapter 5, I present my second case study. In this case study, I take up the issue of internet surveillance. The example of Yik Yak above illustrates how new technological arrangements related to the internet effect different kinds of hybrid relationships between objects understood to be either digital and physical, such as anonymous digital messages and physical places and communities. One effect of this hybridity relates to privacy and the possibility that growing collections of digital data and new techniques for analysis can result in privacy concerns for people and communities. In the United States, revelations about government internet surveillance capabilities surfaced in the wake of leaked documents from Edward Snowden, and these documents led to legal challenges related to privacy rights online. Articulating legal rights to privacy online is difficult, however, because precedents and statues

related to privacy have developed within specific material contexts that do not address the reality of the internet and digital data.

In the chapter, I present an overview of public sphere theory and its relationship to privacy and material contexts as explored by Warner (2002). I then consider a method of stasis analysis drawn from rhetorical-ontological inquiry (ROI) developed by Graham (2015) as a means to explore legal decisions related to privacy and technology in the United States. I argue that the rhetoric of legal decisions surrounding the internet reflects an ongoing rhetoric of purification that renders the complexity of the internet into an object of legal discourse by distinguishing between digital elements of the internet and physical contexts of privacy. In cases related to internet surveillance, I find that rhetorics of purification are productive because they allow the complexity of the internet and internet surveillance to be taken up in a discursive context that privileges physical materiality. I conclude, however, that rhetorics of purification can also be limiting in that they fail to address new distributed methods of surveillance that can not as readily be reduced to physical effects, such as an immediate and discernible loss of privacy.

In chapter 6, I present my final case study. In this case study, I consider online pedagogy from a rhetorical perspective. I begin with an overview of the exigence for addressing online learning within rhetoric and writing that is focused on the growing numbers of online students in the United States and the challenges that designing and delivering an online course can present for instructors. I then consider the Conference on College Composition and Communication Position Statement of Principles and Example Effective Practices for Online Writing Instruction (OWI) (2013) as an example of rhetoric in the field addressing the challenges of implementing online writing courses. In my analysis, I suggest that rhetorics of purification are used to address the complexity of an online course by distinguishing between writing and technology and by focusing on usability of course interfaces as a central moment

of online course delivery. These rhetorics are productive in that they ensure that the focus of an online course remains on the content area of rhetoric and writing and that the role of the teacher in an online writing classroom is not reduced to technical support. However, I suggest that there is an opportunity to build on these rhetorics through an approach to usability informed by digital rhetoric that additionally considers the politics of platforms (Bjork, 2018).

Drawing especially from procedural rhetorical analysis as described by Bogost (2007), I offer a critical rhetorical analysis of Canvas, one of the most popular learning management systems in the United States (McKenzie, 2018). Through considering how the platform represents the process of being a student and being a teacher beyond usability, I suggest that Canvas places a focus on individual work, final products, and numeric assessment as opposed to collaboration, process, and qualitative feedback. My intent in offering this analysis is not to suggest that the Statement of Effective Practices is not useful for instructors, but rather to consider opportunities to build on that framework in order to account for the politics of learning management systems beyond usability. Harris and Greer (2016) have noted that many teachers do run into pedagogical limitations with course platforms and develop individual ways to work around them, so I close by suggesting participatory work between students and teachers as one way to develop usability guidelines specific to the goals of online teachers and learners in the hybrid context of online learning environments, especially when multiple platforms are leveraged to achieve pedagogical outcomes.

In chapter 7, I return to each case study. I summarize my findings from the case study as they relate to the development and effects of rhetorics of purification. I tie these findings back to my research questions and suggest some possible implications for the field including trajectories for future research. Reconnecting with the work of Latour, I consider internet

hybridity and the thing of digital rhetoric as the field continues to grow and develop in response to changing digital technologies.

Chapter 2

Digital Rhetoric and its Objects of Inquiry: A Review of the Literature

In the previous chapter, I considered the development and growth of the internet in terms of hybridity. The world of the digital actively participates in formations in the physical world, from the proliferation of data centers at a local level to resource consumption and hastening global warming at a geologic scale. In turn, the physical intersects with the digital in terms of its existence as and effects beyond its localized machinery. But ultimately, the digital and physical co-exist within the same material reality, the reality within which hybridity and rhetorics of purification play out (Herndl and Graham, 2015). This is a complicated situation. On the one hand, the digital and physical occupy the same material reality. On the other hand, digital and physical objects are understood in different discourses to have different properties and potentials (Reid, 2012a).

Rhetorical theory can help to engage with this situation through addressing how digital and physical objects emerge in discourse and the resulting qualities of each kind of object. To take up this project, it is important to understand how the digital has already been approached in research within the humanities, specifically in rhetoric and writing in general and digital rhetoric in particular. The purpose of this chapter is both to trace the development of research in digital rhetoric and demonstrate where a space exists in the recent literature for further engagement with how the reality of the digital is understood. This relates to the

hybridity of the internet explored in the previous chapter and to how rhetorics of purification produce digital objects with specific qualities in discourse.

To consider the digital object as it relates to research in rhetoric, this literature review focuses on the unit of analysis in digital research as it shifts from literary text to digital genres and finally to digital mediation itself, where much work in digital rhetoric over the past ten years has focused. My goal is to consider the moments where digital objects are abstracted for analysis and how this abstraction relates to the questions surrounding digital objects that are foregrounded. I will briefly consider humanities computing and the application of computers within traditional literary research. I will then shift to the hermeneutic studies that centered digital artifacts as objects of inquiry in their own right and in so doing led to digital rhetoric as a distinct area of inquiry. I will divide these kinds of studies into two categories: those that abstract the digital object of inquiry as stable artifacts and those that abstract the digital object of inquiry as the dynamic interface between users and digital technology.

I will then consider the recent turn within the field toward realism, which takes up some of the problems identified by the critique of modernity offered by Latour in the previous chapter. I believe this current research creates a space for digital rhetoric research related to physical and digital hybridity in the context of the internet and how this hybridity affects rhetoric on and about the internet. This is especially reflected in the recent work of Reid (2015) and Zappen (2017). Therefore, this dissertation joins an ongoing conversation within the field that has recently developed concerning the the growth of the internet and the object of inquiry within digital rhetoric, the reality of physical and digital objects, and how they are known in relationship to one another.

2.1 The Development of the Digital Object of Inquiry

For some time now, researchers in the field of rhetoric and writing have been grappling with digital technology. *Computers and Composition*, a seminal journal in this area, was first published in 1983 as a forum to "integrate computers and composition, teach more effectively with new approaches available because of computers, communicate about on-going computer projects, and hear about new software being written all over the country for different groups of writers" (Selfe and Kiefer, 1983, p. 1). Since then, developments in digital technology have contributed to an increased exigence for new work in this area and led to the emergence of digital rhetoric as an area of inquiry (Lanham, 1992) along with an increasing number of publications, conferences, and faculty positions identified with digital rhetoric (Losh, 2009).

A review of literature related to the humanities and digital technology reveals different ways that digital technology has been theorized and critiqued over time. A central theme that I hope to weave through the sources I review in the following sections is how the digital object of inquiry has emerged in response to changing technologies and how this reflects engagement with shifting configurations of physical and digital objects and hyrbidity related to the internet. I understand this as related to the claim from Barad (2007) that "discursive practices are specific material (re)configurations of the world through which the determination of boundaries, properties, and meanings is differently enacted" (p. 148). Put differently, I understand the authors in this chapter as participating in addressing the hybridity I explored in the introduction as they render the digital object of inquiry differently through their research and in their writing.

My point is not that the methods or analyses of any of the authors are "wrong," but that they produce the digital as an object of knowledge with specific qualities. In this sense,

research about digital technology itself develops rhetorics of purification because establishing the digital object of inquiry entails rhetorical moves that isolate digital objects from more complex networks of interaction. These moves are productive in that they allow for claims to be made about the quality and nature of digital objects in discourse, but they can also limit how the reality of digital objects is understood, which has been taken up in more recent research.

2.1.1 The Origins of Computing in the Humanities

The incorporation of computers within the humanities began more than 70 years ago when the computer gradually became intelligible as a potential asset to certain kinds of humanities research. Early computing research projects emerged as a process of "translating" the physical objects of literary concern into a machine-readable format. These projects focused on the encoding of existing texts such that they could be processed and indexed by computers for more traditional humanities research applications. The first such computational project was an index of writing by Thomas Aquinas created using punchcards in the 1940s (Hockey, 2004). Projects related to computing in the humanities would go on to remain strongly tied to literature and by extension English departments (Kirschenbaum, 2010) and to focus on encoding canonical literary texts in machine readable and indexible formats similar to the index of Aquinas.

An example of a more modern development from this kind of research is the Text Encoding Initiative (TEI), which was established in 1987 to address a proliferation of scholarly markup schemas that "was inhibiting the development of the full potential of computers to support humanistic inquiry" (Text Encoding Initiative, 2007). Some TEI projects include the Perseus Project, a collection of classical Greek and Latin literature; The University of Oxford Text

Archive, a collection of public domain literature; and Dante's Lemmatized Works, a collection of the Latin and vernacular writing of Dante Alighieri. In these kinds of projects, the object of inquiry remained a text printed in traditional codices, with the computer used as a means to "digitize" the text (Reid, 2012b, p. 352).

The formation of humanities computing, highlighted by the launch of a journal for computers and humanities in 1966 (Sula and Hill, 2017), itself represents a rhetoric of purification because the language used to demarcate the new discipline set up a divide between humanities research on the one hand and the advent of computer technology on the other. Moreover, the timing coincided with a moment in the history of technology when digital file systems and the internet were beginning to emerge, a time when the materiality of computing machinery shifted from so-called analog storage like punchcards to digital media and when the notion of a digital place was beginning to emerge (Nelson, 1965).

Haigh (2014) has noted that this technological shift, and the resulting "rupture talk" that positioned the digital as a new technology "so powerful and far-reaching it will break mankind[sic] free of history" led to a rhetoric of the digital humanities as a sphere distinct from "traditional" humanities inquiry (p. 25). Haigh further claimed that this purification effaced how humanities has always been engaged with "a constant mix of old and new in every area of culture and technology" (p. 27). Kirschenbaum (2010) has argued that the rhetoric of the digital humanities reflects branding and marketing, and so in this instance purification could represent a tactic (Kaufmann and Jeandesboz, 2016) to improve uptake and to develop new research programs.

I offer this history of the digital humanities to illustrate how the emergence of fields related to digital technologies in the humanities reflects rhetorical purification of the digital from the presumably physically material objects of humanist inquiry such as books and archives. In addition, constituting digital humanities, at least early in its development, as a process

of digitizing texts reflects one sense of how a digital object of inquiry in the humanities is understood. In the case of digital rhetoric, the development of the field and its objects of inquiry reflects specific responses to digital technology and hybridity, especially as the internet challenged the stability of digital artifacts. In the next section, I will consider the development of digital rhetoric, which marked a move from the digital object of inquiry as a "digitized" text toward the politics and ideologies of digital technology itself.

2.1.2 The Emergence of Digital Rhetoric

The development of a specific field of digital rhetoric began in the early 1990s. During this time, the digital object of inquiry became refigured as critical focus turned away from digitizing literary texts and toward computers themselves and how they become meaningful for human users. This represented a shift from earlier literary projects where computers were seen as a means to an end as opposed to themselves an object of concern. This shift in the object of analysis within digital studies in the humanities coincides with a more general increase in design awareness during this time, evidenced especially by designer Norman's work at Apple and the rise of user experience as a design heuristic (Norman et al., 1995).

Given a developing discourse recognizing digital representation as nonessential and provisional, rhetoric became increasingly applied in the context of hermeneutic analysis of digital artifacts and specifically digital interfaces. Race, gender, colonialism, and other intersections between culture and technology also started to be taken up in the rhetorical criticism of digital technologies. Studies during this time, which abstracted specific moments of human-computer interaction from hybrid contexts through a focus on texts and interfaces as stable digital objects, reflected a more nuanced and important approach to digital technology.

2.1. The Development of the Digital Object of Inquiry

Bolter (1991) described digital data as "an interplay of signs, which may be mathematical and logical symbols, words in English, or graphics and video images treated symbolically" (p. 10), and the concept of digital rhetoric would arrive shortly thereafter. According to Losh (2009), the concept of digital rhetoric as a distinct field of study emerged almost ten years later in 1992 when "crossdisciplinary popularizer" Lanham introduced the term digital rhetoric in an essay exploring digital technology, multimedia, and intellectual property. Lanham's (1992) book chapter "Digital Rhetoric: Theory, Practice, and Property" applied rhetorical concepts to offer an account of how digital artifacts contain meaning. Lanham rejected the common line of thought that suggested that computers are simply instrumental logic machines and instead contended that "the computer galvanizes the arts as effectively as it crunches the numbers of science" (p. 221).

To develop his argument, Lanham drew from classical and visual rhetoric as well as art and art history. He suggested that the aesthetic of computer interfaces and their underlying systems of classification derived from practices found in the arts and classical rhetoric such that "digitization has emerged as their condign embodiment" (p. 242). With the arrival of the concept of digital rhetoric, digital objects started to come into their own as textual artifacts rather than containers for storing representations of texts. This theoretical approach produced digital objects as stable rhetorical artifacts available for traditional modes of interpretive rhetorical analysis and criticism.

An important moment in the field was the development of a language of rhetorical critique of the desktop interface common to early computers and still in use today. Lanham touched on the desktop interface as derived from iconographic memory in classical Greek rhetoric. He purposefully stopped short, however, of offering a complete discussion of the ethics of representing the physical desktop, though he acknowledged ethics to be "the central issue in digitization" (p. 243). Two years after Lanham's essay, Selfe and Selfe (1994) published their

influential work "The Politics of the Interface: Power and Its Exercise in Electronic Contact Zones." In their critical rhetorical analysis of the desktop computer interface as a textual artifact, Selfe and Selfe explicitly took up this ethical issue and challenge the technological utopianism seen in Lanham's work. While the phrase "digital rhetoric" is absent from the essay and Lanham's previous work on rhetoric and the interface is not cited, Selfe and Selfe pushed concepts Lanham previously explored related to aesthetics, rhetoric, and computer interfaces into more critical territory.

Selfe and Selfe noted that iconographic digital representation is always already political because designers compose and select interface features based on historically-situated cultural commonplaces that interpolate users in specific ways. They cite Nelson, skirting his more radical work but focusing on his claims regarding the nonessential structure of file systems, to support their rhetorical approach to the interface as provisional rather than necessary. To demonstrate how digital software itself contains cultural signifiers, Selfe and Selfe read the popular Macintosh personal computer interface and analyzed its underlying assumptions about computer users:

> The graphically intuitive Macintosh interface provides a good example of this orientation. That interface, and the software applications commonly represented within it, map the virtual world as a desktop—constructing virtual reality, by association, in terms of corporate culture and the values of professionalism. This reality is constituted by and for white middle- and upper-class users to replicate a world that they know and feel comfortable within. The objects represented within this world are those familiar primarily to the white-collar inhabitants of that corporate culture: manila folders, files, documents, telephones, fax machines, clocks and watches, and desk calendars. (p. 486)

There is nothing essential about such a metaphor for information architecture, and Selfe and Selfe pointed out that file structures could just as easily be represented using signifiers from a domestic or blue-collar setting. The white-collar interface designers are making an argument through the digital object of the interface regarding their values and the identity of ideal computer users.

After Selfe and Selfe, Bolter, and Lanham, Tovey (1996) explored another rhetorical approach to the interface in technical communication. Recognizing that interfaces transmit cultural values, Tovey focused her critique on how software uses visual rhetoric to communicate functionality to users. She considered technical writing practice as well as pedagogy, and she recognized that "In our attempts to provide egalitarian education, we have to be aware of the tools we use, because tools are not innocent, nor value-free, just as our pedagogy is not" (p. 65). From this perspective, she interrogated both the usability of word processing software and its implications for student writers. While she described advocates who view computer word processing programs as a panacea for a number of writing challenges, she questioned those assumptions by noting how technology is implicated in maintaining power structures and undermining process-based pedagogies through how interfaces represent writing.

The understanding of technology represented by the above studies marked a shift from the more instrumental use of technology in earlier humanities computing markup and data processing projects to digital objects themselves as not only of consequence but also rhetorical. In other words, researchers demonstrated how computers contained political and ideological arguments and histories through how they represent. This turn to the interface demonstrated a new reality for digital objects in rhetoric and writing. As a result, digital interfaces became themselves objects of inquiry subject to interpretation and rhetorical analysis (Bolter, 1991).

In these cases, the digital object existed as a stable text capable of meaning outside of association with other modes of textuality, though still tied to traditional textual interpretation.

Research questions were related to how the intentional design of digital artifacts produced meaning and what rhetorical work particular digital artifacts do. By capturing stable moments of the interface, researchers were able to abstract digital objects of inquiry, but this omitted the rhetorical salience of other aspects of interactions with interfaces and mediation, such as how they unfold over time or how they are transformed by the development of networked connections between users and devices. Because specific moments of the interface were abstracted from this hybridity, the digital object in these studies possesses a stability that would be questioned by subsequent researchers and lead to new theories within digital rhetoric. The exigence for these new theoretical approaches were often directly related to the proliferation in hybridity enabled by the internet. In the next section, I will consider how the digital object of inquiry shifted in response to the spread of internet technology.

2.1.3 Digital Rhetoric and the Internet

By late 1990s and 2000s, scholarship in the field increasingly turned to digital objects derived from the World Wide Web (WWW) as the internet became widespread and accessible. Networking had existed since the days of the ARPANET in the 1960s, but the development of TCP/IP networking protocols and the fracturing of the ARPANET into interconnected public networks made the impact of this technology on rhetorical practices more salient. The spread of the public internet played a large role in revealing how digital objects resisted the stability implied by the more semiotic approaches to the interface explored above.

The movement to the interface, however, would continue to influence research, only now the interface itself and its relationship to textual stability became more central. While earlier research primarily established the digital object as stable and textual in much the same way as the traditional codex, new research tended toward an inherent instability of digital objects

as a result of their technological mediation. This lack of stability produced an anxiety that was addressed through the development of new rhetorical approaches to the interface that sought to theorize technological mediation itself.

In the previous chapter, I explored the development of the internet from a networking technology perspective. The internet, however, did not itself afford the kinds of multimedia content we consider when we think of the internet today. This is because the World Wide Web, which today is synonymous with the internet in vernacular discourse, had not yet been developed. While an engineer at CERN in the late 1980s, Berners-Lee (1999) leveraged the network protocols of the internet to create an international text and media sharing application that found popularity with the general public as internet access grew. The World Wide Web, which foregrounded thematic connections between text through the affordance of linking (cf. Nelson, 1965), made the dynamic reality of digital texts more evident, even as content creation and hosting remained limited to individuals with technological skills and resources. The early development of a more interactive and social internet embodied by Web 2.0 applications further instantiated these qualities.

Web 2.0 refers to web applications driven by interactive and user-generated content as opposed to early World Wide Web sites that offered static representations of print documents. The term was coined by experience designer and author DiNucci (1999). The rise of the internet along with the growth of Web 2.0 technologies resulted in a decrease in barriers to online composition and circulation, and a subsequent increase in available digital genres, texts, and means of persuasion. The spreading hybridity of the internet, resulting from new technologies interconnecting an increasing number of people and communities, resulted in an exigence for rhetoricians to reframe digital rhetoric and offer new rhetorical theories related directly to the internet.

2.1. The Development of the Digital Object of Inquiry

Initial research into web texts demonstrated how internet growth and hybridity challenged methods applied to the study of digital objects from previous researchers. New rhetorical theories began to address what was often figured as a radical break from previous textual modes, technologies, and practices (cf. Haigh, 2014). Despite offering digital text as a radical break, many of these projects remained rooted in classical rhetorical theory and a hermeneutic rhetorical stance, perhaps leveraging the turn to new theories of classical rhetoric in the field (Hawhee, 2002) to establish the validity of digital rhetoric as a field. As a result of these new theories, the stability of digital artifacts was not completely unseated, but rather shifted from text to context. Nonetheless, a new understanding of artifacts and interfaces produced new digital objects as less stable than in pervious research and opened the door to new rhetorical inquiry.

Welch (1999) built from renewed interest in Sophistic and especially Isocratic rhetoric to argue that the effects of contemporary technology rendered "rhetorical theories, left unmodified, inadequate. Isocrates, the representative here of a retheorized classical rhetoric that walks away from the linearity, rationality, and dualisms of the entrenched Socrates, Plato, and Aristotle, needs electric rhetoric" (pp. 104–105). For Welch, electric rhetoric represented an encompassing screen rhetoric including both television and computers. The inclusion of television alongside the internet would seem to maintain an analogy with broadcast models, which makes sense given that the rise of Web 2.0 and user generated content was only just beginning. The term digital rhetoric is absent (though digital literacy, digital text, and digital communication are all considered).

Welch's Isocratic approach recognized screen and digital literacies as existing alongside and informed by other literacies in a broader cultural setting. Rhetoric is figured within this context as consisting "of language as it constitutes part of thought (that is, interior discourse) and language as it constitutes one's negotiations with the world (that is, exterior

discourse)" (p. 34). As a result, according to Welch, electric literacies must include both critical thinking about and participation in technological and cultural discourses. The Isocratic critical literacy Welch proposed required a renegotiation of electric artifacts and their relationship to orality and printed text, as well as what it meant to be literate given the multimodal and non-linear nature of the web and other electric media and their relationship to a globalizing society. Welch's work challenged what she described as the "twin formalisms of the current-traditional paradigm in rhetoric/composition and the fetish of New Critical close reading in traditional literary studies" and promoted literacies that actively countered and resisted colonialism, racism, and sexism in technology through theorizing, teaching, and composing in digital environments (p. 198).

While Welch specifically questioned the notion that the internet represented a radical break from other types of literacy, and indeed challenged the myth that the internet was replacing printed text, her promotion of new literacies did suggest such a break. Her use of Isocratic theory, however, allowed her to position these literacies consistently within *logos* as both internal critical thinking and external performance. By the end of the book, she critiqued both digital media and Isocrates himself and called for a concerted effort against the reification of discriminatory structures though technology. She called readers to take up digital literacies as a means to remove technology from the hands of an elite few and to resist the ways in which screens "have so vividly raced and gendered our world" (p. 194).

Warnick (2002) similarly built on the political commitments of classical rhetoric as public, political discourse to define a criticism that "facilitates the process of critical framing that enables readers and the public to reflect on the implications of some of the forms of advocacy to which they are exposed" (p. 15). Her work encompassed not only print texts concerning technology but also websites directed toward female internet users and online political parody. In considering ethos, interactivity, and intertextuality online, Warnick engaged with

the hybridity of the internet by abstracting digital texts from the internet; however, she also considered the rhetorical implications of their emergence from the internet and the relationship between the internet and gender, politics, and economics. Works subsequent to Warnick's study of websites as texts would continue to engage with these kinds of ideas in different ways.

Losh's (2009) study of what she described as "government media making in a digital age" took up the production of digital texts more directly. Like Warnick, Losh considered digital rhetoric as online public discourse, addressing both the production of various digital media by the government and how digital technology allowed digital media produced by political actors to be remixed and redistributed in the public sphere with new rhetorical impact. Losh treated interaction with digital texts and digital composition more directly than Warnick, however. In her chapter on digital satire, for instance, Losh explored how the affordances of digital technologies such as Photoshop extended political agency by offering new composition practices. But Losh also noted that such applications concurrently destabilized the meaning of digital texts and "conventional notions of authenticity and truth" (p. 224). In so doing, Losh addressed hybridity between users, devices, and new technology tools as they intersected with concepts of intellectual property and authorship to produce a digital object of inquiry that was inherently less stable than in previous studies.

Brooke (2009) explicitly took up digital rhetoric as a study of unstable textual artifacts and pushed digital rhetoric in new interdisciplinary directions. Brooke started by establishing the focus of his rhetorical theory as the interface rather than a text. This turn recognized text, whether existing as traditional codex or digital artifact, not as a stable item for analysis by rather as "special, stabilized instances of an ongoing process conducted at the level of the interface" (p. 25). The distinction between stable and stabilized was an important one.

Brooke stressed the ongoing nature of composition and how technology imparted an artificial sense of closure to texts. He contrasted this sense of closure with the fact that texts always continue to circulate, develop, and transform beyond any single material instantiation. For Brooke, technology mattered because it functioned as the technological interface between reader and text that established expectations regarding coherence and stability. Brooke claimed that a fetishization of printed text in rhetoric and writing studies (cf. Shipka, 2011) led both to a conception of print media as a transparent container of rhetorical artifacts and to the naturalization of specific writing technologies more generally.

Brooke believed that, because rhetoric and writing had come to take print for granted, the mediating power of technology and especially digital technology had not been completely theorized in previous studies of digital rhetoric. One place where this opportunity for the additional development of rhetorical theory is visible is in projects that abstracted text from media and applied traditional rhetorical methods, similar to some of the research explored above. Drawing from Manovich and new media theory, Brooke traced the effects of technological mediation by taking up the materiality of digital composition and circulation. He argued that the field had, until recently, not recognized the new and diverse rhetorical practices associated with digital literacies and composition, and new approaches were required to address this theoretical deficiency:

> The elaborate dance of competition, cooperation, juxtaposition, and remediation that characterizes our contemporary information and communication technologies has rendered obsolete some of our most venerable models for understanding today's rhetorical practices. As a result, our aims as rhetorical scholars must evolve—no single model is likely to provide capable of returning the sorts of stability that are implied (if imperfectly accomplished) by communication triangles

> or rhetorical situations, and thus we need to be thinking about goals other than stability. (p. 28)

Brooke challenged the artificial stability of texts that he identified by offering an ecological approach to digital rhetoric. Drawing from activity theory, including Spinuzzi's (2003) work in technical communication on genre ecologies, Brooke argued that the classical rhetorical canons and the Medieval liberal arts trivium of grammar, rhetoric, and logic could be revised to account for new media practices. His theory offered a new structure of rhetoric and the liberal arts as ecologies of practice at the intersection of ecologies of code and culture. In contrast to Spinuzzi, however, Brooke's ecologies "are not mutually exclusive categories, but complementary perspectives that allow us to focus on different dimensions of even a single practice" (p. 55). He offered the example of trackbacks, a common feature on blogs that affords bidirectional linking between two blog entires. Brooke illustrated how trackbacks can be viewed within ecologies of digital code, culture, and practice, and within ecologies of digital rhetorical practice spanning all five rhetorical canons.

While Brooke's work affected the conversation surrounding digital rhetoric, he did leave stable some deeper assumptions about the object of rhetorical study that would come to be questioned, notably the primacy of intent and human agency in rhetorical activity and the situation of such activity within a defined context. Brooke delved more deeply than earlier researchers into a theory of the interface as a fluid practice, contrasting work by Selfe and Selfe on the naturalized desktop metaphor with a consideration of the dynamic World of Warcraft interface. His object of inquiry, however, remained a stabilized instantiation of these practices contextualized by the perspective of users. This can be seen in his adaptation of activity theory, where analysis remains situated on "conscious action made in a particular organizational context" (p. 51). His application of this theory did not completely destabilze rhetorical relationships, but rather shifted stability from instantiated texts to interfaced

contexts. In this sense, Brooke's own problematization of prior work could be applied to build on his approach.

I end this section with Brooke because it provides something of a bridge from texts as objects to new realist approaches taken up by some in rhetoric and writing. Throughout the book, Brooke maintained a more or less stable interpretive attitude toward the interface, yet by the end of the book appeared to arrive at a burgeoning hybridity of the interface as he defended the text/interface distinction: "The future of criticism, and rhetoric for that matter, requires us to come to terms with interfaces and recast our understanding of texts in such a way that sees them as particularly stable interfaces (although not completely so)" (p. 198).

In recent years, this renegotiation of texts and interfaces has led the field more broadly to consider questions of human agency, materiality, and networked affects. This has also lead the field more broadly to take up concepts from Latour, and it is here where I see opportunities for additional research in digital rhetoric related to concepts of digital and physical, rhetorics of purification, and what it means to do digital rhetoric. In the next section, I will consider the realist turn in rhetoric and writing more generally and specifically its relationship to digital rhetoric, the object of digital inquiry, and opportunities for the development of new rhetorical theories to account for the growing complexity of the internet.

2.2 The Realist Turn in Rhetoric and Writing

As explored in the above sections, the digital object of inquiry in the field has shifted from digitized texts, to stable textual objects extracted from digital environments, and finally toward the instability of digital interfaces and digital mediation. More recently in digital rhetoric, this conversation has grown to encompass deeper questions about the nature and agency of digital objects including data and algorithms. Work in this area is connected to a

broader movement within the field toward the rhetorical agencies, affects, and materiality of non-human things and their relationship to rhetorical theory. I understand this recent shift to be related to my research questions concerning the reality of physical and digital objects, their hybrid interactions, and rhetorics of purification. This shift can be contextualized within a turn in the field more broadly toward realism that is informed by Latour's critique of modernity (Lynch, 2012).

According to Barnett (2016), the concept of realism emerges within a history of philosophy that reflects "a story of repeated attempts to negotiate tensions between things and the idea of things themselves" (p. 8). Recent work in rhetoric and writing studies has taken up this tension between things in terms of the common reality things and people share in an attempt to address the modernist critique from Latour (1993) that I explored in the previous chapter. Barnett described this as the emergence of realism, and specifically speculative realism, within contemporary rhetoric.

According to Barnett, this speculative realist turn is important to the field because it engages with "how rhetoricians for centuries have defined rhetoric in relation to a wide range of nonhuman agents and agencies including nature, nonbeing, and, even, language itself" (p. 31). Therefore, rather than a radical break, Barnett has positioned recent interest in speculative realism within the continuity of the rhetorical tradition and its relationship to materiality. In this section, I will provide a definition of speculative realism and consider how this theory has been taken up in digital rhetoric. This new work in the field speaks to a continuing need for research that addresses the reality of digital objects especially in the context of the hybridity between physical and digital effected by the spread of the internet.

2.2.1 Defining Speculative Realism

Speculative realist theories aim to foster a sense of renewed wonder toward the world and draw attention to the inherently unsettled nature of objects, our reliance on specific procedures to make them intelligible, and the limits of not only what can be experienced, but also what can be known (Bogost, 2012). Speculative realism, as described by Barnett (2016), can function as a kind of umbrella term that unites different approaches to rhetoric in terms of an overarching philosophical project. According to Gratton (2014), the term speculative realism was coined following a symposium by the same name:

> In April 2007, Ray Brassier, from the American University of Middlesex, Iain Hamilton Grant, from the University of the West of England, Graham Harman, from the American University in Cairo, and Quentin Meillassoux, from the École normale supérieure, presented a series of talks under the title 'Speculative Realism' at Goldsmith's College, University of London, which were published later in the heretofore unknown journal Collapse. They seemingly agree on but one thing: that European philosophy since the time of Kant has stopped talking about reality, since it's stuck thinking about how we know reality—just endless stuff on demonstrations, discourses, dialectics, and deconstruction. (p. 9)

The status of the term speculative realism when used to describe a collective school of thought is hardly settled. Indeed, the term has been rejected by one of the philosophers credited by Gratton and others with its creation only four years after the conference being its name (Elden, 2011). In any case, the term emphasizes two primary qualities shared between speculative realist theories: that all things that exist share a common reality and that a positivistic orientation toward the world, reflected in the reference to Kant above, by

necessity restricts our access to this reality. As a result, interest shifts to the varying natures of being and what it means to exist in reality.

It is important to note distinctions between speculative realism and relativism or even solipsism. Speculative realism denies the possibility of empirical access to a true reality, but it offers the possibility of metaphorically representing reality in more or less effective ways relative to what can be experienced and known. A speculative attitude toward the world is one of wonder, which embraces uncertainty as a core component of human experience. As such, research rooted in speculative realism reveals a richness in the world rather than seeking to undermine the experience of reality.

Brooke (2015) likened this tendency to Booth's (1974) call to entertain diverse claims about the world and to develop sound habits for determining those claims to accept. Challenging the notion of an objective truth does not mean that there are no better or worse reasons for finding a particular claim valid or that there are not better or worse metaphors available for composing objects. This view plays out in a number of recent work in rhetoric and writing studies, some specific to digital rhetoric and others not, that foreground new kinds of questions and methodological approaches within the field. Speculative realism is relevant to my current project because it challenges the stability of ontological categories, such as distinctions between digital and physical. In the next section, I will consider speculative realism in the field more broadly before considering how speculative realism relates specifically to digital rhetoric.

2.2.2 Speculative Realism and Rhetorical Theory

Researchers in the field have leveraged speculative realism in different ways. Gries (2015), for instance, has identified her approach within visual rhetoric as one of several new ma-

terialisms. Materialism here should not be confused with historical materialism. Historical materialism is a theory of history that emphasizes the role of economic conditions in accounts of human societies. Bennett (2004) has argued that historical materialism "tended to emphasize the structured quality of materiality-its ability to congeal into economic classes, stratified patterns of work, and dominant practices of exchange" (p. 366). Bennett (2010) contrasted this structured, economic materiality with a theory that invoked "the shared materiality of all things" (p. 13). While this present movement related to materialism within speculative realism is new, it reflects continuity of materialism within rhetoric such as that reflected in work by Haas (1995), who argued for taking up the material and embodied practices of writing and literacy within the field.

The kind of materiality described by Gries and Bennett challenges the primacy of material as capital invoked by historical materialism through suggesting, in effect, that all matter matters, even if it does so in different ways. In the new materialisms, materialism is opposed to idealism and as such reflects a realist approach grounded in the interaction of things and the recognition that humans "are a part of that nature that we seek to understand" (Barad, 2007, p. 26). Materialists hold matter to be all that exists, and as such espouse a "flat ontology" that places all existing objects on equal footing (Bogost, 2012). New materialism can tend toward animism and panpsychism, or the idea that vital qualities modern thought associates with consciousness and sentience exist across all matter. Bennett's (2010) vital materialism especially begins to blur this line, as she argued for the vibrant liveliness of all matter.

Bennett described agency as distributed within assemblages, which she defined as "ad hoc groupings of diverse elements, of vibrant materials of all sorts" (p. 23). These assemblages possess agencies beyond those of their constituent parts, and act in the world in powerful, sometimes unpredictable, ways. Using an electrical power grid as one example, Bennett

illustrated how human or non-human actions alone are unable to completely account for the development of a blackout, which is brought about by human activities and political structures as well as the behavior of conductive materials and electricity itself. Based on her theory of agency, Bennett offered a speculative politics, tracing how human beings and other non-human actors come together to form ad hoc networks with the potential to interact with and affect other objects.

Morton has similarly applied speculative realist theories to his work on environmentalism and ecology. Morton (2013) tackled the strange reality of global warming as a hyperobject, which he defined as an object massively distributed across space and/or time as compared to scales humans can effectively process, objects as diverse as radioactive waste, mountain ranges, black holes, and the internet. As a hyperobject, global warming exists intrinsically beyond the comprehension of human beings, this seeming unreality constituting an aspect of its existence as a hyperobject. Morton argued that people experience only shadow cast by global warming in the form of big datasets and climate trends, or the rain as it falls on our heads and the sun as it bakes the desert.

Gries (2015) applied such a speculative rhetoric specifically to visual rhetoric. Gries described her project as a biography of Shepherd Fairey's iconic "Obama Hope" posters from the 2008 presidential campaign of Barack Obama. She traced the life of the source photograph of Obama at a press event, its subsequent discovery by Fairey, and its reincarnation as a potent political actor. Gries further explored its life beyond the presidential campaign, where it spawned diverse parodies and became a viral internet phenomenon. Overall, Obama Hope provided a case study for a new materialist approach to rhetoric that foregrounded how "a thing's rhetorical meaning is constituted by the consequences that emerge in its various material encounters, affects, and intra-actions" (29).

While Gries applied her method to visual rhetoric, her study engaged with the hybridity of the internet as she considered how the "Obama Hope" poster was shared and remixed online and how it transgressed physical and digital materiality as it circulated. Multiple technological tools combined to make the image available as an affective force, including digital photography, computerized image manipulation, and the internet as a medium for circulation, remixing, and sharing. In this sense, work from Gries serves as a transition to the ways that speculative realism has been taken up directly in digital rhetoric, which I will consider in the next section.

2.2.3 Speculative Realism and Digital Rhetoric

Researchers within digital rhetoric are beginning to take up speculative rhetorical theories in order to account for the rhetorical agency of digital objects and the growing connections between objects afforded by the internet. Bogost provided one example of an interdisciplinary approach to speculative digital rhetoric. In his book *Persuasive Games*, Bogost (2007) described procedural rhetoric, which he defined as "a general name for the process of authoring arguments through processes" (pp. 28–29). Bogost claimed that processes offer a new rhetorical *topos* enabled by digital technology for describing how things work as processes in a different way than linear process descriptions. This move recognized a new dimensionality to rhetoric in digital environments that the application of traditional rhetorical analysis to an isolated moment of the game would obfuscate and render less than rhetorical. The theory suggests that digital algorithms possess real rhetorical agency as a result of their representation of processes.

In *Alien Phenomenology*, Bogost (2012) spent more time unpacking the realist theories that informed his approach to understanding gamic composition and rhetoric, which Bogost de-

scribed as object-oriented ontology. Grounded in Latour, Bogost described his philosophical framework as tiny ontology, which reflected his contention that "the basic ontological apparatus needed to describe existence ought to be as compact and unornamented as possible" (21). In summary, Bogost argued that all things that exist, from human beings and cats to Christmas trees and unicorns, exist in the same way, varying only in their experience of existence. In such an object-oriented approach, the experience of objects as phenomenon takes place only within momentary networks where objects become intelligible in certain ways to other actors within the context of a system. Bogost described these systems as unit operations, writing that "things constantly machinate within themselves and mesh with one another, acting and reacting to properties and states while still keeping something secret" (27).

Reid (2012a) has taken up work by Bogost in his approach to digital composition. During his keynote talk at the 2012 Computers & Writing conference, Reid acknowledged that "questions of the material form of published work do not go unasked" in contemporary digital rhetoric, yet Reid argued that "we are far, far from addressing such matters to the extent that we might." Reid believed that researchers in rhetoric are uniquely prepared to render the world of objects intelligible beyond agency and situation through approaches to composition that engage with the material reality of different kinds of objects:

> In my view, rhetoric, a minimal rhetoric as I have called it, operates in all relations that have a capacity to generate cognition and agency. We see these relations in house flies, slime molds, and bacterial colonies. We see them in robots and software. Certainly, as Bogost reminds us, we are seeing the exhaust from which we can derive a phenomenal metaphor. Or to put it in Latour's terms, we must compose that knowledge. (para. 30)

Reid (2015) has lately strengthened his call for speculative work in the field of digital rhetoric in order to address the myriad intended and unintended consequences of physical and digital networks. Reid's speculative digital rhetoric "takes up the challenge of investigating a hybridized space that technology, nature, society, culture, and discourse commonly share" by examining the ontological barrier between physical and digital objects and opening the floor of digital rhetoric to new digital hybrids (19).

More recently, Zappen (2017) has directly related realist theories to the challenges of addressing the internet in digital rhetoric, and especially challenges associated with the Internet of Things (IoT) as it encompasses a growing array of physical and digital objects. Zappen noted that engagement with the contemporary internet requires the negotiation of "more complex interactions—or intra-actions—with networks of digital things that may threaten privacy, security, and safety; and new kinds of rhetorical activity aimed at mutual accommodations between these networks of digital things and their human users and misusers" (p. 55). Zappen drew from the work of Latour and Barad to suggest that "material phenomena are not things in the real world existing in isolation from discursive practices" (p. 59). Zappen ultimately argued for theories within digital rhetoric that consider the relationship between discursive practices and the physical and digital dimensions of the contemporary internet, which I understand to be directly related to the challenge of physical and digital hybridity and the effects of rhetorics of purification.

2.3 Accounting for Hybridity in Digital Rhetoric

I hope that this review demonstrated shifting theoretical approaches to digital rhetoric, yet illustrated the continuity of the project of rhetoric and writing. College Composition and Communication defined the central question in digital rhetoric as "how this new digital and

networked environment is changing rhetoric", but this is a somewhat question-begging formulation (Conference on College Composition and Communication, 2018). While various approaches to digital rhetoric differ from one another, and from historical trajectories in the field, rhetoric remains connected as a field of inquiry concerned with representation and affect. New theories may approach this inquiry in different ways, but rhetoric remains rhetoric. As Lynch (2012) put it, we need not address shifting commitments "by disassembling our values or assumptions, but by assembling a Thing that takes all the actors, human and nonhuman, into account" (p. 468).

My approach in this dissertation is informed by the speculative realist turn in rhetoric and writing. Drawing from Morton (2013), I begin from the position that the internet is too vast to entertain in its entirety. Rhetorical approaches to the internet serve to operationalize the network by reducing this vastness and rendering it as an object of discourse with specific qualities. As Zappen (2017) noted, part of this vastness is related to interactions between physical and digital objects afforded by contemporary technologies. As a result, rhetoric surrounding the internet negotiates the different physical and digital components of the internet and their realities.

I argue that one way this plays out is through rhetorics of purification, which implicitly and explicitly create distinctions between physical and digital reality to account for a hybrid dimensionality of the internet that encompasses both. Adopting a flat ontology (Bogost, 2012), however, centers the shared materiality and common reality of digital and physical. I am interested in developing a better understanding of how different discourses produce different digital objects, what qualities these objects have, and how this relates to the hybrid reality from which digital objects emerge. My goal is to consider how digital objects are produced in different discourses and to explore the deeper hybrid contexts from which these

objects emerge. In so doing, productive and limiting effects of rhetorics of purification can be identified and addressed.

While previous authors have taken up the material continuity of digital technologies (Bolter, 1991; Haas, 1995), I believe there is a space for additional work in this area as it relates to current work in digital rhetoric and specifically to challenges unique to the internet that are developing as a result of the new technological configurations explored by Zappen. In the next chapter, I will describe methods of digital rhetorical analysis that enact an approach to digital objects and the internet from multiple perspectives comprising close and distant readings of writing about internet technology and analysis of internet platforms. Taken together, my intent in applying these methods is to explore ways to account for digital technology as it escapes from the desktop of Selfe and Selfe (1994) and expands into new networks and contexts (Dourish, 2004).

Chapter 3

Locating Rhetorics of Purification: Methods of Analysis

The previous chapter considered the development of digital rhetoric and the identification of different objects of inquiry within the field. The literature demonstrated how new theories and methods in digital rhetoric have been productively applied to account for the internet in different ways, especially as the internet has changed over time. Even though digital rhetoric scholarship has taken up digital composition, circulation, and materiality by developing new theories and methods, there remains an opportunity to further interrogate the rhetorical and ontological challenges posted by the internet in light of the growth and development of new kinds of online interactions and platforms.

While earlier rhetorical accounts of digital technologies focused on abstracted text and interfaces, later work considered the dynamic nature of the interface especially in light of new Web 2.0 affordances including multimedia composing, circulation, and remixing. More recent literature speaks to a growing awareness that the vastness of the modern internet is a complicating factor in digital rhetoric that demands additional attention. This opportunity is in no small way related to continuing advances in internet technology. New technologies introduce new kinds of physical and digital hybridity that complicate the reality of digital objects as they enter into new kinds of relationships with the physical world.

To engage with tension between physical and digital, I am interested in approaching the categories of digital and physical as themselves unsettled, which presents a space for developing theories in rhetoric of digital and physical materiality in relation to the hybridity of the contemporary internet. Such a dichotomy, which establishes things like virtual realities and metadata as distinct from physical counterparts, furthers rhetorics that at best speak productively, yet incompletely, to our world of ubiquitous technology and at worst provide a foundation for sub-rhetorics (VanDeWeghe, 1991) that purposefully obfuscate the role of technology in the daily lives of individuals and communities.

The exigence for exploring relationships between physical and digital is demonstrated by a call from Zappen (2017) to develop rhetorical theories that speak expressly to the Internet of Things (IoT) and the resulting hybridity it entails as a result of the "digitization" of physical objects. I would add that, in addition to the internet of things, the growth of ubiquitous computing and different kinds of hybrid internet applications contributes to the need for new approaches within digital rhetoric. My goal is to speak to this exigence by addressing a question within the field lately articulated by Wise (2017): "How do we connect the dramatizations and shared realities that rhetoric addresses with things, practices, and people, that is, the material world?" (p. 69). In this dissertation, I am interested in applying rhetorical analysis both to texts that develop rhetorics of purification and to interfaces, platforms, and interactions afforded by the hybridity of the internet as it interconnects physical and digital objects and intersects with different activities.

In this chapter, I will discuss three case studies I developed in order to engage with internet hybridity. I will then describe each of the different methods I used to investigate these cases in more detail. I have broken these methods down into (1) close reading, (2) computational content analysis, and (3) critical interface analysis. Within the subsequent chapters, I will connect back to these methods with details more specific to each case study. I will close this

chapter with a discussion of the limitations of these methods and ethical concerns specific to digital rhetoric that warrant ongoing scrutiny in the field.

3.1 Three Case Studies

In this dissertation I offer a descriptive analysis of how rhetorics of purification can be productive in advancing the internet in different discourses and how these rhetorics can also be limiting to a deeper understanding of the spread of the internet, its consequences, and its reality. To explore these interrelated points in the context of my research questions related to rhetorics of purification and constructive rhetorical approaches to digital technologies, I have selected three case studies to address in the following chapters. Each case study will include relevant examples of texts and rhetorical analyses in three different areas related to the internet and digital and physical hybridity in different political and social contexts:

- The first case study will consider the locative social media app Yik Yak, rhetorical responses to negative Yik Yak posts, and the emergence of Yik Yak as a hybrid public sphere
- The second case study will consider United States legal discourse surrounding the internet, focusing especially on rights and privacy in the context of increasingly sophisticated internet surveillance technologies
- The final case study will focus on online-only writing classes and consider the relationship between internet platforms and pedagogy in online learning environments

I selected these specific case studies based on their relationship to the growth of the internet and of internet hybridity. Each case explores different ways that the internet effects connections between physical and digital within specific technological configurations. Moreover,

these three cases each address the general problem of the complexity of the internet identified by Zappen and Wise and contribute to ongoing conversations within the field related specifically to (1) the development of new kinds of digital participatory sites (Carlson, 2018; Tarsa, 2015), (2) the nature of privacy online due to new methods of online data collection and surveillance (Hutchinson, 2018), and (3) the pedagogical challenges unique to online-only writing classes (Bartolotta et al., 2018).

The methods in this chapter are complicated because, to address my research questions, I considered three different kinds of data: (1) writing about technology from sources including newspapers and legal decisions, (2) social media posts and comments, and (3) digital interfaces. These different data reflect the different contexts of my case studies and how they relate to my research questions concerning rhetorics of purification. Moreover, they allow me to compare and contrast rhetoric about the internet with rhetoric on the internet as it plays out in online discourse and across interfaces. These different kinds of data in turn require different methods of analysis. At different stages of my research, I relied on digital tools to assist with data collection, reduction, and analysis (Smagorinsky, 2008), which adds an additional layer of complexity to my methods. I will address these methods in the following sections.

3.2 Rhetorical Analysis

Eyman (2015) has argued that digital rhetoric includes "inquiry and development of rhetorics of technology" (p. 44). I identify rhetorics of purification as one such rhetoric of technology that seeks to address the hybridity of the internet by distinguishing between digital and physical objects and their material consequences. In order to study rhetorics of purification in different discourses, I applied close reading to a number of different kinds of texts throughout

the study. The texts initially selected were based on the context of each individual case study. In some cases, these included large corpuses of text collected from the internet (a process called web scraping) and reduced using methods including filtering by key words and topics. In other cases, individual texts were selected for close reading based on their relevance to the individual case study.

I began my analysis of rhetoric about Yik Yak by creating a large corpus of texts about responses to Yik Yak in specific local communities sourced from local newspapers. When analyzing legal rhetoric related to surveillance, I started from key legal rulings identified by news articles and law reviews and located additional cases by tracing citations within individual cases. In order to understand approaches to online course design within the field, I studied the The Conference on College Composition and Communication Committee for Effective Practices for Online Writing Instruction position paper (2013), which is an influential and frequently cited report within the field. In gathering these sources, my goal was to collect texts that reflected rhetorical responses to internet technologies within the context of the different cases.

I reduced these texts by seeking rhetorical devices, commonplaces, and strategies used to account for internet technologies. In some cases, I also used digital methods such as term frequency analysis and topic modeling to reduce large text corpuses. I will discuss these methods in more detail in later sections. When analyzing individual texts, I focused specifically on rhetorical moves that produced claims about digital objects, what they are, and how they relate to non-digital objects in order to address my research questions. During initial qualitative coding sessions for large corpuses, I used an open coding program called Computer Assisted Text Markup and Analysis (CATMA) to tag areas of interest within the texts I was studying, returning to those codes to draw examples for inclusion in the final descriptive analyses.

In developing initial codes, I identified recurring moves for further analysis such as the use of terms like "actual" or "virtual" to advance logical claims about the reality of the internet (Reid, 2007), the development of analogies and metaphors to describe the internet (Osenga, 2013), and the application of binaries such as the writing and technology binary (Takayoshi and Van Ittersum, 2018). When analyzing the development of the internet in legal rhetoric, I followed the rhetorical-ontological inquiry (ROI) method of functional stasis analysis described by Graham (2015). Following analysis, I selected portions of text which reflected rhetorics of purification in terms of addressing the hybridity of the internet in the context of the different cases.

3.3 Computational Content Analysis

In addition to close reading, I used several computer programming methods in order to develop distant readings of large corpuses of texts. Distant reading is a term used to describe the computer-assisted analysis and visualization of large corpuses of textual data (Moretti, 2005, 2013). Distant reading has been applied in literary analysis and the digital humanities (Jockers, 2013), but it holds promise as a method for rhetorical studies. As a means of rhetorical analysis, algorithmic distant reading and visualization approaches have been used to understand citation practices and influence within the field (Mueller, 2012), the prevalence of rhetorical moves used to support claims in dissertations within the field (Miller, 2014), and rhetorical moves associated with genres of academic writing (Omizo and Hart-Davidson, 2016).

In the context of my study, I used this kind of content analysis to analyze and visualize large datasets for which close reading would not be practical such as in my initial analysis and reduction of news stories about Yik Yak and legal cases concerning the internet. In addition,

when combined with close reading, the two methods of analysis can mutually inform one another. For instance, distant reading can reveal general trends in topics, and close reading can reveal specific details about how writers are engaging with those topics. In terms of my research questions, computational methods allowed me to collect texts about the internet in the context of my case studies and reduce those texts to moments relevant to my study of rhetorics of purification.

In addition, distant reading of social media data from Yik Yak allowed me to compare and contrast texts about social media with social media communities. This helped me to better understand the effects of rhetorics of purification that seek to isolate digital and physical objects by locating those realities of social media communities that were omitted from writing about social media as a result of rhetorics of purification. I used several tools for collecting and reducing data and distant rhetorical analysis for this project, some of which I developed myself. These tools can be split into two primary computational methods: shell scripting and programming.

3.3.1 Shell Scripting

In computer programming and system administration jargon, a shell is program that provides basic access to the computational resources defined by an operating system. A shell is executed within a terminal emulator, which is a program that provides text-based interactivity similar to that used by terminals for older mainframe computers. This kind of system is referred to as a Command Line Interface (CLI), in contrast to the Graphical User Interface (GUI) of most modern computer operating systems that represent interactions using visual cues like icons and windows. Instead of a point-and-click interaction, a user provides a shell with text-based instructions called commands that tell the computer what to do.

In addition to allowing the execution of basic commands, shells can execute scripts, or custom lists of commands. Shells allow for scripting by providing additional affordances to the user, such as the ability to store custom values in variables and to iterate, or repeat a specific command or series of commands until a given condition is met. Shells also afford basic interaction with the computer's file system, such as the ability to list directories, rename and move files, and monitor system processes. In addition, shells incorporate other programs, sometimes called binaries, that can process and transform data. This makes shells versatile tools for large-scale data collection, analysis, and reporting. Because shells do not manage a graphical user interface, this frees up computational resources to focus on data processing, which makes shells much more efficient at processing and transforming large amounts of data.

In my study, I primarily used the Bourne Again SHell (bash). To collect content for analysis, I both created my own scripts and modified existing scripts posted on GitHub, an online repository for reusable code. These scripts automated web scraping, which is the collection of data from the internet. By leveraging core Unix utilities such as sed, a program for processing text-based information, and awk, a program for interacting with token-delineated data, I was able to not only collect information using scripts but also process incoming information and sort it for further analysis. Token-delineated data includes common spreadsheet file formats such as Tab Separated Values (TSV) and Comma Separated Values (CSV) files. Combining sed and awk with basic operating system functions allowed me to efficiently query and parse data, create new files breaking down data by different metadata entries, and prepare information for analysis across different platforms.

3.3.2 Programming

In addition to scripting, I used several different programming languages to facilitate data collection, reduction, and analysis. Programming languages and scripting languages are similar to the point that in contemporary programming they commonly overlap. I will use programming languages in contrast to shell commands and shell scripting, although modern shells are Turing complete and can indeed be used to create original, interactive programs. Turing completeness is a measure of a scripting or programming language's ability to implement any theoretically possible computational process. The programming languages I used most frequently were Python and R, though I also used Java.

Python is a general purpose, high-level programming language. High-level means that the language's syntax, or rules for writing and interpretation, are more readily human readable than the code that ultimately is executed by the computer. Python is an ideal language for data collection, reduction, and analysis in rhetoric and writing because it has a number of internal functions that make text manipulation simple such as its extensive String module.

Because many people use Python, a number of third-party banks of code have been developed that are specifically useful for pulling data from the internet and interacting with and analyzing text. These third-party banks of code are called modules, which can be downloaded from the internet using pip, a recursive initialism for "Pip Installs Python." This is a program called a package manager, which handles locating and installing Python modules from the internet. Once a module is installed, it can be incorporated into a program with a single line of code. Python also ships with a number of common modules for researchers. In my study, I frequently relied on Python and the Requests module for accessing, downloading, parsing, and archiving digital texts.

R is a language specifically designed to facilitate statistical analysis, although it can be customized to support other research tasks. I primarily relied on R for statistical analysis. During my study, I used R to calculate correlation tables, conduct correlation tests, and plot relationships between metadata in large corpuses of text. R also includes a number of libraries for working with and visualizing text, a method referred to as natural language processing (NLP).

R specifically allowed me to create topic models using Latent Dirichlet Allocation (LDA), a statistical method that considers the relationship between individual words within large bodies of text. A topic model generated using LDA represents an inference as to recurring themes in a group of documents in terms of how words are shared between documents in a large corpus. Topic modeling proved effective both for analysis and reduction of data. By pairing a topic model with close reading, the model could be used to identify trends within a large body of texts that warranted closer analysis.

3.4 Critical Interface Analysis

In addition to analyzing digital texts and texts about digital technology, I also analyzed interfaces. This served to inform a broader understanding of discourse surrounding digital platforms. Several methods are available for the rhetorical analysis of digital interfaces.

Selfe and Selfe (1994) presented one of the earliest examples of interface analysis, using a semiotic approach to determine how icons and representations of file structures convey meaning within a specific white-collar American economy of representation. This allowed for the rhetorical analysis of how culture, politics, and ideology were reflected and reified in the design of graphical interfaces. Bogost (2007) described a procedural rhetorical approach to analyzing digital artifacts, a method which considers how algorithmic processes make

arguments. Bogost argued that the way interfaces represented processes over time, rather than at individual moments as in Selfe and Selfe, could be analyzed rhetorically in terms of the parts of processes that were represented and those that were not. Recent approaches to interface analysis, for instance a study of participatory websites by Tarsa (2015), have adopted a more human-centered approach where expert heuristic assessment is combined with input from users to test hypotheses and arrive at final conclusions about how interfaces work to make rhetorical appeals.

My primary method of interface analysis in this study was heuristic. To collect information about digital interfaces, I engaged as a user directly with participatory sites such as social media applications and learning management systems. To collect data about these platforms, I used screenshots where possible as well as procedural analysis of how interfaces represented certain processes. Drawing from Bogost, my analysis of interfaces considered how selected interactions were represented such that an interface made arguments about different procedures. For instance, if a learning management system represents completing an assignment as one single submission of a document or text form, the system itself argues for a product-oriented view of an assignment as opposed to a process-oriented view that would foreground drafting, commenting, and revising as available interactions.

In terms of my research questions, my goal in taking up interfaces was to gain a better understanding of the rhetorical elements of digital platforms, which can be overlooked as a result of rhetorics of purification that abstract only certain components of interactions with the internet. This also connects with my goal of recognizing the reality and politics of platforms in ways that may not always be addressed in discourse as a result of rhetorics of purification. Considering writing about interfaces combined with interfaces themselves allowed me to triangulate claims and to learn how the interfaces through which users interact with the internet relate to writing about the internet.

3.5 Limitations and Ethical Considerations

There are several important limitations to consider concerning methods in digital rhetoric more broadly, especially those that relate to large sets of digital data. In the following sections, I will consider some of these concerns.

3.5.1 Limitations of Digital Data

I have identified web scraping methods for collecting, reducing, and analyzing digital documents, which reflect only one source of information pertaining to the cases I am considering. In the following chapters, I will be considering newspaper articles and legal decisions that I sourced from digital archives using these methods. This should not be seen as suggesting that material that has not been digitized is not relevant to this type of study in general, but rather that my particular methodological concern with combining close and distant reading made incorporating large corpuses of non-digital text impractical in this study.

Put simply, I did not have the time or resources to transcribe large bodies of printed work for the dissertation, and while I believe this type of archiving is important, it was not suitable to this particular study owing to these constraints. This is not a limitation unique to this study, and indeed the material, temporal, and legal aspects of archiving digital materials reflects a broader challenge within digital rhetoric research more generally that should be acknowledged and addressed going forward (Graban et al., 2015). In the meantime, however, it is important to realize the connection between texts, narratives, and histories that are not archived and readily digitally accessible and their relationship to privilege (Haas, 2007).

If distant reading approaches are to be taken up by new researchers, restrictions in access to computational capacity, storage, and even information itself will create distinctions in who

can engage in this research and who cannot, both in terms of individuals and institutions. This could prove deeply problematic to the extent that it reifies existing spaces of privilege. It is my hope that, moving forward, a broader range of texts will be available for digital collection and analysis owing to developments both in terms of methods for digital archiving and copyright law, but this may prove aspirational.

Beyond these broader concerns, there are other limitations inherent to working with large sets of digital data. First, of the tens of thousands of articles, legal findings, and social media messages I have aggregated during this study, I have not read all of them. It would not be practical in the time available. This can either be a bug or a feature depending on your theoretical commitments concerning distant reading. I have done my best to use tools to remove duplicate texts and corrupted files from corpuses, but I cannot guarantee with absolute certainty that all such items have been removed. I do not think that this is an inherent limitation, but it does mean that some issues with the data as collected may affect the distant analysis.

It is also important to note that the algorithms used for distant reading are neither neutral nor definitive. Writing on the subject of algorithmic accountability, mathematician O'Neil (2017) showed "Many poisonous assumptions are camouflaged by math and go largely untested and unquestioned," which reflects how the rhetoric surrounding algorithms can serve to efface their agency (p. 7). I do not intend to offer any findings based on algorithmic analysis as in any sense absolute or unproblematic. Indeed, topic modeling is an interesting tool for rhetorical analysis because it is a supervised process. In other words, many of the parameters of the process can be tweaked and reevaluated during an analysis such that multiple researchers investigating the same texts may arrive at different outcomes, to say nothing of the interpretive work surrounding the coding of the latent topics themselves. It

is important to note that digital methods relying on algorithmic analysis and modeling are not independent of human interpretation and limitations.

3.5.2 User-generated Content and Ethics

Work specifically with user-generated content, such as my study of social media, presents a unique set of ethical concerns and considerations. Chief among these is the question of privacy and participant consent. McKee and Porter (2008) have described a heuristic approach to evaluating the public or private nature of an online participation spaces. This approach considered the accessibility of the site as well how easy it is for individual users to be identified. Also important to consider is the sense that users have of their own privacy. For instance, while a user's Twitter feed may be public, they may use the site with a certain sense of privacy because they do not have many followers or they do not share their screen name widely. Given my analysis of privacy concerns, I did not feel it necessary to seek user consent to study Yik Yak given that posts were public and specific information about users was not collected. Moreover, due to the anonymous nature of the app, it would not have been feasible to locate individual users. I did try to focus my analysis on distant reading and did not publish posts with any kind of potentially identifying information.

As the field grows more interested in digital research involving user-generated content and other kinds of large datasets, it is important to keep in mind our ethical obligations to those who could be affected by our research. Algorithmic accountability in our research is one component of this ethical obligation, as is participant privacy. An often overlooked consideration, however, is encrypting and securing data sets, especially when those data sets contain sensitive information such as information from students or other protected research participants. This is especially important if data is to be shared among researchers online or

stored or backed up using cloud storage systems. We need to consider how the information we collect could be leveraged by malicious actors, or leastways actors who do not have the same interest in our research and our participants as we do.

Concentrated, unprotected data makes individuals tractable in ways that we might not be able to anticipate or predict, such as when the company Target developed a pregnancy prediction algorithm based solely on large datasets of individual shopper spending habits (Watson, 2014). Simply put, while we might think our information is sufficiently anonymized or of little interest to outside actors, it may not be apparent to us how information we do collect could be leveraged within a broader information ecology, with negative social impacts. As the internet makes available new ways for individuals to be analyzed, tracked, and targeted, we are obligated to protect the information we gather from others, keeping in mind as much as possible the broader social implications of our work. My case studies are small-scale compared to some big data projects, and they also did not purposefully encompass identifying or other confidential user information. I nonetheless felt it important to keep in mind the scope of my work and its potential effects on individuals and communities. It will continue to be important to consider these issues within the field more generally as big data methods are increasingly taken up by researchers.

Chapter 4

Re/placing Digital Content: Yik Yak and Hybrid Public Discourse

On 3 December 2014, Virginia Tech's chapter of the NAACP posted a series of screenshot images of racist digital posts to their Twitter account. The posts were in response to nationwide and local protests organized after the November 2014 acquittal of Darren Wilson, a Ferguson, Missouri police officer who had shot unarmed teenager Michael Brown several months prior (Harlan et al., 2014). In the messages, vitriolic language was used to attack the Black community on campus and the Black Lives Matter movement more generally. These posts were shared on a social media smartphone application called Yik Yak. Yik Yak belongs to a class of applications I identify as anonymous, geolocated, ephemeral (AGE) social media, a genre of application that proved popular on college campuses after their initial release (Brait, 2015). These applications use GPS data from smartphones to restrict users to specific geolocated newsfeeds, where users can post anonymous content and interact with content from others.

The response to the messages from the students and administration was swift. The university president and vice president for student affairs both called on students to delete the app, with the president writing on social media, "Why empower the anonymous hate mongers by using Yik Yak? Delete the app" (Figure 4.1). The tweets resulted in a viral campaign at Tech using the #ReleaseTheYak hashtag, an online movement that appears to originate

with a sorority at Washington State University several months prior in response to bullying and explicit anonymous messages on the app (Walters, 2014). Individuals participating in the #ReleaseTheYak movement would use social media to share screenshots of themselves deleting the app from their phones, usually accompanied by text critical of the app and its connection to antisocial content. At Tech, the president's initial message received more than 100 interactions after it was posted.

(a) Tweet from Virginia Tech president

(b) Tweet from Virginia Tech vice president for student affairs

Figure 4.1: Responses to Yik Yak on Twitter

The following year, Tech was faced with similar racist vitriol when someone anonymously posted a message threatening Muslim students with violence. This anonymous message, however, was not shared online but instead scrawled in a bathroom stall (Taylor, 2017). In contrast to the response to threats posted anonymously online encouraging students to shun the app, community members united to reclaim campus spaces in response to the racist and xenophobic threat. At a rally held the night before the threatened attack, thousands of students gathered on the university's main quad to listen to speeches, sign posters of support, and distribute wristbands branded with "Hokies Don't Hate," a response that drew nationwide praise for the university and its students (Obeidallah, 2015).

While these two events were very different, they nonetheless possess salient similarities. Both involved messages intended to threaten students on the basis of their identity. Both messages were posted anonymously with the intention of intimidating students and members of

the community. As Levmore (2010) noted, "The Internet is the natural and well-evolved successor to the bathroom wall," and in this case both media provided a space where individuals felt safe posting racist messages publicly (p. 54). However, the responses looked different.

In the case of Yik Yak, the call to avoid a particular digital app proved rhetorically effective while doing little to directly counter the messages posted. In the case of hate speech written on campus, people reclaimed locations through a series of rallies and public speeches. This is to not say that vitriolic messages posted to Yik Yak did not result in resistance in physical space or that threats in physical space did not result in movements on social media. The question I am more interested in is how calls to delete or ban a particular app became available rhetorically, whereas similar calls to yield physical spaces or to abandon public gatherings have been more readily critiqued. For instance, Take Back the Night challenges "the cultural practice of blaming women for putting themselves in harm's way" by reclaiming public spaces that women have been told to vacate in order to avoid bringing abuse on themselves (Freedman, 2013). Activists have developed language and embodied action to resist victim blaming in physical space, but placing the burden on app users who are targeted by negative behavior to delete the app in order to not attract negative attention remains unremarkable.

In this chapter, I consider Yik Yak as an example of physical and digital hybridity because the reality of Yik Yak existed within a distributed network of interacting physical and digital objects including users, places, and digital posts. This new platform blurred the an understood line between the realities of digital discourse and physical communities. To learn more about rhetoric surrounding Yik Yak, I analyzed trends in a large corpus of news stories about the app. I found that Yik Yak was broadly characterized in terms of negative content, especially bullying, threats, and racism. This negative content could in turn be figured as a

product of the digital nature of the app and its affordances as contrasted with the perceived reality of discourse outside the app within the communities where it appeared. In these cases, rhetorics of purification distinguished between the digital nature of Yik Yak and the way it represented discourse in order to create distance between communities where negative posts appeared and the hateful ideologies some Yik Yak posts reflected. When the reality of Yik Yak was restricted to its digital dimension and the logic of virtual reality, Yik Yak became less than real, which is likewise reflected in calls to delete the app.

In contrast to critical responses to the app, however, interactions between users on the app itself demonstrated how Yik Yak could function as a public space where users formed identities, contested values, and developed social norms (boyd, 2014). Negative content did circulate on Yik Yak, but not to the extent that negative coverage would suggest. This challenges the idea that Yik Yak was a distinct discursive space and instead suggests how Yik Yak existed as part of a hybrid public sphere that shared rhetorical norms and commonplaces with communities where it was used. Characterizing Yik Yak as intrinsically negative and relegating the app to the virtual reality of digital space through rhetorics of purification therefore had two notable effects. First, it undermined the reality of negative content when it did appear on the app and its relationship with the communities where it emerged. Second, it effaced the lived experience of Yik Yak users, for whom the app could serve as an important site of identity formation and community support (Bayne et al., 2019). I offer this analysis as a productive critique of rhetorics of purification, and I conclude with a call to take seriously the real nature of hybrid interactions and internet discourse more generally.

4.1 What is Yik Yak?

Yik Yak was launched in Atlanta in 2013, the same year that websites Giphy, Politico, and Vine debuted, a year which also saw the launch of neo-Nazi website The Daily Stormer. Created by Furman University fraternity brothers Douglas Warstler, Tyler Droll, and Brooks Buffington, it was initially targeted toward students on college campuses (Crook, 2015). Droll and Buffington would become the face of Yik Yak after ousting Warstler early during the development process (Kosoff, 2016). The two are often referenced in stories of the app's origins as claiming that the intention of the app was to create a local space where individuals could speak their minds. In interviews responding to detractors of the app, the two focus on the idea that some people may feel uncomfortable with public social interactions, but that the space afforded by Yik Yak could empower them to engage in their communities and share ideas which otherwise might never be heard. Droll and Buffington and made claims such as "Being anonymous means that everyone is on an equal playing field" (Hines, 2015) and "The quiet kid is judged the same as the most popular kid" (Perez, 2015).

As I am writing this chapter, Yik Yak is no longer in service (Statt, 2017). The app officially closed in 2017 after several failed attempts to broaden its user base by shifting away from some of its central features, losing existing users as a result, and exhausting its investment funding (West and Pope, 2018). However, Yik Yak remains valuable as an object study of digital and physical hybridity given how the app leveraged internet technology and ubiquitous computing to create a hybrid public space mapping digital content within physical locations and communities. In this section, I consider the design of Yik Yak and its key affordances for readers who may be unfamiliar with the now-defunct platform.

4.1.1 Anonymous, Ephemeral, and Geolocated Social Media

Yik Yak, which required a smartphone, allowed users to add short anonymous text messages to a local feed defined by a geofenced area defined by a user's geographical location as sourced from their device. Messages were called "yaks," and users of the application referred to themselves as "yakkers." Communities of yakkers were called "herds," which evoked a sense of both being in a group and a homogeneity where individual identity was effaced. Users could interact with posted messages by replying or using buttons to indicate that they either liked or disliked the post. Liking or disliking a posts was referred to as upvoting or downvoting, respectively. Posts disliked by several users were deleted from the feed. Users could filter posts to those that were the most recent or the most upvoted by other users.

The only persistent feature in the app itself was the concept of "yakarma," or points which were connected with individual users. These points reflected how often content a user posted was upvoted or downvoted. Points were also included with individual posts and were used to identify the most popular posts in a community at any given time. Beyond this, there were no other features connected to the individual accounts such as avatars, personal profiles, or even persistent user names. Some of these features were later added, but this coincided with a period of declining interest in the app. The posts themselves would disappear from the feed after a set period of time regardless of the number of upvotes or downvotes a post had received. Yik Yak belonged to a larger class of applications that shared in common elements of anonymity, geolocation, and ephemerality:

1. Anonymous: Registration, verification, and identity sharing is limited and in some cases not present at all. Users may opt not to share information about who they are or controls may be put into place which limit access to an individual's identifying information. The apps efface stable identity and individuality.

2. Geolocated: Posts are sorted by geographical areas and access to posts from other geographical areas may be restricted. Posting may be limited to an area in which one is physically present based on location information gathered from the user's device. The apps participate in the hybridity of digital interactions and physical place.

3. Ephemeral: Posts are not indexed and expire after a limited period of time. Users may be able to promote or eliminate posts through a process of voting, which gives communities some control to curate content and define norms of community behavior. Once posts expire, they are no longer accessible through the application. The apps effect a rhetorical economy of temporality.

Yik Yak was one of the most popular of these anonymous, geolocated, and ephemeral (AGE) social media apps, which also included apps like Whisper and Secret. Within each of these apps, the degree of anonymity, geolocation, and ephemerality existed along a spectrum. For instance, the similar app erodr required registration and verified membership in a particular college campus community using the top-level domain of user email addresses, although access to identifying information was restricted within the app itself. Yik Yak tended toward the extreme of each of these categories in that it did not require email registration or the creation of a user profile. It used smartphone location technology to geographically situate users within limited geographic areas, and posts rapidly cycled out of feeds as new posts were added. These apps afforded new kinds of compositional practices by distributing authorship and privileging temporal and spatial co-presence. This in turn transformed the rhetorical situation for users, who had to account for both geographical and temporal locality to create effective messages (Carlson, 2018).

4.1.2 The Yik Yak Interface

Yik Yak may owe its popularity to the comparative simplicity of its design, which served to reach a broad group of users while also communicating its AGE affordances. Tarsa (2015) has argued that the actions an interactive application affords function rhetorically by influencing user engagement "even before its content does" (p. 18). In the case of Yik Yak, this is important because its interface affordances were one location where users negotiated their relationship with the technology underlying Yik Yak and in turn its relationship to the purported affordances of AGE social media.

Downloading the app did not require the creation of an account or any other form of identity verification on the part of users, and there was no login process when accessing the app. Instead of logging in, information from a user's smartphone was used to determine location, which established the geolocated feed that users could read and post to. Information from the user's smartphone was also used to track each user's yakarma points.

The lack of a login screen, present on many other apps, suggested to the user that no identifying information was being collected, although certain features of the app, like the post history feature and the tracking of yakarma points, served to undermine this anonymity. The text-based interface further distanced the app from identity markers such as avatar images. The option of adding meta information about an individual post reminded users that their identity would not be visible unless they chose to add additional content.

The disappearing posts further created a sense of anonymity by suggesting that no trace of posts would be left following their disappearance from the feed, although the extent to which Yik Yak preserved records of messages once they were no longer displayed is unclear. The geolocated qualities of the app further served to suggest that the reach of posts was limited even as posts from all users were aggregated on central servers for the app, which is what

enabled its functionality. By dividing posts based on user location and restricting access to other communities via a voyeuristic "Peek" metaphor, the app placed content within distinct geographical locations.

On the main screen of the app, users were presented with an updating feed and a text field where they could add their own posts. Dragging down on the feed updated the posts and included a small animation, but the feed itself was text-based. Algorithms further restricted what could be shared and filtered posts with content that appeared to be phone numbers or websites. Options for sorting posts and voting on posts were available through buttons in the app window. Viewing an individual post showed the post's content and score, the option to upvote or downvote, and comments that had been added by other users (Figure 4.2).

Figure 4.2: Screenshot of a Yik Yak post and comments

Posts were limited in size. Users could optionally add a short tag to their post such as a name using the meta information field described above, although this was not required. This meta field was often used to humorous effect, for instance by attributing the content of a post to ducks or squirrels on campus, as opposed to offering legitimate information about the poster. Clicking on an individual post presented an option to respond as well as a feed of previous responses to the selected message. Responses were not nested, which limited the possibility of side conversations between the same users.

As with main posts, responses could also be voted on by the community. These responses would disappear once their initial posts had disappeared. Interactions were limited to the local feed where a user was physically situated, but the "Peek" feature supported brief read-only access to a Yik Yak feed in another location. Throughout the interface, the app featured a teal color theme and a cartoon yak mascot that was incorporated into the design. The graphic design elements contributed to the informal feel of the app, which cultivated a relaxed ethos that resonated with teen and young adult users.

The design of the Yik Yak interface convinced users that they were participating in an anonymous and at least somewhat private and local experience, but the internet technologies used to deliver the app combined with the smartphone location features the app accessed centralized information and rendered users in fact rather tractable (Collins, 2015). Indeed, users may well have been more identifiable than identity-based social media that does not capture smartphone hardware data, data which is often more granular than, for instance, the IP address location data accessible to traditional websites.

4.1.3 Yik Yak as Hybrid Social Media

I have characterized Yik Yak as a form of social media, but it's affordances suggest that it is a bit more complicated than that. Social media applications are specific sociotechnical arrangements that have attracted both scholarly and popular attention since the first social networking platform, Six Degrees, was released in 1997 (boyd and Ellison, 2007). These kinds of platforms, which focused on user-generated content, were enabled by the rise of Web 2.0 in the late 1990s and early 2000s.

Web 2.0 refers to web applications driven by interactive and user-generated content as opposed to early websites which tended toward static representations of print documents. The term was coined by experience designer and author DiNucci (1999), who argued that the internet "will be understood not as screenfuls of text and graphics but as a transport mechanism, the ether through which interactivity happens" (p. 32). This move from text and graphics to ether of interactivity, as it were, relates to Yik Yak's hybridity and how that hybridity challenged existing social media arrangements.

Over the past twenty years, social media sites like Six Degrees have come to structure how most users interact with and make sense of the internet. boyd and Ellison (2007) defined social media as:

> ...web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. (p. 211)

Yik Yak did not meet any of these criteria in terms of how interactions were represented and presented to users. In fact, it effaced social media's key organizing concept of a stable

social network by substituting static profiles and lists of friends with momentary connections grounded in shared time and place rather than persistent identity and relationships. This new mode of online interaction was enabled by the internet and the spread of smartphones, which allowed user engagement to be situated by global positioning technology and within discrete moments in time. Using these technologies, Yik Yak realized hybridity for users by situating anonymous digital posts geographically, effectively overlaying local communities with digital content. While the technologies underlying the internet have always been associated with discrete locations, the deign and interface of the app foregrounded this hybridity more than prior social media services.

The way Yik Yak effected hybridity between place, community, time, and digital content troubled an existing sense of the nature of social media sites and the reality of anonymous discourse online. Responses to Yik Yak demonstrated how this interruption of existing social media metaphors for connection contributed to a rhetorical exigence connected with the reality of the app and of its located anonymous discourse. In the following section, I consider how responses to the app in the media negotiated the reality of the app and hybrid discourse. These negotiations include rhetorics of purification that distinguished between the virtual space of digital Yik Yak content and the actual discourse of geographically situated communities.

4.2 Responding to Yik Yak

After its launch, Yik Yak attracted a great deal of media attention, both positive and negative. The app attracted millions of young adult users, and with them millions of dollars in venture capital (McDermott, 2014). Critics, however, were quite vocal. They pointed to highly publicized incidences of threats and bullying, such as the circulation of racist

messages, as evidence that the anonymity the app offered posed a danger to universities and their communities, and some went so far as to call for bans of the app (Mach, 2014).

Headlines like "How do you Solve a Problem like Yik Yak" from The Washington Post (Dewey, 2014), "Who Spewed that Abuse? Anonymous Yik Yak App Isn't Telling" from The New York Times (Mahler, 2015), and "Psychiatrist's View: Yik Yak is Most Dangerous App I've Ever Seen" from Fox News (Ablow, 2014) are just a few popular media stories that depicted the app as inherently dangerous and an overall detriment to society. Analysis of responses to the app demonstrates how it emerged as an object of discourse in terms of its digital and physical hybridity and the relationship between its interface affordances and the types of discourse understood to circulate on the app.

In this section, I briefly address methods for analyzing responses to the app and describe some rhetorics of purification used to address the hybridity of the app. Overall, I conclude that a general focus in the media on negative occurrences on the app as a result of its interface features contributed to a rhetoric of purification that produced negative anonymous digital messages as the reality of Yik Yak. In my analysis, I consider distant trends along with specific rhetorical moves from news coverage and suggest that the #ReleaseTheYak movement could be understood as one effect of these rhetorics.

4.2.1 Analyzing News Stories about Yik Yak

Between the launch of Yik Yak in November 2013 and the announcement that the app would be shutting down on April 28, 2017, I found 2,759 news articles referencing the phrase "Yik Yak." I built this corpus from the news database Factiva, which indexes news from many different sources including major and local newspapers, magazines, trade publications, and blogs. Database filters were set to eliminate duplicate articles when they appeared in

different locations. After downloading the articles, I used scripts written in Python and Bash to convert the data to plain text files, which could be indexed and analyzed as a corpus.

During my research, I discovered that most substantive stories about the application were being printed in college newspapers. Given that these articles reflected instances of individual communities encountering and responding to the app, I filtered articles for analysis to those from local college publications. This worked to vastly diversity the types of stories about the application and also to offer geographically situated responses to the app as it emerged within different communities. It also resulted in a reasonably sized corpus of 1,826 articles (Figure 4.3), an appropriate amount of data to apply a distant and close reading approach given my available computational resources.

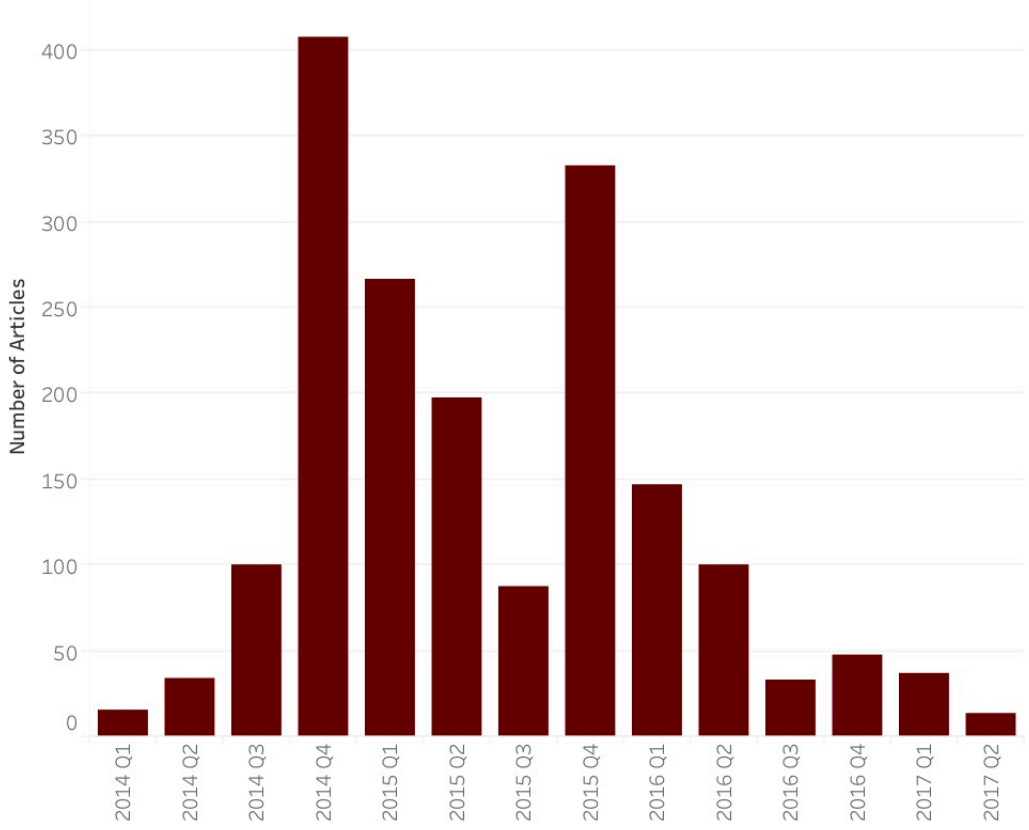


Figure 4.3: Number of college news stories about Yik Yak by quarter

To analyze trends in the articles, I applied a latent Dirichlet allocation (LDA) topic modeling algorithm (Grün and Hornik, 2018) to group the articles according to common themes, called topics, using the statistical programing software R (Jockers, 2014). By studying the different topics inferred by the topic model and closely reading individual articles within each topic, I was able to identify major terms, themes, and rhetorical moves within Yik Yak responses. During close readings of the articles, I focused on how app content was characterized and how this was related to the app's AGE affordances. I also used this method to reduce the dataset by disregarding topics unrelated to the Yik Yak application itself such as interviews, stories about events, and human interest stories where Yik Yak was only included tangentially.

In the following sections, I focus my analysis on the development of rhetorics of purification and the effects of rhetorical moves that address the reality of Yik Yak discourse and its relationship to what is understood as real discourse within specific communities. I argue that the perceived anonymity of the app's digital content combined with its geographically local situation contributed to an exigence to address the app when negative content appeared in specific communities. This in turn supported the emergence of a distinction between the digital messages on the app and the communities where the app was used, which was ultimately reflected in movements to delete the app.

4.2.2 Anonymity and the Reality of Yik Yak

The earliest stories about Yik Yak were clustered in the southern United States, presumably the first campuses in the country where the application emerged as a matter of concern, before spreading to campuses across the country over the following year. Yik Yak surfaced at different times and in different places across the United States as the app spread to communities in different locations and emerged in local contexts. This suggests that Yik

Yak was an application that was constantly being discovered and reinvented as it came into contact with different individuals and local communities.

An early spike in article topic, and a topic which represents the most common topic in the corpus, focused on the emergence of Yik Yak within these different communities and how the app itself worked (Figure 4.4). Stories belonging to this introduction topic attempted to account for this new app and how it fit within existing technologies and communities. This topic comprised 324 articles in the corpus. The early spike in articles related to this topic reflected the novelty of the app and its features. An analysis of these stories shows the specific features that made the app salient.

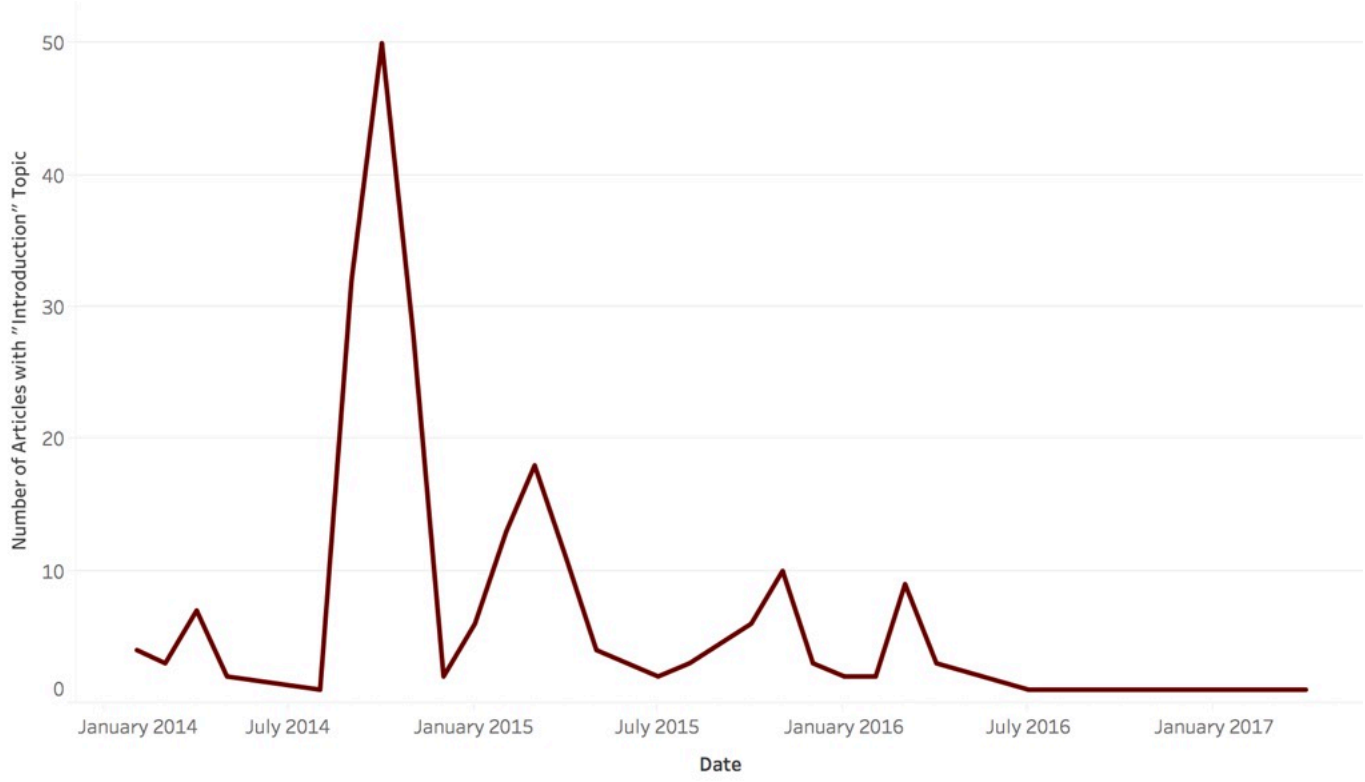


Figure 4.4: Number of stories about Yik Yak with introduction topic by month

Within this topic, there was a focus on anonymity and its relationship to the perceived reality of discourse, reflecting a sense that the anonymity afforded by the app's interface functioned

to negate the reality of the messages shared. Of the stories that fall into the introduction topic (n = 226), 175 mentioned anonymity in some way, often in comparison with the existing social media landscape. According to one article, "While other social media networks strive to serve the ego with follower ratios, retweets, likes, favorites, or connections, Yik Yak is the first in its kind where all participants cannot be rewarded with a name badge." The reference to retweets specifically cast Yik Yak in comparison to Twitter, where users and posts are tracked according to likes and retweets from other users. Another article noted that "The app allows students to say whatever they want about whoever they want – anonymously. No accounts. No passwords. Nothing." The absence of certain features present in other social media applications functioned rhetorically as a logical proof that Yik Yak indeed offered anonymity, and that the app "makes it simple to share thoughts you might not necessarily share if people knew it was coming from you."

Rhetorics of purification developed when Yik Yak posts were produced as digital objects disconnected from the physical communities where they originated, often as a result of anonymity. Yik Yak was often presented in contrast to in-person discourse, where anonymity was offered as one reason why app discourse was considered to be less than real. One writer claimed that "People can post anonymously and so they say things that they would never actually say in real life." Another wrote "The mobile phone app gives users an anonymous live feed of what people are saying and doing around them without actually having to know them." In a third story, Yik Yak is described as lacking "anything to tie to an actual identity."

The function of "actual" in these examples is important because it demonstrates how the anonymity that featured often in early Yik Yak articles also supported arguments that actions and interactions on Yik Yak were not real, or at least different than real. This extended to actions on the app such as bullying, leading one writer to compare cyberbullying to "actual bullying." In these moments, writers associated the reality of the app with the anonymous

nature of its interface, which resulted in the emergence of distinct digital and physical zones. These rhetorical moves contributed to the sense of Yik Yak and its content existing in a space divided from the norms and expectations of the campus communities where the app was used.

4.2.3 Negative Behaviors on Yik Yak

Taken together, 409 news articles, about one in every four articles in the corpus, associated the app with negative behavior. This comprised two topics, one related to general threats and one related specifically to racism. Within the threats topic, terms including "incident," "report," "threat," and "police" emerged in connection with the application, which continued to be tied into previous claims regarding anonymity. One article referred to Yik Yak as "the bullying app" because "It has been used by some people to make shooting and bombing threats at high schools in the U.S." In total, 202 stories from the corpus belonged to the topic addressing threats. In these stories, the app was produced primarily as a site of violence and threatening behavior.

Racism specifically featured in 207 stories in the corpus (Figure 4.5). The development of the connection between Yik Yak and racism coincided with broader national conversations in the wake of several police shootings of unarmed Black men, inaction on the part of local police departments and courts to address these shootings, and the subsequent rise of the Black Lives Matter movement. Place again played a role in these stories, revealing how Yik Yak was experienced as a part of a local community. Many of these stories centered on the University of Missouri, where students in the community were protesting racism both nationwide and on their campus specifically. These protests resulted in the resignation of the university president and chancellor (Svrluga, 2015). The University of Missouri featured

in 144 articles across the corpus, but association between Yik Yak, anonymity, and racism was not limited to only that campus.

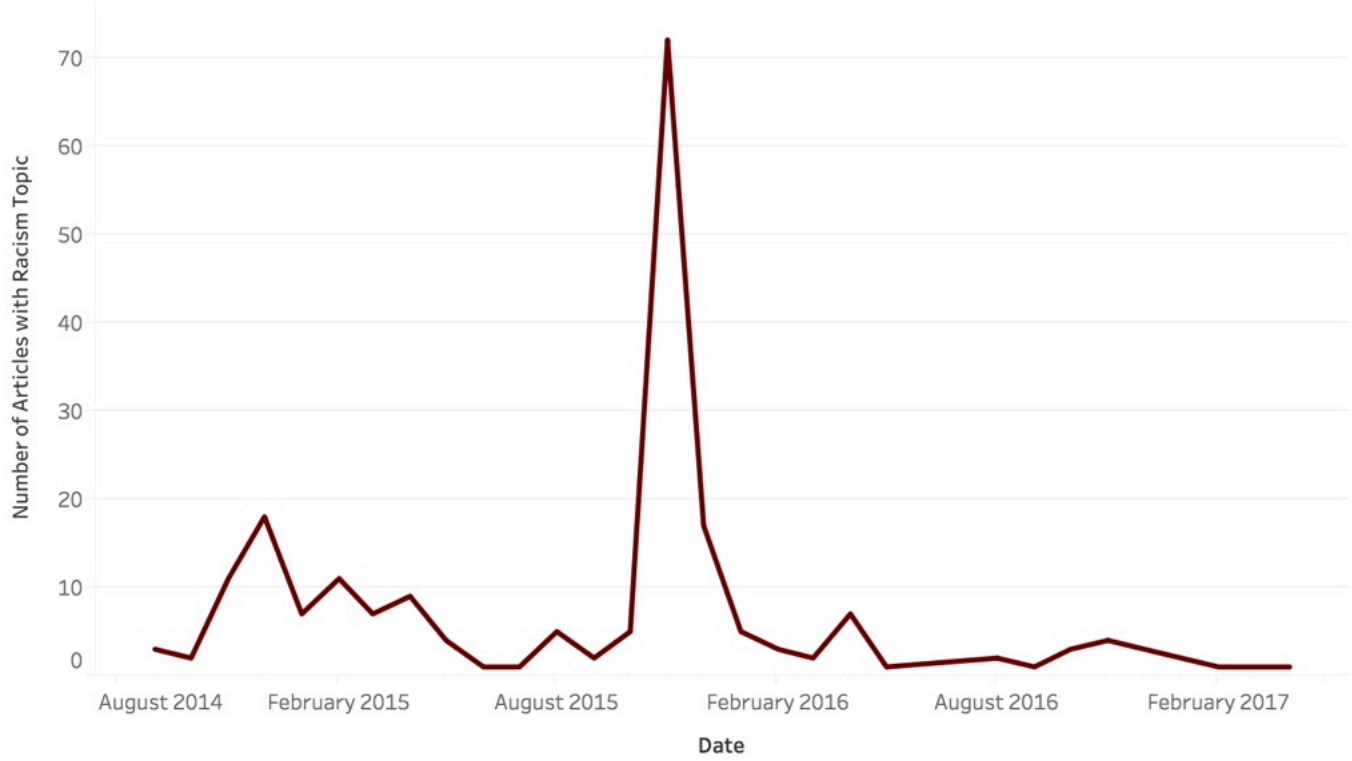


Figure 4.5: Number of stories about Yik Yak with racism topic by month

An article at Clemson described a racist threat posted on Yik Yak following a demonstration, and another from Santa Clara University described slurs being posted to Yik Yak in conjunction with other racist images found on campus. In these articles, the rhetorical problem posed by Yik Yak related to the negative behaviors associated with the app, their relationship to the campus community, and the reality of this discourse as it related to perceptions of community standards and norms. Responses addressed this hybridity between digital content and place in different ways.

According to an article published at Georgia College and State University, students "expressed excitement for how these comments have made the community realize these attitudes

do exist on GC's campus." In other articles, negative content is attributed to the app itself, which could then be used to distance the community from the reality of digital discourse. In a story from Southern Arkansas University, an author wrote "when there are apps such as Yik Yak that produce content that leads to scandals or drama, you can imagine the kind of attention it gets and just how quickly word can spread" when addressing a racist incident on the app. That the app "produces" content is leveraged later in the story, where the writer questioned the reality of the messages within the community due to the app's anonymity.

An article from Oregon State University addressing racism on the app claimed that "The main reason this app is so appalling is that it ruins the reputation of our campus and our university." Agency is again shifted to the app as a site where racism and other negative content become associated with the broader community as opposed to revealing existing race-related tensions within in the community where the content emerged. This was expanded upon later in the story:

> The attitudes and thoughts shared on these social media sites leak into daily life and transform the people who post negatively. That whole online attitude becomes their own, and soon there is no distinction between who they are online and who they are in their lives.

To counter the premise that racism could pre-exist Yik Yak, users who posted negatively were figured by this move as having two distinct digital and physical lives, one transforming the other. This rhetoric of purification functioned to isolate the digital content that circulated within the hybrid space of the app and created a distinction between content on the app and users within communities where that content emerged. This distinction between the app and community in turn produced Yik Yak as a digital object apart from communities of users, which could in turn diminish the reality of broader social issues that Yik Yak revealed.

4.2.4 Releasing the Yak

Unlike other anonymous sites like 4chan (Sparby, 2017), Yik Yak located anonymous discourse and forced both users and non-users to negotiate it as part of a hybrid physical and digital landscape. Anonymous online authors always exist in a particular place, but previous systems effaced this kind of discrete location. Yik Yak, however, replaced anonymous messages within located communities with specific cultural values and norms (Harrison and Dourish, 1996). When racist or other negative discourse appeared on Yik Yak, it resulted in a karotic moment within the communities where it appeared owing to the relocation of nebulous anonymous discourse within a hybrid physical and digital space created by the apps's interaction with place-based technologies. The confluence of these topics emerged within the #ReleaseTheYak movement, where the reality of negative content on Yik Yak and its existence within affected communities led to calls for the app to be deleted or banned.

Where the digital reality of Yik Yak and the physical reality of communities intersected, rhetorical responses enacted a negotiation of how physical and digital objects matter. In some responses to the app, these moments were understood as opportunities to address the reality of racism as it transcended physical and digital spaces. In other responses, purification presented as a means to negate the reality of negative discourse within communities. When racist posts appeared on Yik Yak at Virginia Tech, the #ReleaseTheYak movement responded by offering deletion of the app as a way to deny anonymous posters an audience for vitriol.

Deleting the app was not a rhetorical response unique to Virginia Tech. A blog post from October 2014, just a couple of months before the incident at Virginia Tech, described a movement among sororities at Washington State University to delete the app, claiming that, "Members of the community are jumping at the chance to rid their community of it"

(ShutUpAndRead, 2014). This led to the spread of the hashtag #ReleaseTheYak referenced by President Sands and other community members, a parody of the tagline "Ride the Yak," which was used to promote the app and shared by users.

Posts were often paired with images of users deleting the app, a visual rhetorical commonplace that functioned to concretize an appeal to others while also making the act of deleting the app real. Like the posts at Virginia Tech, users in other communities suggested that getting rid of the app could potentially rid the community of the discourse and attitudes reflected in the negative content that attracted media attention (Figure 4.6). A tweet from a Greek organization at Oregon State proclaimed "We are taking a stand against the negativity that yik yak has brought to our community & deleting it!"

Figure 4.6: A #ReleaseTheYak tweet

But what is being deleted in discussions about deleting Yik Yak? Movements to delete Yik Yak reflect an engagement with the hybridity between place and digital content evidenced by

Yik Yak that reduced the reality of Yik Yak to specific kinds of digital content. Moreover, these movements fostered a distinction between the discursive space afforded by Yik Yak and other types of discourse, a distinction which may not hold under scrutiny. To further explore the reality of Yik Yak and offer a constructive approach to the divide between digital and physical discourse, I analyzed the Yik Yak community at Virginia Tech.

4.3 Exploring a Yik Yak Community

Using a modified version of a program called YikYakTerminal combined with custom Java programs and shell scripts, I downloaded and archived posts from Tech's Yik Yak newsfeed at randomly selected intervals from 8–27 April 2015. The full corpus includes 12,396 Yik Yak posts and 20,863 response comments with metadata including date and time, aggregate vote totals based on user upvotes and downvotes, and location. Data collection was limited by the Yik Yak Application Programming Interface (API), which was undocumented and closed three weeks after data collection began.

The timeframe of the study and posts collected per day vary due to technical limitations in accessing the Yik Yak app. On average, 600 posts were collected per day of the study, but per day collection ranges from 100 messages at the beginning of the study to 1,000 toward the end. Because on some days I was able to gather more yaks than others, and I was unable to gather each post created during the time period, I cannot draw any conclusions about trends in community participation. Using textmining packages in R and following similar work by Yager (2015), I conducted computer-assisted textual analyses combined with close reading of some messages to reveal general trends in the types of conversations taking place on Yik Yak.

Given the ephemeral nature of Yik Yak and its relatively short lifespan, this study represents a unique digital archive of a moment of hybrid discourse (Rice and Rice, 2015). The findings challenged the premise that discourse on Yik Yak inherently differed from nondigital discourse in college communities. There are several reasons to question the negative narrative of Yik Yak evidenced in social media posts and some news stories in terms of posting behavior and community standards in the Yik Yak community that I studied.

4.3.1 Discourse on Yik Yak

Despite its suggested disconnection from so-called actual discourse, most posts on Yik Yak resemble typical campus backchannel with conversations trending around local events of interest. After controlling for English stopwords, common words like articles and conjunctions, the three most common terms found in the corpus were "just," "like," and "get," reflecting the observational content and conversational tone of many of the posts (Figure 4.7). Of the 25 most-used terms, only one word with overtly negative sentiment ("fuck") made the list. Across the corpus, only 21 percent of posts and 15 percent of comments contained inappropriate language based on a collection created from an online database (Gabriel, 2019). This list includes profanity, sexual language, and racial and other slurs. It is important to note that Yik Yak itself implemented an abuse filter feature that banned some slurs from being posted (Dewey, 2015).

More popular terms included "campus," "roommate," "semester," "sex," and "test," topics of conversation just as likely to be overheard in the dining hall as on social media. Within the terms, I identified several primary topics of conversation through a network analysis of terms that frequently co-occured in messages (Borgatti et al., 2018). These topics included (1) college subjects encompassing words like roommate, homework, professor, and class; (2)

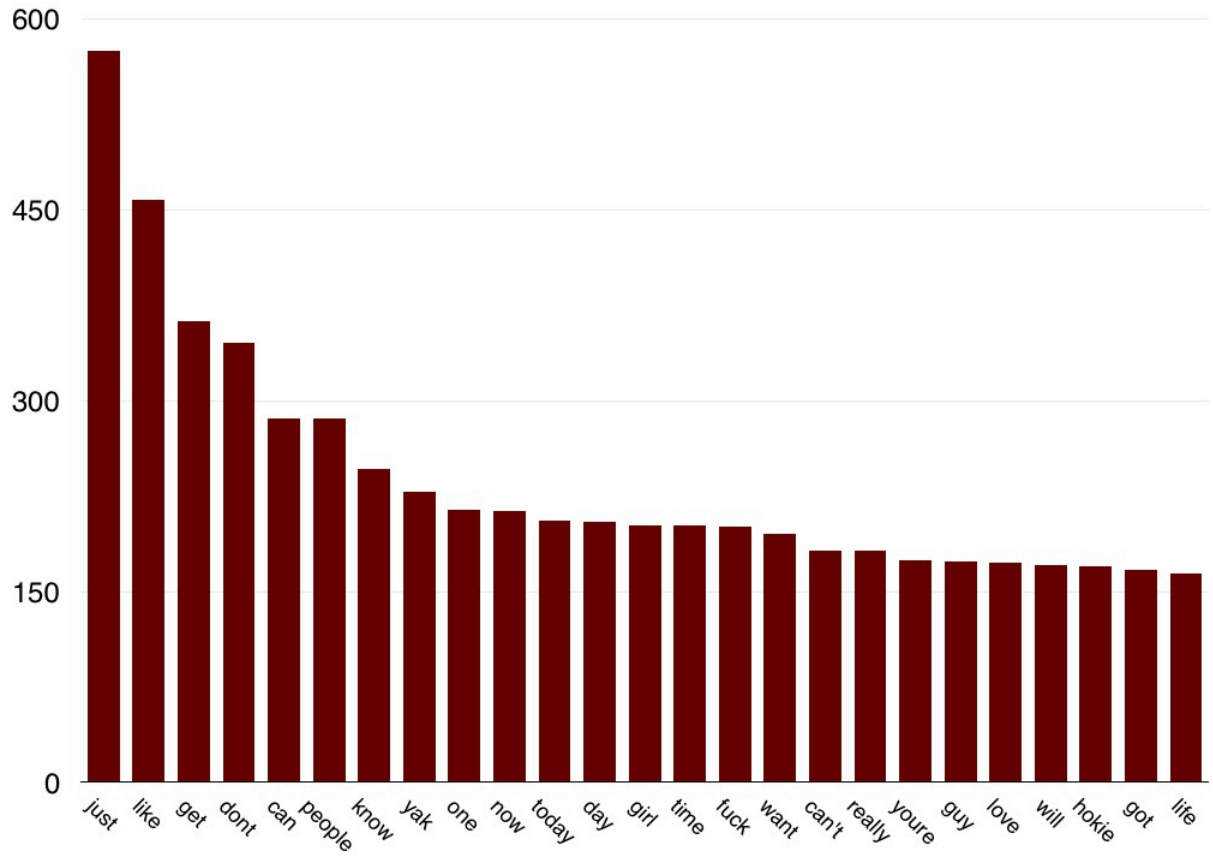


Figure 4.7: Frequency of top terms used on Yik Yak

community subjects encompassing words like campus, Blacksburg, Virginia, and community; and (3) meta commentary about the app itself encompassing words like comment, vote, and Yik Yak. A word cloud based on the network analysis shows commonly used and shared terms as more central and topics coded by color (Figure 4.8).

Users on Yik Yak responded to rhetorical situation as it emerged within the hybrid context of the app. During the course of my study, an annual community service event called The Big Event took place. At The Big Event, students volunteered for a number of local, community-oriented projects such as cleaning up public spaces and helping local community members with yard work. Prevalent terms included the words "big" and "event." But also prevalent was the word "Hokie," which is a demonym for Virginia Tech students derived from the

Figure 4.8: A word cloud of top terms used on Yik Yak

athletics mascot. The motto of Virginia Tech, Ut Prosim, means "That I Might Serve," and the connection between service and Virginia Tech identity among the Yik Yak community was evident in how the term Hokies occurred in discourse surrounding the service event. Posters took to Yik Yak to discuss this timely event, given the immediate and ephemeral nature of the app, but this also intersected with place-based identifiers and the deeper connection with service associated with the Hokie commonplace.

The Big Event also corresponded with a spike in positive emotional sentiment (Figure 4.9) based on a sentiment analysis of posts in the corpus using the sentiment analysis tool VADER (Hutto and Gilbert, 2014). Sentiment analysis is a rudimentary tool in terms of rhetorical

analysis, but it can be effective in larger corpuses for locating negative and positive affective terms, such as terms with a negative valence including words related to hate and violence and terms with a positive valance related to happiness and love. The VADER sentiment analysis tool goes beyond basic lexical recognition to consider some rhetorical moves such as negation (e.g., "I hate … " versus "I don't hate …") and the effect of intensifiers on overall valence ("I love …" versus "I really love …"). In addition, the tool also considers digital emotive markers such as the use of emoticons and emoji and the use of all capital letters and exclamation points. Based on analysis of individual terms in a message, the tool assigned each post a positive or negative score ranging from +1.0 to -1.0. Overall sentiment on the app was relatively positive.

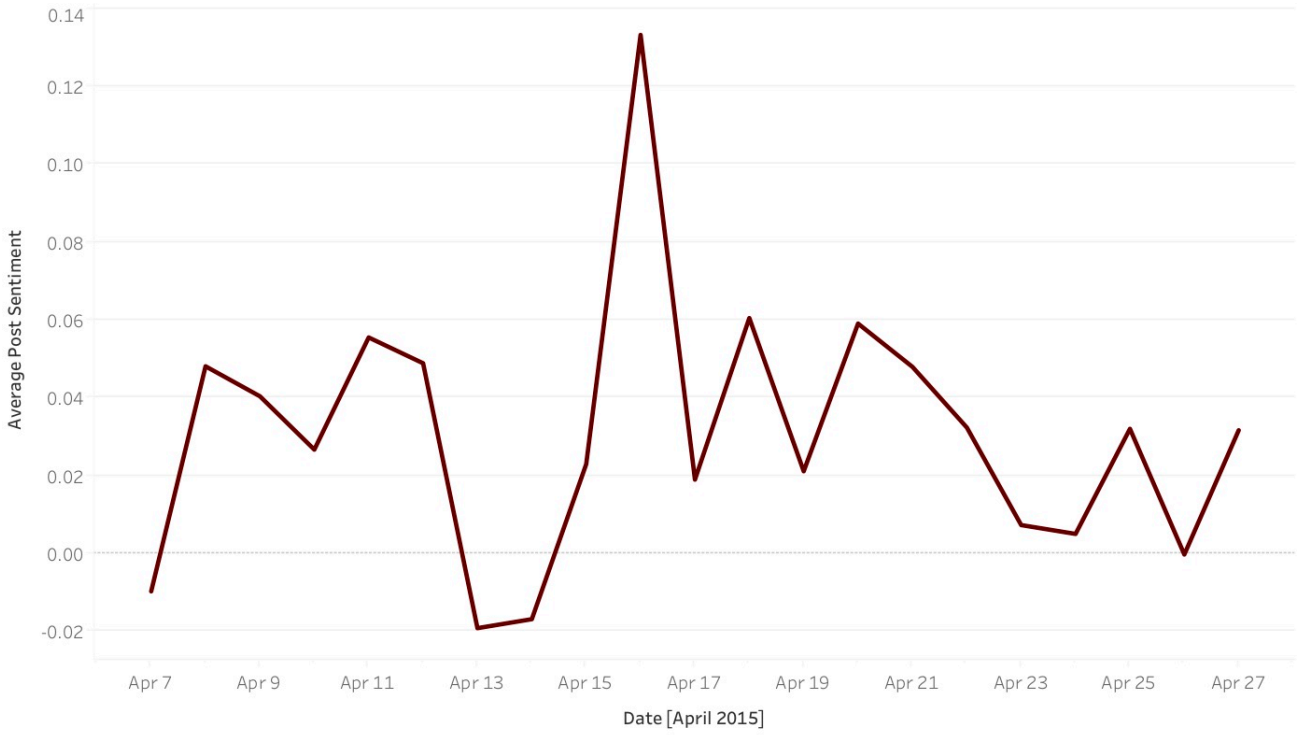


Figure 4.9: Average sentiment of Yik Yak posts by date

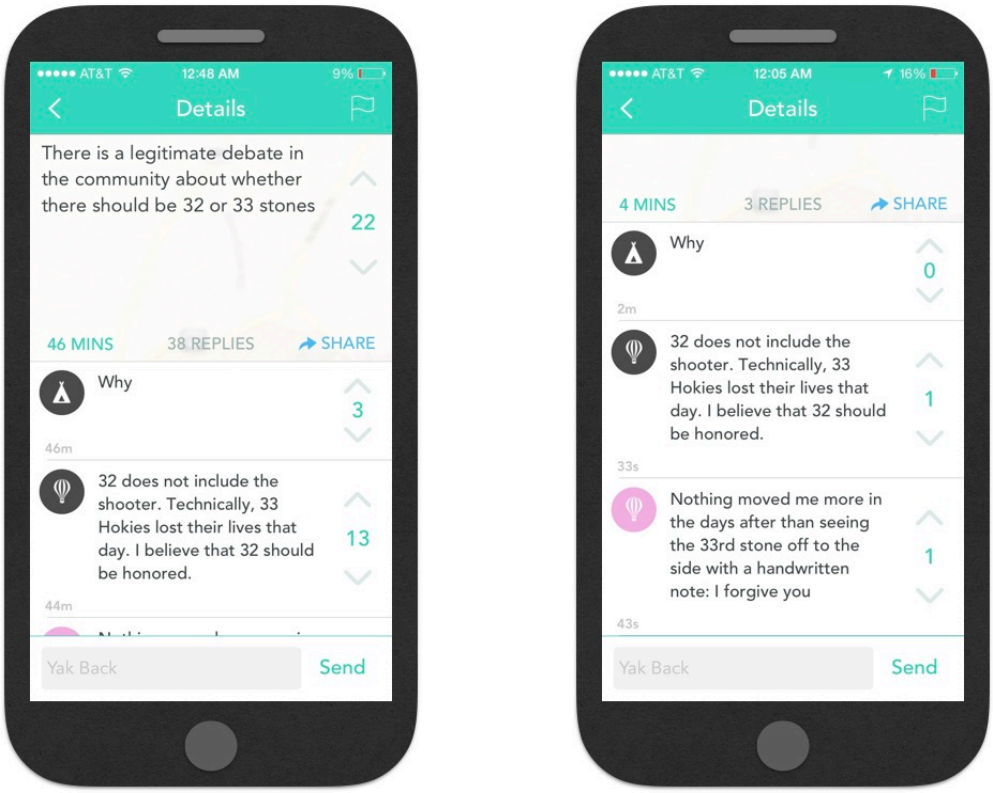
Also during the time of my study, Virginia Tech marked the anniversary of the April 16 shooting. While positive sentiment did rise during the Big Event, the strongest spike in

positive emotional valance occurred on the day of this memorial. Again, the term Hokies was common, as were words like "love," "family," and "remember." Mirroring the commemorative traditions on campus, Yik Yak became a hybrid site of community support and reflection as the coincidence of time, place, and emotion drove conversation.

Yik Yak also served as a space where community members debated the meaning of the memorial events, with several conversations developing around the 33 versus 32 controversy (Figure 4.10). While 33 individuals died on campus during the shooting, the official memorial events exclude the shooter, who took his own life. On Yik Yak, users debated whether to include the shooter, who suffered from mental health problems, when commemorating the victims. The debate grew strong reactions from individuals on both sides. The hybridity of Yik Yak transformed the nature of the memorial site into a space encompassing rhetorical engagements transcending and transforming arrangements at the physical memorial.

In addition to overall trends in term frequency, exchanges observed in the community demonstrate how users interacted to form communities of support. When one user posted and feelings of depression and anxiety about sharing those feelings with others, the community responded positively. The original post read, "I would love to yak about how depressed I am and how much I hate myself and my life but I'm afraid of how many people will be rude on here and it will just make me feel even worse about myself." Despite the negativity and trepidation, the post attracted supportive comments:

- You need to find what makes you happy. For me it's walks and spending money lol. Don't be afraid to treat yourself whenever you feel down.
- Love this also see cook, medication can help, u shouldn't feel ashamed for a chemical imbalance in your brain but yes, exercise helps! Everyone faces tests in life, please don't give up fellow hokie



(a) Original post about April 16 Memorial (b) Responses to original post

Figure 4.10: Yik Yak posts debating the April 16 memorial

- Work out!! I was massively depressed, figured I wouldn't make it more than another year and wanted to know what I'd look like if I got into shape, I've never been happier. Sounds cliche but please try
- Hope you feel better
- Look man, I'm really depressed as well. You really have to take it a day at a time and not pity yourself. Don't let your depression control your thoughts and life.
- Generally speaking the comments on posts about serious issues make the rude posters uncomfortable so they usually avoid them (as far as I've observed) the community is generally supportive too.

This exchange shows how anonymous social media can serve as an effective outlet for students seeking help and support with sensitive subjects (Drouin et al., 2018). Similar posts sought support for different personal concerns. One post from a student who self-identified as gay asked for advice on coming out to members of his fraternity. Another student sought help with quitting smoking. General trends in terms used by Yik Yak posters and exchanges like these demonstrate how Yik Yak functioned as a site of vernacular rhetorical exchanges where users negotiated both individual and shared identity and community values.

Hauser (1999) has written on public sphere theory and its relationship to vernacular rhetoric, which the author contrasted with more official rhetoric originating with larger institutions such as governments. By vernacular rhetoric, Hauser referred to the everyday exchanges of a people as compared with institutional, and especially political, discourse. Hauser argued that vernacular exchanges are central to the public sphere because they are a location where individuals within a society negotiate their identity and shared values. It is these exchanges, Hauser claimed, that reflect "the language and style that members of a society must share to negotiate daily life in a community of strangers" (p. 36).

Increasingly, especially for younger people, the sites of these discursive exchanges where values and beliefs are contested span a physical and digital boundary. boyd (2014) has ethnographically studied the social media use of teenagers, and her research showed online interactions to be an important site of identity formation and negotiation as well as socialization. As overburdened schedules, logistical restrictions, and legal regulations in physical space result in fewer opportunities for young people to publicly gather outside of institutional settings, apps like Yik Yak have stepped in to fill the void. Through interviews, boyd found that many teens and young adults have limited free time and access to public spaces. As a result, websites and apps serve as a primary site of vernacular rhetorical exchange.

The flow of conversation on Yik Yak demonstrated how posters responded to a hybrid rhetorical situation effected by Yik Yak that drew together place, time, emotion, community, and shared values in a complex hybrid ecology (Carlson, 2018). From more lighthearted trends, like a spike in Game of Thrones discourse before the premier of the popular series, to the more serious discussions surrounding the April 16 memorial, posters considered timeliness, community norms, and personal identity as they engaged in exchanges. Community norms were likewise reflected in how the community responded to and moderated content on the app.

4.3.2 Yik Yak Community Moderation

Yik Yak allowed for community moderation through the qualitative affordance of voting (Tarsa, 2015). On Yik Yak, communities could interact with new messages in real-time, either validating them and promoting them higher in the feed of messages using upvotes or pushing them out of the feed using downvotes. The outcome of voting reflected the extent to which a poster's new message resonated with the community, and these communal assessments had a real impact on the visibility of posts. If a post reached a net score of -5, it was removed from the community feed immediately.

To test the effects of community moderation, and in turn develop a sense of the community's collective values, I applied sentiment analysis to quantitatively score posts for negative or positive sentiment. To study trends in the community related to moderation, I grouped posts by their cumulative vote score at the time of data collection. This score may not reflect the "final" score the post would receive since it could change over the life of the post. To account for this, I limited the corpus to those vote scores which encompassed the widest

range of posts, from -4 (nearly deleted) to 50, and eliminated posts for which a sentiment analysis score could not be determined.

After reduction, the sample encompassed 63 percent (n = 7,459) of the total posts in the corpus. Eliminating the more outlying messages helped to reduce strong swings in data for scores with posts, which could reflect outliers in terms of post age and skew analysis. On average, there were about 136 posts per each score in the analysis, which means that each aggregate sentiment analysis score is more likely to include both newer posts and posts more toward the end of their lifecycle. I then compared the average sentiment ratings with the score given to each post by community members based on their voting patterns (Figure 4.11.

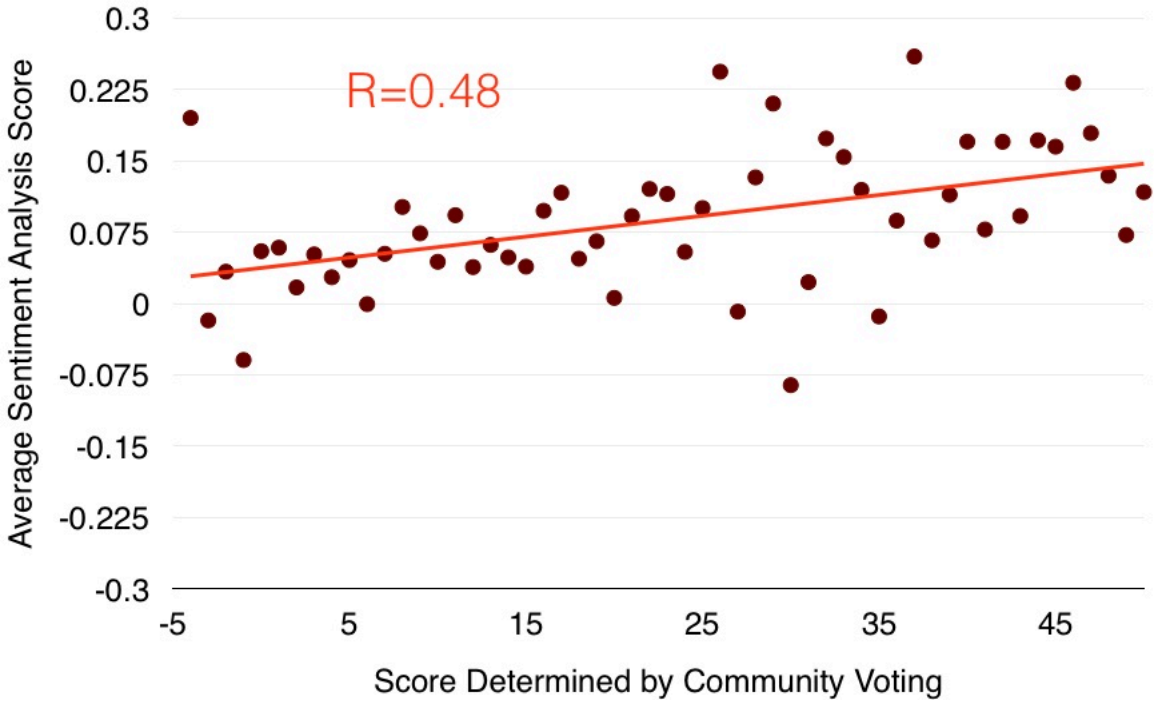


Figure 4.11: Correlation between Yik Yak post sentiment and community vote score

The data reflected a positive correlation between aggregate sentiment and score. In other words, posts with a higher rating according to community votes on average were more likely to express positive sentiment. A correlation test found a fairly strong (r = 0.48) positive

correlation at a statistically significant level between score and average sentiment. Within the sample, this relationship was more predictive than other factors including the date, day of the week, time of the day, and location of posts, none of which demonstrated statistically significant linear trends. The analysis suggests that the community moderated content with some attention to the sentiment of posts, preferring to upvote posts with positively-valanced content and to downvote posts with negatively-valanced content. But this should not be understood to suggest that negative content did not emerge on the app.

4.3.3 The Reality of Negative Content

During my study, I identified negative content on the app, including racist content. One post simply read, "White power," which attracted negative attention and a comment that read simply, "And the rise of fascism begins with a Yak." More popular, however, were posts that appeared to express racist sentiments in joking, sarcastic, or otherwise ironic ways. The White power post, for instance, was in response to a previous Black power post that attracted other responses. In contrast, consider the similar post "Yesterday a yak that said 'Black power' got upvotes and nobody questioned it. But if I said 'white power' I would get called a racist fuck and it would be voted off so fast."

This post was correct about the community response to the White power post, but it received positive responses, especially claims related to "reverse racism." While the blatantly racist post fared poorly in the community, the more oblique post expressing similar sentiment was not downvoted. This is deeply telling. But what is interesting is the relationship with disinhibition and anonymity (Suler, 2005). Despite anonymity, users still appeared concerned with ethos and community norms, although the app betrayed that community sentiment may not be as progressive as popular narratives would suggest.

4.3. Exploring a Yik Yak Community

The trend toward racist discourse masked by sarcastic or hypothetical rhetorical moves recurred in the Yik Yak community. In distancing themselves from abjectly racist positions, even in the absence of clear identity markers, posters revealed a concern with ethos rooted in an understanding of community norms and acceptability. In a way, these posts are more problematic than the vitriol that received the most widespread media attention given their casual nature and generally warmer reception. By developing language that distanced both writer and reader from the central racist claim, racist views could be promulgated with some degree of efficacy within the community.

While users tended to predictably respond negatively to content perceived as blatantly discriminatory, they were less quick to question posts that expressed so-called casual racism or comments perceived to be jokes like "What do you call a white guy surrounded by 5 black guys?……Coach." Microagressions also fared better than more direct expressions of hate. Posts such as "Is it too much to ask that I be able to understand my TA's english?" and "Top 5 languages spoken by my professors: 1. Not English 2. Not English 3. Not English 4. Not English 5. English" received upvotes from the community, although they were not received with universal popularity. For instance, a sarcastic response to the previous post read "Well learn Not English then. Its not that hard."

Racist posts tended to center on the Black community, likely due to the growth of the Black Lives Matter movement and ongoing campus solidarity protests. A close reading of posts directly addressing the Black community, which reflected less than 0.4 percent of posts shared during the study, revealed a combination of racist posts such as those above, and also posts in solidarity with the Black community or speaking personally to Black experience at the university. One post cited a statistic that "Out of 29,000 students, only 871 are black" to which a user replied "Wow that's lower than I thought." Another post called out an individual for racist behavior on campus, writing "To the SAE guy who just threw a banana

at a black guy as he was walking away.. you are a piece of shit." This intersection of a purported in-person racist act and online shaming speaks to the fluidity of racism between physical and digital spaces and the intersecting relationship between Yik Yak and campus.

4.4 Reassembling Yik Yak

In sum, my research did not find Yik Yak to be completely free of disturbing content, but it did challenge the idea that conversations on AGE social media differ fundamentally from other types of offline social exchange. There is negative content on Yik Yak, but Yik Yak also existed as a hybrid site of vernacular rhetorical exchange where users responded to complex rhetorical situations and engaged in shared acts of community moderation and engagement. To return, then, to the initial question: Why do calls to voluntarily abandon or ban digital spaces like Yik Yak become more rhetorically effective than work to reclaim them as with prosocial movements in physical space?

At Virginia Tech at least, it would not seem that a strong argument can be made that the efficacy of appeals to delete or ban Yik Yak rested in a logical claim regarding the especially incorrigible nature of the Yik Yak community as divergent from other vernacular rhetorical practices. Since my initial work, a larger-scale analysis undertaken by Saveski et al. (2016) has confirmed that negative messages on Yik Yak did not reflect much difference from other social media sites such as Twitter, which attracted less scrutiny at the time. As such, we should instead consider rhetorics of technology and how Yik Yak was produced in arguments about the app.

Calls to delete Yik Yak can be understood as a rhetoric of purification which produced the complex hybrid reality of Yik Yak and its discourse as digital objects that could be "deleted" in the same sense that an app can be removed from a smartphone. This move

related to the general negativity found in news coverage as well as some specific claims in news coverage of the app that suggested a distinction between physical and digital discourse and communities. However, this elides Yik Yak as emergent among users within specific communities. As Bayne et al. (2019) put it:

> While there clearly were instances of hate and victimisation enabled and amplified by Yik Yak, we suggest a need to move away from assuming that this was somehow determined by the app design to take on board a sociomaterial analysis which brings the institutional culture and context within which the app was used into the analysis. If hate speech was prevalent in a university's Yik Yak feed, this would likely indicate its parallel presence in clubs, bars, coffee shops and playing fields. (p. 8)

The #ReleaseTheYak movement may have developed as a well-meaning response, but it is not without unintended consequences. Purification in this case served as a kind of shorthand that erased the reality of negative discourse such as racism, transferring agency variously to the app or to others who use it and away from deeper systemic problems within communities. This is problematic in two ways. First, calls to delete the app diminished the agency of app users, and especially targeted populations, by placing the burden on them to remove themselves from the app rather than directly addressing systemic problems that the app made apparent. Second, removing the app likewise removed opportunities for prosocial interaction afforded by hybrid community-based, anonymous discursive space, where users engaged in debates and identity formation that they may not otherwise have felt comfortable or able to engage in.

Similar campaigns against apps more recently have likewise produced unintended consequences even as they intended to effect positive outcomes. Recent legislation intended to

curtail online sex trafficking by imposing regulations on dating websites led Craigslist to shutter their online personals service (Chokshi, 2018). Sex workers have reported being forced to use less visible and more potentially risky sites after similar closures (Witt, 2018). Members of the LGBTQ community recalled how the online personals spaces offered a place to meet others even as their physical communities were not accepting of their identities and relationships (Shadel, 2018). This was explored in more detail in a dissertation by Reynolds (2017), who found that 50 percent of Craigslist news coverage focused on sex crimes and sex work even as posts on the site reflected a broader range of interactions and included an overrepresentation of marginalized communities (p. 221). Unintended consequences like these proliferate when the internet is understood as consisting of independent physical and digital components and actual and real realities.

My own findings about media representation of Yik Yak concur with conclusions from Reynolds about how media frames online communities, especially communities involving anonymity and locative features. These examples demonstrate the need for a broader rhetorical approach to digital and physical hybridity that reflects the reality of discourse as it transcends clean digital and physical divides (Stephens-Davidowitz, 2018). What I would like to suggest is not that negative events do not occur on apps like Yik Yak, but rather that reducing Yik Yak to its negative digital content and blaming interface features for occurrences of negative discourse is a facile argument. In practice, Yik Yak was a complex hybrid writing technology which crossed ontological boundaries between physical and digital. While its technological hybridity troubled conceptions of identity, place, and agency, we are better served by reassembling these components to understand how they interact to reveal new understandings of community and to participate in new kinds of rhetorical situation and rhetorical possibilities.

Chapter 5

The Right to Privacy and the Invention of Cybersecurity: The Internet in United States Legal Discourse

The spread of the internet and its incorporation across a rapidly broadening range of devices and activities has lead to growing fears about online safety. For many people, this is not idle anxiety. In a recent study by the Pew Research Center (Smith and Olmstead, 2017), for instance, nearly two out of every three survey participants reported being the victim of a major data breach (p. 8). As a result, cybersecurity has emerged lately as a topic of concern for individuals, organizations, and governments.

But what is cybersecurity? In technical discourse, the term refers to the design of systems that "remain dependable in the face of malice, error, or mischance" (Anderson, 2008, p. 3). A definition like this one, however, fails to be meaningful if we can only define dependability after experiencing the results of the breach of a digital system. For instance, it was only in the run up to and aftermath of the 2016 presidential election in the United States that Facebook users became aware not only of how others could access their information but also how that information could be reassembled using methods that gave third parties deep

insight into private details of their lives. In this example, Facebook was dependable—until it wasn't. Facebook could argue, and did (Granville, 2018), that this in fact was not a security breach at all because the data was accessed without breaking into the system. And it was only in the context of new kinds of psychological profiling technologies and online advertisement targeting that privacy, and as a result security, emerged as a quality of some of the data users shared with the social networking site and ultimately lost to third parties.

I see this as an illustration of how a rhetorical approach to cybersecurity can help us to better understand technology and the internet. By a rhetorical approach, I mean an approach to cybersecurity as an emergent response to experiences of technology and privacy in contrast to an approach that understands security as the binary quality of a given system. A rhetorical theory of cybersecurity can demonstrate where the interface between users and systems emerges and how the location of that interface effects cybersecurity as a complex problem space that is at once technological and political.

In this chapter, I will specifically consider the emergence of cybersecurity through rhetorics of purification responding to physical and digital hybridity in legal discourse surrounding privacy. This study is grounded in privacy not as a binary possession but as a political project ongoing at the intersection of individuals and technologies. In digital rhetoric, the concept of cybersecurity has not been explored extensively in theory or in practice. Issues of digital privacy have been explored in contexts including data mining and surveillance (McKee, 2011), passive internet tracking and "invisible identity" (Beck, 2018), and wearable technologies (Hutchinson and Novotny, 2018), but cybersecurity has not been extensively theorized, especially in terms of the relationship between technology and privacy and the discursive spaces where the relationship between the two is contested.

I will apply rhetorical analysis to United States legal decisions surrounding privacy and technology in order to examine how privacy emerges as a right on the internet and how

rhetoric surrounding privacy unfolds within a broader context of negotiating the reality of new technologies. Legal documents demonstrate how rhetorical practices relate to privacy, and by extension cybersecurity, not as a discrete possession but rather as an emergent matter of concern within hybrid technological environments. In other words, cybersecurity relates to specific material configurations of and political engagements with technology, an ongoing process where the reality of digital and physical objects is at stake in the context of the material experience of privacy.

To analyze these texts, I will apply a similar approach to the stasis analysis developed by Graham (2015) as a method of rhetorical-ontological inquiry (ROI). This approach contributes to a rhetorical theory of cybersecurity by tracing the emergence of questions concerning the reality of technology and their resolution into commonplaces, or rhetorical resources that later arguments can be built upon within a specific disciplinary setting. In this case, commonplaces predicated on the materiality of the internet reflect a deeper tension between technology and privacy that is resolved through rhetorics of purification. This rhetorical practice distinguishes between the physical and digital qualities of information when the possibility of online privacy is negotiated in order to determine when digital data matters and when it does not. The resulting resolution to this conflict produces a border between physical and digital objects with implications for future arguments concerning technology and the reality of these physical and digital worlds.

5.1 Internet Hybridity and Internet Surveillance

Zappen (2017) identified internet surveillance specifically as an object of concern for contemporary digital rhetoric that relates to the "complex interrelationships between humans and a digitized physical world" (p. 55). I understand this to be related to the proliferation

of internet-connected devices, which can collect an increasing amount of digital data about users in different contexts. When combined with complex algorithms, this digital data can emerge as threats to privacy and security in the physical world (Schneier, 2015), demonstrating the complex hybrid reality shared by both digital and physical objects. As the hybrid relationships identified by Zappen continue to develop, new risks to privacy will likewise continue to emerge.

Public concerns with privacy and security online in the United States came to a head in the summer of 2013 when former government technology consultant Edward Snowden provided journalists with thousands of documents detailing classified National Security Agency (NSA) internet monitoring programs. Critics questioned Snowden's motivation for leaking classified documents and emphasized potential risks to national security, while supporters argued that his actions were justified given the extensive reach of the government surveillance programs he revealed. Cassidy (2013) wrote in the *New Yorker* that, despite the controversy, Snowden's leaks could nonetheless leave a positive legacy in the form of public debate about online privacy and the ubiquity of the internet. Following the initial surge in interest produced by these revelations, however, a productive and consistent debate concerning internet rights has proved elusive in the United States. While survey research suggests that United States Americans are increasingly aware of privacy issues raised by digital technology (Rainie, 2018), there has been an underwhelming legislative response to the allegations as compared to technology legislation that exists in other places like countries in the European Union (Scott and Singer, 2016).

One popular explanation as to why the Snowden debates did not produce a stronger response in the United States has been that the secrecy surrounding government surveillance programs stifled the possibility of meaningful public discussions. Even after the Snowden leaks, public information about the specific internet surveillance methods deployed by the

government remains limited, and the courts that award certain internet surveillance warrants remain sealed. Writing in the *New York Times*, Shane and Weisman (2013) claimed that "the legal and political obstacles to such a debate, whether in Congress or more broadly, are formidable." In a column in *The Atlantic* during the 2015 United States presidential primary debates, Waddell (2015) argued that meaningful discussion about internet privacy and government surveillance programs was impossible because "the total blackout on information about them keeps the public from being able to make informed decisions about the lawmakers and officials they elect."

A less obvious but nonetheless relevant challenge to a deeper public discussion concerning internet privacy and the law relates to the rhetorics deployed to render the hybridity of the internet as an object within existing legal discourse pertaining to privacy. Secrecy and the general lack of transparency surrounding government surveillance programs certainly represent one obstacle to open public debate, but the rhetorical emergence of the internet in different types of public discourse also plays an important role in how public debates about rights online can unfold. When politicians, judges, and users talk about the internet, are they even talking about the same thing? In the next section, I will consider general theories of the public sphere and privacy to contextualize a discussion of legal discourse related to privacy.

5.2 Public Sphere Theory and the Shifting Contexts of Privacy

Some researchers are moving to consider cybersecurity from a rhetorical perspective, but this current work is not taking place within the field of rhetoric (Quigley et al., 2015). As

a result, there is an opportunity to further develop literature in the field and especially to develop theories than can account for cybersecurity rhetorically. In this chapter, I am concerned with cybersecurity as reflected in rhetorical practices related to digital technology, information security, and privacy. In other words, I am concerned with cybersecurity as something connected by necessity to a sense of privacy that cybersecurity interventions, be they technological, political, or practical, seek to preserve.

In this sense, I want to challenge a dualistic, either you have it or your don't, since of privacy in favor of a more nuanced position that understands the realms of public and private as themselves ambiguous and in turn informed by political, material, and historical conditions. This is important to critiquing and theorizing cybersecurity beyond simply limiting access to discrete digital information. In order to contextualize this discussion, I will turn to a review of public sphere theory and its relationship to the theory of public and private spaces.

5.2.1 Habermas and the Bourgeois Public Sphere

Privacy exists as a social practice with reference to the cultural, historical, and material contexts where claims about privacy are articulated and reified. Rhetoric and writing researchers studying public sphere theory have often returned to the instability of the public and private divide, and so it is worthwhile to consider some of these arguments before turning to consider privacy specifically in terms of legal rhetoric. It is important to note from the outset how changes in social structures and the materiality of rhetorical practices participate in the delineation of public and private spaces and how technology has increasingly featured in public sphere theory, even when the role of technology is not foregrounded. Just as shifts in political and social dynamics have historically reconfigured public and private spaces, so

too does technology play a role in how we understand private and public. These connections between technology and privacy speak to the complexity of rights to privacy online.

According to Habermas (1974), the modern public sphere developed in response to profound changes in eighteenth century European society. The ancien régime, which had until then constituted an aristocratic public sphere "directly linked to the concrete existence of a ruler" began to fracture in the wake of the spread of Enlightenment ideas of individuality and the role of government, an epistemological shift reflected in a series of schisms within the church and state (p. 51). As a result of this shift, new conceptions of religious freedom placed spiritual life within the individual private conscience, displacing the church from its primacy in public life.

Through political reforms, the public and private lives of rulers were likewise differentiated to reflect a new awareness of a public/private distinction, subjecting public actions of rulers to scrutiny from outside political bodies. Habermas recognized this as a space the afforded new types of public action and interaction. Related developments in other institutions including the military and judiciary further reified a distinction between aristocrats as representative of the body public rather than constituting a public body (p. 50–52). These drastic cultural shifts arose concurrently with the development of an unprecedented social class which was gradually consolidating economic and political power: the bourgeoisie. As the distinction between the private life of civil society and the public power of the state grew more and more concrete, shopkeepers, merchants, and other tradesmen began to accrue capital and "developed into a sphere of bourgeois society which would stand apart from the state as a genuine area of private autonomy" (p. 51).

Bourgeois individuals, who did not officially hold state offices but were nonetheless interested in the functioning of the state as it related to the market economy, formed the bourgeois public sphere, which served as a foil to the state's political power through deliberative

conversations open to an informed bourgeois public. These conversations circulated both in spaces of public assembly, such as clubs, salons, and coffeehouses, and increasingly in journals and newspapers. Technologies of publication and circulation contributed to the broad development of literacy among the bourgeoisie, which gave rise to these print-mediated rhetorical spaces. The public deliberation of the bourgeois class in coffeehouses and in print legitimated actions said to be taken on behalf of the public by the state.

As a newly discovered technology of power, the state itself increasingly relied on "the exchange of commodities and information" within this new public sphere (p. 51). While Habermas recognized the power of critical discourse within the bourgeois public sphere to curtail state power over individuals, the bourgeois public sphere itself is fraught with issues of power, seen especially in conditions for participation in public deliberation. Habermas himself has acknowledged contemporary challenges to bourgeois public sphere theory, noting that "it cannot be applied to the actual conditions of an industrially advanced mass democracy organized in the form of the social welfare state" (p. 54).

Hohendahl (1974) located this challenge in the fluid nature of the liberal model as such, which is "constantly undermined by the intertwining of state and society, the diffusion of the state and social sector" (p. 47). Just as Habermas's bourgeois public sphere arose from shifting conceptions of public and private in the face of liberal political reformations, continued reassessment of public and private changed existing conceptions of what the public sphere was and how it ought to function. Habermas, however, did not offer a complete idea of what exactly a post-bourgeois public sphere might look like.

5.2.2 Contemporary Critiques of Habermas

Contemporary scholars have expanded on the foundational Habermasian bourgeois public sphere to develop their own theories and models of public discourse and the unfolding of the public and private divide in late-stage capitalism. Fraser (1990), whose work has influenced contemporary discussion of the public sphere, recognized the importance of Habermas in understanding democracy and critical theory, but elaborated several critiques from a revisionist historical perspective that demonstrate Habermas's reliance on one model of the public sphere while delegitimizing others. Her four main challenges (pp. 62–63) each focused in one way or another on assumptions regarding public, private, and non-bourgeois public spheres. She argued that the Habermasian "bracketing off" of differences considered private for the sake of a monolithic public conversation did not obtain, and that indeed "subaltern alternative publics" established on the basis of these differences have been effective in advancing public conversations for feminist, labor, and queer movements (p. 67). According to Fraser, these movements often functioned by challenging public and private divides that served to silence different groups in public deliberations.

The assumption, then, that public discourse must be restricted to questions that fall into predefined notions of what counts as public defeats the purpose of public deliberation as it relates to subaltern groups like those previously mentioned. By limiting public conversations to a particular bourgeois definition of public, the bourgeois public sphere functioned "to delegitimate some interests, views, and topics and to valorize others" (p. 73). Fraser closed with a discussion of the public/private distinction as it related to civil society and the state. For Habermas, a strict distinction between the state and the bourgeois public sphere was required for it to maintain its critical deliberative power as an outside body capable of legitimizing the lawful functions of democratic governments. Fraser, however, claimed that

this created strong and weak publics that denuded civil society by concentrating power in the strong public constituted by legislative bodies.

Fraser concluded that "the bourgeois conception of the public sphere, as described by Habermas, was not adequate for the critique of the limits of actually existing democracy in late capitalist societies," but Habermas was nonetheless vital to an understanding of discourse in modern capitalist democracies and the nature of public and private spaces (p. 76). Frasier's challenge leveraged a thread of critique that directly deconstructed the separation of public and private spaces, discursive and otherwise. Frasier in fact argued that one move available to subaltern publics was to directly challenge boundaries between public and private in order to advance their interests and refigure their lived experiences as of political concern. Benhabib (1997) pushed this further in her work on public sphere theory. She argued that theories of public and private based on Habermas, including her own earlier work, "have not been sufficiently attentive to the need for the multiplicity of institutional configurations within the public sphere" (p. 17).

Writing after Frasier, Benhabib directly took up new technology in her work, writing that "The electronic media in particular are becoming the 'site' in which value wars are waged, identities fashioned, needs renegotiated, images of the good life circulated" (p. 18). Work by Frasier and Benhabib to broaden the notion of public and challenge the public and private dichotomy are reflected in work by subsequent researchers. Hauser (1999), for instance, sought to offer a reinvigorated model of the public sphere that acknowledged the contribution of vernacular rhetorics to public discourse. Habermas's theory, Hauser wrote, "contains an a priori disposition to overlook both discursive milieus that fall outside the institutionally sanctioned enclaves of empowered exchange and modes of discourse that do not adhere to the norms of ideal speech" (p. 55).

Hauser accused Habermas of question-begging by separating ideal discourse in his bourgeois public sphere model from practical oppositional political discourse observed in the world: "Habermas posits norms that are contrary to the character of the empirical phenomena he theorizes" (p. 46). In his six problems (p. 46–55), Hauser aligned with Fraser and Benhabib by arguing that Habermas's assumption of a monolithic, disinterested public sphere does not account for diversity within democracies and the richness of public opinion across traditional lines of public and private interests and spaces. Hauser argued instead for a rhetorical model that "not only expects participants to have interests but regards them as essential for the exercise of prudent judgements on public problems" (p. 55).

5.2.3 Public Space, Private Space, and Materiality

For the purposes of exploring the public and private in terms of online interactions, Warner (2002) has offered a particularly salient description of privacy as an ongoing process with a history and specific material configurations. Warner first considered how privacy plays out in architectural and legal spaces. He noted that the design of modern western homes, such as the separation of public-facing rooms and private living areas, reflected an ongoing privacy discourse taking into account social norms about individuals, families, and the state. In the United States legal system, this is reified in the home as an ultimate zone of privacy, which has traditionally defined the limits of government interference. While the built environment and related legal protections provide a sense that certain spaces are clearly distinct as either public or private, Warner argued that this sense of privacy is constantly changing over time:

> Public and private are not always simple enough that one could code them on a map with different colors — pink for private and blue for public. The terms also describe social contexts, kinds of feeling, and genres of language. So although

> public and private seem so clearly opposed that their violation can produce a sharp feeling of revulsion, the terms have many different meanings that often go unnoticed. (p. 27)

For example, we may have a sense when we speak with a friend in a coffee shop that our conversation is private even though the space is considered public. When we watch the news on television in our homes, what is a publicly broadcast discussion enters an otherwise private space. A number of businesses are predicated on offering short term leases to the general public of what might otherwise be considered private spaces, such as rental cars, hotel rooms, and vacation homes. In fact, the existence of a sense of privacy demands a public sphere that provides contexts where behaviors can be evaluated as either appropriately exterior or interior.

The provisional quality of privacy speaks to the complexity of articulating rights to privacy in legal discourse, and it also illustrates how technology can affect concepts of privacy. This instability of privacy, which changes in technology can serve to foreground, has combined to produce new controversies in privacy rights law in the United States over the past century, often overlapping with the development of other rights such as the notion of protected speech and the right to free speech. Conceptualizing privacy as related to the public sphere and conditioned by culture and technology helps to understand how privacy is being refigured as these questions are addressed over time. Warner especially emphasized the fluidity of privacy as it relates to social norms and technological mediation. The idea of the home as a space of privacy, for instance, relies on a particular architectural technology that defines some spaces where privacy is protected over and against those where privacy does not extend.

Developments in technology have similarly challenged these cultural notions of privacy by creating new spaces and boundaries where a right to privacy could be said to exist. It was

only as the hybrid networks constituting the internet began to expand around the early 1990s that articulating a theory of privacy online made sense. For this type of privacy to arise, however, a discursive space must exist such that prevailing concepts of privacy can be extended within new spaces where privacy had not previously been contested.

If we accept that public and private are not discrete concepts but rather historical responses to material networks, and if we further accept that the material circumstances to which the demarcation of public and private spaces respond include technological systems, then we must finally acknowledge that privacy is in no way inherent within hybrid technological networks. Instead, privacy arises within a specific material context as well as a discursive context that includes pre-existing notions of privacy and its relationship to materiality. Because it is such a new concept, online privacy is especially fluid.

As the internet impacts more and more of our daily life, the development of a concept of privacy and security online warrants continuing scrutiny. One place where this plays out is legal discourse, where rights to privacy and other types of protections such as the right to both public and confidential speech are produced. Warner claimed that courts in the United States, when faced with shifting historical and material contexts, have "developed other ways of defining public and private in which the terms refer to relationships rather than places" within his broader argument concerning the fluidity of public and private spheres (p. 27). This is a point that I will take up in more detail in the following sections.

5.3 Studying Privacy, Technology, and Rhetorics of Purification in Legal Discourse

Analyzing discursive sites where experiences with hybridity and resulting rhetorics of technology into conflict reveals a complicated relationship between rhetoric, technology, and privacy. Legal discourse reflects one such site where rights to privacy and other types of protections emerge as lawyers and judges determine which laws apply to the internet and how. In practice, this produces a particular legal ontology of the internet in terms of available commonplaces. In other words, the being of the internet is at stake in court cases when parties ground their claims in arguments concerning what components of the internet are real and have real impact on individuals. Examining how a dichotomy develops between digital data and real effects from a rhetorical perspective can illustrate both how the practice of rhetoric participates in physical and digital materiality and why this distinction matters. Rhetorical analysis helps to demonstrate how rights like privacy develop in specific ways within hybrid digital and physical networks.

5.3.1 Compiling a Corpus of Legal Rulings

To examine how privacy, and specifically a right to privacy, has evolved in legal discourse, I built a corpus of major court cases that relate to privacy rights and technology. Beginning from research related to the internet and privacy from cybersecurity expert Schneier (2015) and articles from legal reviews (Richards, 2013; Rustad and D'Angelo, 2011), I assembled a corpus of cases which have contributed to legal reasoning concerning the internet in the United States. I used a snowball sampling method when building the corpus, following citations from articles as well as footnotes from the court cases that I reviewed. While the

cases I discovered through this process dealt with diverse controversies including internet commerce and free speech, I focused on those cases that primarily revolved around privacy and the Fourth Amendment, though some also relate to speech, anonymity, and privacy online.

After reduction for relevance, the final corpus included decisions from 26 major cases representing a complicated history of technology and privacy in legal discourse. While the oldest case in the corpus is from 1928, most cases treat the internet directly and were decided within the last 20 years. The most recent case is from 2017. While many documents become part of the record of a case, including briefs prepared by those parties to the case, I am interested in exploring specifically the rhetoric of the final judicial decisions. There are two reasons why I am focusing on this particular rhetorical genre rather than other texts in this chapter.

First, judicial decisions are likely to be cited in future cases with more frequency than other case documents, and as such the rhetorical work these documents do will have a significant impact on how future cases are adjudicated and on legislative attitudes toward the nature of internet rights. As a consequence, examining the internet in judicial decisions can help to better understand how these rights developed historically and are likely to develop going forward. Second, as judicial decisions reflect the final resolution of a case, their rhetoric reveals how specific controversies of fact in the case were identified and addressed. In other words, the final decisions reveal what was understood as legally controversial following the arguments in each case.

The cases offered are not intended to reflect a complete reading of the internet in United States case law or a rhetorical history, but they do include high profile cases which have played a significant role in expanding the idea of privacy and in crafting a concept of online privacy. Their importance is reflected in their reference in subsequent cases, their citation in

legal articles, and more generally in the distance to which these cases have travelled through the legal system. The cases in the corpus include cases at the state supreme court, federal appeals court, and Supreme Court levels. Therefore, it is likely that they will continue to be referenced going forward as the basis for arguments both for and against the legality of surveillance on the internet. In the next section, I will discuss an approach to studying these cases in order to understand how commonplaces form that allow the internet to be taken up as an object of legal discourse.

5.3.2 Legal Rhetorics of Technology and Stasis Theory

To study the development and the effects of these commonplaces, my rhetorical analysis of court decisions concerning technology and privacy borrows from rhetoric of science and technology methods developed by Graham (2015). Graham's rhetorical-ontological inquiry (ROI) works well as a framework to investigate this phenomenon by means of rhetorical analysis. Just as Graham observed that pain did or did not exist in different ways for different experts, privacy similarly may or may not exist within hybrid physical and digital networks depending on the alignment between rhetorical practices and the understood reality of these networks in a given discursive setting.

Legal discourse is one such space where the nature of privacy is rhetorically mediated and where the potential of technology to afford public or private spaces is negotiated. Within legal structures, individuals with much different understandings of technology work to align their own experiences rhetorically with what counts as real, or at least certainly impending, according to existing legal precedent. The rulings of these courts produce traces that can be examined in order to analyze the relationship between hybrid technological networks and privacy in terms of what comes to be understood as real.

5.3. Studying Privacy, Technology, and Rhetorics of Purification in Legal Discourse

Within rhetorical-ontological inquiry, Graham described a specific method of rhetorical analysis called functional stasis analysis. This method can help to show how reasoning about the nature of an emergent object, like privacy, is reflected in rhetorical practices over time. Stasis theory itself developed in classical rhetoric as a heuristic for the invention of persuasive speeches, and it enjoyed a central position in many early western treatments of rhetoric. Hermagoras of Temnos first developed a comprehensive theory of stasis around the second century BCE (Hoppmann, 2014), and this theory was further developed by classical authors including Quintilian and perhaps most notably Cicero. Stasis theory is closely connected with rhetorical *topoi*, or commonplaces, which represent shared conceptual resources where different kinds of arguments can be derived to address recurring rhetorical objectives.

In contemporary rhetoric, Prelli (1989) argued that revitalizing stasis theory is important to the rhetoric of science because science centers on collaborative responses to questions of definition that stasis theory is uniquely suited to identify and analyze. Prelli argued that "Members of problem-solving groups do not automatically see problems in precisely the same ways, nor do they see available data in the same way," and so stasis theory afforded both a heuristic to invent arguments concerning these differences as well as an analytic framework for understanding scientific discourses (p. 52). Graham and Herndl (2011) suggested that such a contemporary application of stasis to rhetoric of science, technology, and medicine could serve as a framework to elucidate sites where discursive transformation can take place within and between different ontologies. An ontology in this case can be understood as a theory of how something exists and where its reality lies. Analyzing specific stasis questions, which Graham and Herndl (2011) understood as moments where ontologies came into conflict, allowed the researchers to study the relationship of rhetoric to calibrating different metaphysical frameworks.

Within a functional stasis analysis, points of stasis arise and develop over time as ontological conflicts are settled, leading to new points of stasis. Stasis resolutions become commonplaces which build on each other and are called on recursively in later decisions, a process Graham (2015) described as buttressing (p. 94). This process is ongoing, with resolved points of stasis serving as commonplaces, or jumping off points, for future arguments. I will build on functional stasis analysis and consider the formation of commonplaces to explore the development of privacy in technological environments over time in legal discourse.

5.4 Privacy and Technology in Legal Discourse

In order to understand the ontological problems technology has posed to privacy as a legal right in the United States, it is important to consider that the legal right to privacy is heavily rooted in material and technological contexts. Jurists in the United States have historically accepted a material divide that is reflected in constitutional amendments and laws written at a time when technological mediation of communication was limited to the printing press and print artifacts. The physical materiality of documents like papers was taken for granted, which is reflected especially in the Fourth Amendment, which explicitly protects "persons, houses, papers, and effects" from being seized without a duly authorized warrant. With the development of telecommunications technology, however, the materiality of objects became a point of stasis in legal disputes concerning privacy. In other words, legal decisions in cases where privacy was contested beyond physical environments reflect not only factual questions but also ontological questions concerning the nature of physical and technological artifacts.

After reviewing the cases in the corpus, I have identified four key stasis questions in the development of privacy rights online in the United States. The first moment of stasis emerged as a result of the telephone and related to the possibility of privacy existing in spaces beyond

the material limits set in the Constitution. The second moment of stasis resulted from the rise of the internet and related to the nature of the internet as an object in legal discourse. The third and fourth moments of stasis both related the digital and physical hybridity of the internet by producing divides between digital and physical objects. The final moment of stasis built from previous commonplaces to render certain types of online surveillance real, a trend which effaced other ways that the internet matters as a potential site of surveillance.

In this sense, resolution to these stasis questions and the development of commonplaces reflect rhetorics of purification. These rhetorics are productive in that they rendered internet surveillance as an object of legal discourse, but they are also potentially limiting given new developments in surveillance technology. I will examine each moment along with some characteristic cases in the following sections.

5.4.1 Disrupting Concepts of Materiality

Early telecommunications cases affected the appearance of the internet in later court decisions. Jurists have historically accepted a material divide that is reflected in constitutional amendments and laws written at a time when technological mediation of communication was limited to the printing press and other print artifacts. The physical materiality of documents like papers was taken for granted, and it was not until the development of telecommunications technology that the materiality of objects became a point of stasis in legal disputes concerning privacy. In the Supreme Court case of Olmstead v. United States (1928), the materiality of telephone calls revealed this point of stasis in legal reasoning.

This moment represents the possibility of a disruption in terms of the material history of privacy because the telephone troubled the material conditions of privacy from which the Constitution emerged. In this case, the defendant was found guilty of bootlegging based

in part on secretly recorded telephone conversations. The defendant in turn challenged the legality of admitting these recordings as evidence because they were obtained without a warrant.

The argument central to the case focused on whether in fact the interception of telephone signals without a warrant amounted to a violation of the defendant's privacy. In its ruling, the Supreme Court found that wiretaps did not violate legal rights to privacy. Thus technology emerged as a stasis question concerning privacy, but the materiality of telecommunication was used as grounding for claims that legal privacy does not extend beyond physical objects.

The court found that the Fourth Amendment did not apply to telephone conversations expressly because the materiality of a telephone call did not lend itself to being searched or seized in the same way that items like persons, houses, papers, and effects could be. The court reasoned that wiretaps did not amount to a violation of privacy because "There was no searching. There was no seizure. The evidence was secured by the use of the sense of hearing and that only. There was no entry of the houses or offices of the defendants" (p. 464). The argument that the Fourth Amendment might apply to telephone calls was rejected out of hand because a right to privacy cannot be violated "unless there has been an official search and seizure of his person, or such a seizure of his papers or his tangible material effects, or an actual physical invasion of his house or curtilage for the purpose of making a seizure" (p. 466).

In the decision, the court further considered a similar case, finding against the government surveilling sealed letters, and concluded that the material analogy between the mail and telephone did not hold. Ultimately, the court concluded such an analogy would exceed "the possible practical meaning of houses, persons, papers, and effects" (p. 465). The materiality of telephone transmissions, which the court characterized as "secured by the use of the sense of hearing, and that only," was at stake in the ruling, and was found by the majority of

the court as inferior to the physicality of persons, houses, papers, and effects as specifically delineated in the Fourth Amendment (p. 464). This case is an important moment because it marked the first time that the possibility of privacy emerged in a material context mediated by a new kind of technology. It reflected the emergence of the legal reality of interactions mediated by new technologies as a stasis question that would come to be addressed in later cases.

Katz v. United States (1967) would overturn the Olmstead ruling, effectively moving the point of stasis for future arguments concerning technology and privacy: It established a reasonable expectation of privacy test for searches and seizures that transcended the materiality of privacy and introduced the role of social relationships in demarcating public and private. At issue in Katz was the legality of collecting evidence from a monitoring device placed on a telephone booth perceived as a public space.

The court famously argued in a strong majority opinion that "the Fourth Amendment protects people, not places," which overturned the earlier Olmstead precedent that considered the materiality of the spoken word and the physical location where the wiretaps were placed (p. 351). The ruling was more progressive both in terms of constitutional jurisprudence and in terms of articulating telephone technology as an object of legal discourse. Here the telephone was transformed from the mere sum of the physical components and limits of a telephone booth to telephony as a social phenomenon:

> One who occupies it, shuts the door behind him, and pays the toll that permits him to place a call is surely entitled to assume that the words he utters into the mouthpiece will not be broadcast to the world. To read the Constitution more narrowly is to ignore the vital role that the public telephone has come to play in private communication. (p. 352)

The telephone in this case was a much different technological phenomenon than in the earlier Olmstead case, and was indeed understood as developing its own concept of privacy beyond a physically-situated space where one would expect privacy such as a home or office. In one sense, this rhetorical move sidestepped the issue of whether a telephone call is an "effect" that might be "seized" by relying on a commonplace of personal privacy as secured by the Constitution. The court abstracted the communicative aspect of telecommunications and applied the Constitution to that kind of interaction. Considerations involving the right to privacy "do not vanish when the search in question is transferred from the setting of a home, an office, or a hotel room to that of a telephone booth" the court argued (p. 358). Thus in addressing the stasis of disruption, the Katz ruling acknowledged that the materiality delineated by the Constitution failed to address completely the exigence created by shifting technological and material networks. It did so by articulating a telephone call as a type of communication that would otherwise be privileged if it took place in a private space like a home within a broader application of the Fourth Amendment.

5.4.2 Defining the Internet

The ARPANET, one of the earliest computer networks that would develop into the modern internet, was developing around the same time that the Supreme Court in Katz redefined privacy in technological contexts. It would be decades, however, before the computer network would become an object of legal discourse. And as the first court cases concerning the internet arose in the early 1990s, it remained to be seen how a novel technology like the internet could be understood as an object of legal discourse.

The uncharted nature of this new technology, along with its functionality of transmitting data over long distances, aligned the internet well with the rhetorical developments in Olm-

stead and Katz related to the telephone. In addition to a functional relationship to the telephone, the early internet relied on telecommunications networks themselves to carry information between computers. In legal discourse, this relationship between internet networking and telecommunication suggested the use of telecommunications metaphors to define the internet in legal terms. In these early cases where the internet first becomes an object of legal discourse, use of words like "computer," "electronic," and "communication" figured heavily as computer-mediated interaction was resolved in terms of existing ideas concerning communication and privacy.

According to Rustad and D'Angelo (2011), the earliest major court case in the United States to directly take up the internet was United States v. Morris (1991). The case centered on a computer science graduate student, Robert Tappan Morris, who inadvertently released a worm onto the relatively new public internet. Morris reported that he intended the worm to function as a research experiment to study the number of computers on the internet and their security, perhaps one of the earliest cybersecurity studies. However, Morris underestimated the fecundity of the worm, which rapidly multiplied and spread beyond his control. The worm shut many users out of their host computers and the network, causing missed work and damages and further necessitating recovery work across the network.

The question in United States v. Morris was whether or not Morris should be held accountable for this worm as its unpredicted actions troubled a clear conception of agency. The decision focused on the wording of an existing law concerning unauthorized computer use to determine whether or not intentionality was required of Morris for him to be held legally responsible for damages. Despite the internet's centrality in the case, it was scarcely mentioned. In fact, the only direct discussion of the internet defined it as "a group of national networks that connect university, governmental, and military computers around the coun-

try," though this brief technical definition reflected the use of a metaphor to foreground the internet in terms of purposeful human enterprises like research and politics (p. 505).

The worm Morris created accessed these networked devices remotely. Therefore, there was not any physical evidence related to the unauthorized access. Similar to the cases in Olmstead and Katz, there was no physical trespass. What remained to be resolved was the status of the internet and internet hybridity within a legal technological framework rooted in questions of physical and digital materiality. There were no laws expressly addressing the internet specifically, so the Morris worm could not break any law regulating online conduct. The actions of the Morris worm on the internet were therefore rendered as physical capital and labor in order for online activity to present as a matter of legal controversy. This controversy arose from the language of existing computer law, which did provide relief should unauthorized computer access result in losses of physical labor or capital.

To prove that Morris altered, damaged, or destroyed information as a result of the worm, the court valued the worm's impact in terms of the expense of disruption at different facilities. The estimate of damages ranged from $200 to $53,000 (p. 506). As a result, the court held that Morris was responsible for the damages, if not specifically for crimes related to the internet. But a definition of the internet connected with communication between users was beginning to emerge. This rhetorical move was necessary to fit the internet within the definition of existing statutes like the Computer Fraud and Abuse Act.

This decision reflected an early instance of the emergence of a rhetoric of digital and physical purification in response to the hybrid nature of the internet. The worm itself worked to interconnect a number of actors including the people and organizations who used the computers as well as the physical hardware of the affected computers and the network itself. The monetary value of the disruption of the worm functioned to disentangle these various physical and digital objects. As a rhetoric of purification, the physical consequences of the

worm, in terms of labor and capital, produced the reality of the worm in a specific economic way as the hybrid existence of the worm evaded legal discourse. Rhetorics of digital and physical purification functioned to maintain digital and physical distinction in order to address the complexity of hybridity.

The reality of the internet featured more centrally in other cases during the early 1990s. In Bourke v. Nissan (1993), a California appeals court upheld a ruling that allowed employers to monitor the email communications of employees. One central issue in the case was whether or not guarantees to privacy in the California constitution extended to email messages. Another was whether specific legal statutes, Penal Code sections 631 and 632, applied to Nissan when it accessed employee emails. The first section forbid tapping telephone or telegraph wires without authorization to gain access to the contents of a communication, and the second forbid using an electronic amplifying or recording device to monitor communication. In resolving the case, the court found that a constitutional right to privacy did not obtain because the email system belonged to Nissan.

The question of whether the statutes addressing telecommunications monitoring specifically applied to email messages contributed to an emergent definition of the internet. When reviewing these claims, the court found that monitoring the messages of users on an email system did not violate laws forbidding the use of wiretapping or recording devices. In regards to Penal Code section 631, which expressly forbid wiretapping and accessing telecommunications transmissions in transit, the court found that "Nissan's actions in retrieving, printing and reading plaintiffs' E-mail messages simply are not included within the actions proscribed by Penal Code section 631" (n.p.).

The accessing, printing, and review of the messages by an employer in this case were established as a different act than intercepting the messages in transit, yet the decision drew on telecommunications metaphors to arrive at this conclusion. What is remarkable is that

the application of telecommunications privacy to the internet was considered here, although the nature of the internet as reducible to property and capital persisted, as seen in Morris. The email messages were accepted as communication, but it was communication that the company, in this case Nissan, owned.

In its ruling, the court broached how communications laws might be applied to the internet. This application of existing communications law addressed a stasis question centered on the reality of the internet within legal discourse. In acknowledging the internet and its relationship to telecommunication as a point of stasis, the decision left open the possibility for further analogies to telecommunications as a commonplace for the invention of future arguments concerning internet privacy. It is important to note that other arguments were offered to support this conclusion, including the claim that Nissan owned the network infrastructure and as such could not be charged with accessing that infrastructure without authorization, individual password protection notwithstanding. An argument held in a later case, also involving employee email privacy, Smyth v. Pillsbury (1996):

> Again, we note that by intercepting such communications, the company is not, as in the case of urinalysis or personal property searches, requiring the employee to disclose any personal information about himself or invading the employee's person or personal effects. (p. 101)

At issue here was whether or not digital information can constitute an aspect of a "person or personal effects," which connected with the earlier question in Olmsted. As in Nissan, the United States District Court for the Eastern District of Pennsylvania found in Pillsbury that an employee's emails are subject to search and are not protected by privacy, and in the decision a line was drawn between physical searches that involve persons and effects and the monitoring of digital behavior online, which did not amount to an invasion of privacy. In

these early cases, commonplaces were applied based on the resolution of the earlier stasis concerning telecommunications technologies and privacy.

Even though these cases found against internet privacy, they suggested a relationship between the internet and communication, specifically telecommunications. As a result, the internet became a site where privacy could inhere as a result of its communicative affordances. Despite this resolution, it remained to be proved that individuals possessed their data in the context of the internet in the sense that they possessed their conversations on the telephone. In later cases, the telecommunications metaphor would continue to develop and align the internet more closely with the telephone and telecommunication.

5.4.3 Aligning the Internet and Telecommunication

The later 1990s and early 2000s saw an increase both in legislation surrounding the internet and in court cases adjudicating controversies that arose online. Using existing commonplaces, the internet was produced as an object of legal discourse in terms of its relationship to physical materiality and ownership. The reality of the internet continued to be reflected in locating the internet in terms of monetary damages and corporate ownership. But the hybridity of the internet was growing as more and more users could access the network using an increasing number of devices and platforms.

The growing hybridity of the internet resulted in a new stasis surrounding how exactly the internet aligned with existing concepts of communication and communication networks, as explored during the early definitional cases above. During this time period, First Amendment protected speech issues were invoked as the internet was increasingly associated with spaces where notions of protected speech and privacy applied. The rhetorical connection between the internet and other forms of communication solidified as this point of stasis was

addressed, with the broader sense of telecommunications privacy articulated in Katz applied in arguments to expand online rights and invent online privacy. Appeals to the rapid growth and development of the internet were used to support claims about the unique qualities of the new network.

Major cases during this time where the term "internet" appeared with pronounced frequency include Reno v. ACLU (1997), Dendrite v. Doe (2001), and Doe v. Cahill (2005). In each of these cases, how the internet functioned as communication was central to how the internet became real within the decisions. The effect of this commonplace produced the internet as interpersonal communication, rather than recognizing communication as one affordance of a network otherwise defined in terms of economic damages and ownership. This commonplace reflected the continuing work of purification because the internet continued to be negotiated in terms of physical communication practices.

In Reno v. ACLU, the court explicitly extended First Amendment protections to the internet, creating a commonplace for future cases. Several mechanical choices found in the earlier cases carry over to reflect the novelty of the internet, such as the use of scare quotation marks to set off internet-related terminology and the use of parenthetical, sentence, and extended definitions of those key terms. Not only did these moves offer the internet as an object in need of further articulation, but they also set up later arguments concerning the unprecedented nature of the internet in law. The unprecedented nature of the internet ultimately authorized the expansion of existing constitutional protections.

The court in Reno v. ACLU extensively cited prior court findings that included "findings of fact" about the network to support specific claims concerning the uniqueness of the internet. The use of references allowed the court to establish the uniqueness of the internet within ongoing legal discourse in order to create a space from which to articulate new claims about what the internet was:

- While the ARPANET no longer exists, it provided an example for the development of a number of civilian networks that, eventually linking with each other, now enable tens of millions of people to communicate with one another and to access vast amounts of information from around the world. The Internet is "a unique and wholly new medium of worldwide human communication."[4]

- The Internet has experienced "extraordinary growth."[5] The number of "host" computers—those that store information and relay communications—increased from about 300 in 1981 to approximately 9,400,000 by the time of the trial in 1996. (p. 850)

- This introductory move allows the judge to avoid implying that the uniqueness of the internet is a matter of opinion. By relying on existing materials, the extraordinary quality of the internet can be offered here as a fact rather than an opinion. The use of figures also features heavily to support this claim, as the following paragraph refers directly to the number of internet users: "About 40 million people used the Internet at the time of trial, a number that is expected to mushroom to 200 million by 1999" (p. 850).

These moves established the validity of treating the materiality and function of the internet as part of the findings of the case, and they also further advanced an internet-as-communication connection that would ground the key findings of the case. The solidification of connections between the internet and interpersonal communication was not the only way to represent the internet, but it was a necessary one because the case arose as a controversy regarding the application of a new law regulating communications that was targeted toward "interactive computer services." This communication commonplace recurred in the following paragraphs both directly and through metaphor:

- Anyone with access to the Internet may take advantage of a wide variety of communication and information retrieval methods. These methods are constantly evolving and difficult to categorize precisely.
- E-mail enables an individual to send an electronic message—generally akin to a note or letter—to another individual or to a group of addressees. (p. 851)
- The Web is thus comparable, from the readers' viewpoint, to both a vast library including millions of readily available and indexed publications and a sprawling mall offering goods and services. (p. 853)
- Through the use of chat rooms, any person with a phone line can become a town crier with a voice that resonates farther than it could from any soapbox. Through the use of Web pages, mail exploders, and newsgroups, the same individual can become a pamphleteer. (p. 870)

Recognizing the internet as at once a technology with novel implications and also an extension of earlier communications technology reflects the use of existing commonplaces as a rhetorical strategy for abstracting certain aspects of internet technology and then aligning them with physical counterparts. This purification of the communicative aspects of the internet allowed for the now unproblematic presentation of communications online as a matter of constitutional protection, as the court wrote that the legislation regulating the internet "unquestionably silences some speakers whose messages would be entitled to constitutional protection" (p. 873). Users here became transformed into speakers, and their messages into speech, reinserting internet communication into the social definition of privacy offered by Katz.

This protection of speech online extended into matters of privacy concerning internet users in Dendrite v. Doe and Doe v. Cahill, both of which centered on anonymity online. Both

cases developed a legal standard protecting online anonymity in terms of the internet as a site of communication, and as such speech. The earlier decision in Reno v. ACLU spent several pages dealing with the nature of the internet, but the communication metaphor in later cases appears to have been aligned within legal reasoning as an organizing principle when considering how to reason about the law online.

The nature of the internet still presented as a stasis question in these cases, but the relative lack of discussion suggests that stasis has shifted as the communications metaphor progressed toward legal fact without need of additional citation or discussion. These cases aligned the legal definition of the internet more completely with communication, but this resolution produced the possibility of new stasis questions as the internet continued to grow and encompass a wider array of users and devices that functioned to render users tractable in ways that escaped the communication commonplace.

5.4.4 Expanding the Communication Metaphor

The previous cases revolved around experiences of censorship and invasion of privacy online, producing legal commonplaces strongly connected to communication through purifying different realities of the internet using metaphor. But more recent surveillance cases have had to address situations where individuals and organizations were targeted more or less indiscriminately in ways that they may have never experienced directly or indeed were even able to detect (Lessig, 2006). Commonplaces developed around the privacy of conversations and anonymity in those conversations were difficult to apply to these new situations because it was not always clear that privacy within a discrete communicative context was violated. This difficulty reflected a new moment of stasis concerning the internet. Namely, this point of stasis relates to the application of commonplaces developed around individual conversa-

tions to decentralized networks that derive their power through scale, encompassing ever larger amounts of people, devices, and data.

At this point of stasis, it was not immediately clear that individuals affected by distributed surveillance even possessed standing in court. In other words, the reality of the surveillance itself was in question. One of the earliest cases in which an individual was able to claim standing in a case related to government dragnet surveillance was Jewel v. NSA (2011), in which Jewel was a named defendant representing a class of similarly situated individuals. Jewel alleged that NSA monitoring of both telephone and internet records as revealed by the Edward Snowden leaks constituted an unlawful surveillance dragnet and that this surveillance caused injury that could be redressed in court. In this case, the court had to decide whether or not Jewel and similarly situated defendants could prove this sort of specific injury as a result of government surveillance programs revealed by leaked information from Edward Snowden. Supporting claims concerning injury was complicated not only because of a lack of transparency concerning internet surveillance but also because it was not possible to directly prove that any specific data was acquired by the government, which reflected a new moment of stasis concerning privacy and technology.

The circuit court established that Jewel did indeed have standing, even though claims concerning broad surveillance could not directly prove that the surveillance program violated the individuated privacy of users. In reviewing the facts of the case, the circuit decision focused on a specific location, namely what was called a "secure room" where AT&T and the National Security Agency "diverted all of her internet traffic" (p. 906). The secure room is used as a geophysically situated location to ground arguments concerning the reality of internet surveillance, and as a result the room became a site where digital data and metadata are converted into surveillance that can become real. In these rooms, the internet

precipitated out of the vague space of digital reality and into a concrete and physical space capable of effecting the violation of individual privacy.

In Jewel, the secure room served as the hinge between digital space and actual effect, and thus functioned to realize the networked hybridity of the internet beyond individual communicators. Through purifying physical and digital in the space of the secure room, the court managed to simultaneously maintain and expand the communication commonplace of the internet. The salient function of the internet remained its capability to enable interpersonal communication, but a space was carved out where privacy could exist even without a discrete intrusion into a specific individual's information.

In the subsequent Supreme Court case of Clapper v. Amnesty International in 2013, however, a contrasting outcome formed a precedent against individuals suing the government over allegations of dragnet digital surveillance programs similar to the program challenged in Jewel. Here the court found against Amnesty, arguing that their general claim of surveillance did not rise to the level of standing:

> The court offered several arguments against standing for Amnesty International in contesting FISA surveillance, but chief among them was the contention that "it is speculative whether the Government will imminently target communications to which respondents are parties." The claim that the damage is speculative is supported by the contention that the respondents "have no actual knowledge of the Government's … targeting practices. Instead, respondents merely speculate and make assumptions about whether their communications with their foreign contacts will be acquired."

By denying standing to contest possible privacy breaches, networks of passive data collection, which may or may not materialize into "actual" harm in a given case, were left beyond the

reach of legal discourse. Resisting the earlier court's expansion of the internet as a space where privacy could be argued to exist, the ruling in Clapper v. Amnesty International worked rhetorically to limit expansion by more narrowly defining the scope of communication and the physical and material reality of the internet.

In a later case, Wikimedia sued the NSA in 2017 over their use of "Upstream Surveillance" to monitor Wikimedia, along with several other plaintiffs. Findings for standing in this case were mixed. A federal appeals court found that Wikimedia likely had standing to sue, but other plaintiffs did not on the basis of the volume of data each transmitted using the internet. The strong focus on communication as the reality of the internet remained, but its limits were tested as the court entertained a statistical argument:

> Because details about the collection process remain classified, Wikimedia can't precisely describe the technical means that the NSA employs. Instead, it spells out the technical rules of how the Internet works and concludes that, given that the NSA is conducting Upstream surveillance on a backbone link, the rules require that the NSA do so in a certain way. (pp. 210–211)

The court ruled that accusing the NSA of practicing dragnet surveillance did not produce standing for all plaintiffs "because they can't plausibly show that the NSA is intercepting their communications via a dragnet." Alternatively, Wikimedia was granted standing given that the amount of data it sent over the internet combined with the "rules" of the internet, according to the court, grounded the claim that at some point a discrete packet containing Wikimedia information was seized. This claim is again supported by recourse to a physical location. The important connection was to an internet backbone link, one material aspect of the internet's physical infrastructure.

While Wikimedia could not localize the event to a specific room as in Jewel, a statistical and technical argument addressed the tension within the internet-as-communication commonplace, further expanding its potential to ground privacy arguments. But it still rendered a great deal of surveillance practices unable to be articulated and contested in legal discourse. Purification rendered some aspects of the internet salient as objects of legal discourse, but it simultaneously left a growing space of interactions beneath the surface of legal remedy. The developing resolutions to stasis in these cases resulted in commonplaces where virtual risks to individual cybersecurity exist that cannot be articulated as real threats to privacy in the context of legal discourse.

5.4.5 An Uneasy Resolution of Hybridity

If the statistical commonplace comes to serve as a resolution to the stasis of expansion, we will face a new set of stasis questions concerning online rights. The question will shift to how much certainty an individual will be required to show in order to establish standing to sue on the grounds of online privacy. Given the function of the network, this is not a particularly tenable solution. Assuming dragnet surveillance of central internet infrastructure, governments and organizations could in theory monitor the vast majority of internet traffic. A statistical commonplace would make it difficult for an individual to establish standing, instead favoring claims from large organizations who send and receive many data packets over a given period of time. This is ultimately how Wikipedia argued for standing—by showing that the vast amounts of data they sent made it extremely likely that any given packet was intercepted and inspected. An individual subjected to that same surveillance would find it much harder to establish statistical standing, as they could not rely on such a vast amount of data to prove violation of privacy rights. As a result, internet service providers would need to be at the forefront of protecting user privacy, which seems unlikely given historic co-

operation between technology companies and government information requests (Greenwald and MacAskill, 2013).

Does privacy begin from an embodied experience of being monitored, or can privacy be distributed within networks? It is one thing to notice that the nature of public and private changes over time. In the case of cybersecurity and online privacy, it is more interesting to note, with Warner (2002), that the nature of public and private spaces arises within material arrangements and increasingly social relationships. But Warner's analysis also leaves open a space to consider relationships not only between people but also between other objects. In terms of technology, privacy has come to be mediated within hybrid physical and digital networks that involve relationships not only between people, but also between people and devices and between devices and other devices. Algorithmic data processing, including big data analysis, deep learning, and so-called artificial intelligence, create circumstances where machines and code participate in public and private distinctions in ways that are not always accounted for within discourse.

If public and private are not discrete concepts but rather historical responses to material networks, and if the material circumstances where public and private spaces emerge include technological systems, then privacy shifts from an inherent distinction to an inessential practice. Warner argued that the architecture of physical places played no small part in reproducing the natural appearance of a public and private divide, and so it makes since that the hybridity of physical and digital objects effected by the internet would produce an exigence for the renegotiation of public and private space. By hybrid technological networks, I am referring to complex intersections of digital and physical objects made possible by technologies like ubiquitous computing and the internet of things. These devices are capable of gathering and saving diverse points of information that growing data storage and algorithmic

processing capabilities can translate into surveillance by rendering subjects knowable in new and unpredictable ways.

An example of this phenomenon may be illustrative. Digital video recording technology has developed to the point that sound waves can be recreated by analyzing the vibration of objects that are near to a source of sound, provided there is a line of sight (Davis et al., 2014). It is conceivable that one day audio from a conversation could be extracted from video of a bag of potato chips that happened to be resting near a closed window. Coupled with the growing ubiquity of cameras in consumer devices and their connection to the internet, it is conceivable that any number of arbitrary objects could essentially become remotely accessible monitoring devices. What's more, as more and more data is saved in data centers, the possibility of retroactive surveillance drawn from saved data emerges.

5.5 The Internet, Surveillance, and the Limits of Purification

Within these hybrid technological networks, the strong sense of discomfort Warner described as accompanying violations of privacy may never be experienced, making public and private distinctions even murkier. Indeed, privacy within these hybrid networks is especially fluid because the possibility of privacy in these spaces is a new concept, one that is only now beginning to emerge within different social contexts encompassing human and non-human actors that transcend physical and digital distinctions.

Algorithmic analysis and big data collection make possible new ways of knowing and surveilling internet users. These methods are not limited only to the interpersonal and intentional social interactions shared between users. Researchers have shown how Facebook likes alone

can be used to derive information about a user's religion, relationship status, and drug and alcohol use (Kosinski et al., 2013). Others have demonstrated that even anonymous records from the online streaming service Netflix can be de-anonymized to reveal information about a viewer's political preferences and sexuality (Narayanan and Shmatikov, 2008). In 2012, Target admitted that they had developed an algorithm that could predict pregnancy status based on shopping records (Watson, 2014).

In these examples, physical and digital networks connecting human users with seemingly innocuous consumer habits, film and television viewing patterns, and other personal preferences were variously combined to derive personal information and violate user privacy. As more and more devices are connected to the internet, individuals generate an increasing amount of data and metadata that in turn become surveillance. This kind of monitoring would seem to escape commonplace arguments that seek to reduce surveillance to the discrete interception of communication, much as the first cases concerning privacy and new technology could not completely account for the reality of a telephone call.

Unlike earlier telecommunications technology, however, the internet constitutes an expansive physical and digital network comprising an increasing range of devices that produce traces beyond the communication it affords. The internet is a distributed network by design (Galloway, 2004), which allows for the rapid deployment of new kinds of internet-enabled devices and data transfer protocols. This distinguishes it from telecommunications networks, which were hierarchical and designed to support a particular kind of technology, namely the telephone. When combined with other internet enabled tools like databases and autonomous algorithms, the internet becomes much different from these earlier forms of communication to which it has been reduced by metaphor.

As a result, the communication commonplace that extended rights online can also produce spaces where these rights cannot reach. Even as surveillance cases are creating exigencies

to expand this commonplace, resolutions to these cases have left important questions unresolved. The cases presented here are important not only because they establish a precedent to which later cases will refer, but also because they demonstrate how the nature of digital surveillance and privacy plays out within a legal discourse that has privileged intentional, physical, and localized surveillance of communication, effecting the proliferation of hybrid technological networks that enable breaches of security and privacy with effects that are not discretely experienced by individuals, or at any rate not necessarily experienced in that way.

The surveillance cases likewise demonstrate that certain properties of the internet itself, including its movement into our pockets and into our bodies, belie how the internet affords tractability beyond its communicative functions. If cybersecurity exists as a response to threats to privacy online, rhetorical analysis demonstrates how fluid commonplaces concerning the way that the internet exists likewise inform how privacy can be said to exist within shifting hybrid technological configurations. The result is that cybersecurity is always practiced rhetorically within a discursive field from which boundaries emerge between embodied experiences of violations of privacy and digital spaces of potential invasions of privacy.

Reid (2007) has explored these boundaries as a tension between two virtuals, one the so-called virtual reality of digital systems and the other the virtual realm of philosophy where all unrealized but possible realities concurrently exist. Applied to the present analysis, the virtual reality of cybersecurity breaches exist in both senses: loss of digital privacy always exists as a possibility especially as more and more information is digitally networked, but it is also relegated through rhetorics of purification to the virtual reality of computer networks. Notwithstanding, present legal commonplaces do not capture the reality of either of these virtual spaces, not completely. This presents legal challenges going forward because it makes it more difficult to articulate internet surveillance in a legally salient way.

In addition to implications for politics and policy, the analysis of legal cases in this chapter speaks to the need for additional research into the rhetorical practice of cybersecurity across discursive spaces including technical discussions in engineering and computer science as well as vernacular reasoning about online privacy. Where online privacy is rendered using specific commonplaces, these commonplaces participate in the formation of cybersecurity as a distinct problem space. Further rhetorical analyses can inform a deeper theoretical engagement with cybersecurity, which could in turn support holistic rather than reactionary responses to privacy issues in hybrid technological environments.

Chapter 6

The Politics of Online Pedagogy: Technology, Writing, and the Procedural Rhetoric of Learning Management Systems

Given the spread of the internet, it is unsurprising that the network has impacted not only the theory and practice of rhetoric and writing but also its pedagogy. One site where this is evident is the development of online-only writing instruction. According to a white paper published by the Online Learning Consortium in 2015, around one in four college students in the United States took at least one online course. This report reflected a 14-year trend of annual growth in the rate of United States college student enrollment in online-only courses (Friedman, 2018). In 2018, that number rose to one in three students taking at least one class online (Blumenstyk, 2018).

Online-only writing instruction reflects physical and digital hybridity because online learning environments connect students and teachers through internet-enabled devices and platforms within specific technological configurations. Rhetorics of purification surrounding online courses occur when the digital component of the course is extricated from the networked nature of an online learning environment that comprises students, teachers, devices, interfaces,

and databases. These rhetorics can be both productive in describing the core focus of an online writing class and limiting in terms of how researchers and teachers approach online learning platforms and course design.

In this chapter, I analyze the rhetoric of online-only courses found in the the Position Statement of Principles and Example Effective Practices for Online Writing Instruction (OWI) (Conference on College Composition and Communication, 2013). In the Statement of Effective Practices, I consider moments where writing is described in contrast to technology. This move is used to establish specific course learning objectives for writing courses in online-only environments. I also consider how the statement develops a rhetoric of design centered on ease of use to produce the hybridity of an online learning environment as a specific kind of digital object, namely the design of platforms. This move renders the complex hybridity of an online course and its relationship to course design primarily in terms of learning management platform interfaces and usability, while eliding other mediating agencies of these platforms in the context of an online-only course. I argue that these moves constitute a rhetoric of purification that is productive in terms of articulating the content area of an online writing course and promoting accessibility and inclusion, but also limiting in terms of how technology matters in the delivery of online courses.

By leveraging a rhetoric of design related to usability to render certain elements of an online course experience salient, the Statement of Effective Practices omits some of the political and ideological ways that course delivery platforms relate to writing pedagogies. To demonstrate one way that platforms relate to pedagogies beyond usability, I offer a procedural rhetorical analysis (Bogost, 2007) of a learning management system to suggest that the way coursework is represented in online courses reflects ideologies of education focused on product-based quantitive assessment and that an emphasis on usability in discourse surrounding the online classroom can serve to render this ideology transparent. I suggest that further research

related to online course design and the development of effective practices for online teaching could include participatory work between online students and teachers in order to account for the unique needs and goals of online students and teachers and their experiences of online learning environments.

6.1 Addressing the Complexity of Online Learning Environments

There has been debate about the merits of online education in general and online-only writing courses in particular (Webb Boyd, 2008). From a programatic perspective, offering online-only writing courses presents a strategic way to address logistical issues such as the availability of brick-and-mortar classroom space and scheduling conflicts (Allen and Seaman, 2015). For students, online-only courses can offer flexibility to support school, work, and family obligations as well as an option for those who feel less comfortable interacting in traditional classroom spaces or who are unable to travel to attend classes in person (Hart et al., 2016). For instructors, teaching online can offer the same benefits in terms of accommodating preferences and limitations related to location, scheduling, and modes of interaction. But these courses can also present challenges for teachers tasked with designing and leading online courses (Warner and Hewett, 2017). These challenges are varied and individual, among them labor practices, opportunities for professional development, and level of technological proficiency.

When designing and delivering online course content, teachers also face a pedagogical tension between the structure of an institutionally-provided (or mandated) learning management system (LMS) and the types of interactions they wish to afford students in an online-only

course (Konstan et al., 2014). This is especially the case for writing classes, where discussions, workshops, group projects, and conferencing are central to enacting effective writing pedagogies and achieving learning objectives; however, these kinds of interactions are not always readily supported by the interface metaphors offered through a learning management system. The affordances and constraints of these platforms structure possible learning activities and learning outcomes, which in effect represent arguments about what it means to be a student and teacher and what it means to learn (Lewis, 2016). These arguments are made to appear ideologically neutral through design with an emphasis on usability, rendering the mediating nature of the interface less obvious to users.

In an early article on the role of digital technology in the writing classroom, Hawisher and Selfe (1991) identified a tendency among writing instructors to "incorporate computers into their classes without the necessary scrutiny and careful planning that the use of any technology requires" (p. 55). The authors approached this problem by identifying a rhetoric of technology present in claims made about the use of online conference exchanges in writing classes. Hawisher and Selfe noted how rhetorical moves related to technology in the classroom tended to "foreground positive benefits of using networked computers without acknowledging possible negative influences" (p. 58). The authors went on to note some of these negative influences, including recognizing "that computers can, and often do, support instruction that is as repressive and lockstep as any that we have seen" (p. 61). In sum, the authors' work reflected a process that combined rhetoric about online learning technology with engagement with online learning technologies themselves in order to better theorize the hybrid relationship between computer technology and the writing classroom.

In this section, I follow Hawisher and Selfe by identifying rhetorical moves related to the structure and design of online-only writing classes and the composition of online learning environments. I focus on rhetorical moves present in The Conference on College Composition

and Communication Committee for Effective Practices for Online Writing Instruction (2013) position paper, which Bjork (2018) has argued "eschews a rhetorical perspective" of the politics and ideologies of online-only writing courses (p. 7).

I consider two rhetorical moves in the position paper as examples of rhetorics of purification: the distinction between writing and technology and the development of a rhetoric of design that foregrounds usability. These moves address the complexity of online courses by producing the online course as a specific kind of digital object centered primarily on course delivery interfaces and their usability. I examine how these two rhetorical moves are concurrently productive in terms of developing effective online writing courses and limiting in terms of those aspects of an online course that matter within the document. Similar to Hawisher and Selfe, my goal is not to suggest that the rhetoric of the position statement is wholly problematic, but rather to identify productive opportunities for the critique and further development of effective practices for online writing instruction.

6.1.1 Effective Practices for Online Writing Instruction Position Paper

The overall number of students taking writing classes online is unclear, but interest in these kinds of writing classes is growing. This is evidenced by a developing literature in the design and implementation of online writing courses. As of 2017, The Bedford Bibliography of Research in Online Writing Instruction contained over 370 entries (dos Santos, 2017). The earliest entry dates from 1990, but about half have been published in the last ten years. Responding to this increasing interest in online writing courses in March 2013, the Conference on College Composition and Communication Committee for Effective Practices for Online

6.1. Addressing the Complexity of Online Learning Environments

Writing Instruction (2013) created the position statement on principles and effective practices for online writing instruction, which I will refer to as the Statement of Effective Practices.

According to the authors, the Statement of Effective Practices responded to the perceived needs of instructors working in digital, online, and distributed classroom environments. Research for the report included "field visits to leading-edge institutions, bibliographic study, national surveys, a published Report of the State-of-the-Art of OWI (CCCC Committee, 2011), Web/phone conferences with identified expert practitioners and stakeholders, and intensive discussion with CCCC members at meetings of the CCCC through panel presentations, discussions, and special interest groups" (p. 5).

The report contains important research to the field that helped to better document the needs of online writing students and teachers. Several years have passed since the document was published, but it remains an important and frequently cited statement of best practices for online writing instruction at the classroom, department, and institutional level. While composition is a primary focus of the document, the authors additionally identify other types and levels of writing courses and writing-intensive courses in general as sites of application.

Given the genre of position statement and the document's organization, it is clear that some of the goals and practices outlined are aspirational and outside of the control of individual online writing instructors. For example, the Statement of Effective Practices maintained that technology orientation and support for students in online courses should be handled by a unit within the university focused on information technology. In addition, the report included issues of class size, professional development, and compensation for online writing teachers. In terms of online course design and instruction, the report addressed online learning environments through rhetorics of purification using two moves that I would like to explore in more detail: (1) the distinction between writing and technology and (2) a rhetoric of design that focused on certain design aspects of online course platforms while omitting

deeper political and ideological concerns. To demonstrate how rhetorics of purification are developed in the position statement, I will focus on Principles 1 and 2 in the following sections.

6.1.2 The Distinction Between Writing and Technology

The first move reflecting a rhetoric of purification in the Statement of Effective Practices is the distinction created between writing and technology. The online-only classroom in some ways reflects a long-standing tension between rhetoric and technology within rhetoric and writing more generally, a tension tracing its way to the critique of writing offered by Socrates in classical rhetoric (Kastely, 2002). In the context of contemporary technology, researchers have emphasized the nature of writing as technology along with the materiality of writing.

Haas (1995) has argued that writing is technological to the extent that it is manifested through material practices related to the use of technology. Bolter (2001) claimed that "Ancient and modern writing are technologies in the sense that they are methods for arranging verbal ideas in a visual space" (p. 15). More recently, Eyman (2009) has argued that writing is a technology and that writing pedagogy can be understood as a technological system connecting students and teachers. Takayoshi and Van Ittersum (2018) have explored the material and embodied dimensions of composing and technology, arguing that "Writing is always mediated by the material world and tools, although it is easy to take for granted the presence of the tools we use to compose in part because when writers are working effectively, the tools they use are invisible" (p. 85). When the tools become invisible, however, we risk missing their political and ideological effects.

In the Statement of Effective Practices, a distinction is created between writing and technology to produce the online-only writing course as a course with a specific content area focused

on rhetorical competencies. Principle 2 of the position paper states that "An online writing course should focus on writing and not on technology orientation or teaching students how to use learning and other technologies." This principle is explicit in terms of extricating writing from technology by positing a divide between technology and writing practices. Principle 2 further states that an instructor should use "transparent software" distinguishing between, as an example, learning HTML markup with learning "the rhetorical nature of writing for the web" (p. 11). The rhetorical move of distinguishing between writing and technology can be both productive and limiting in the context of an online-only class.

On the one hand, distinguishing between writing and technology grounds the articulation of learning objectives in an online-only writing course focused on rhetorical competencies rather than technological orientation. In other words, positing a distinction between writing and technology allows for the delineation of a specific content area for writing courses, even when courses move online. In addition, distinguishing between writing and technology supports a role for an online-only writing teacher focused on rhetoric and writing rather than providing support for technology. According to the position paper, "An OWI teacher should not be considered a technology point person to be held responsible for technical assistance or technology repair. Teaching writing is the key work of the OWI teacher" (p. 11).

On the other hand, extricating writing from technology in the context of online writing instruction can omit some of the pedagogical impacts of online course content delivery interfaces as well as their rhetorical effects. The distinction created between writing and technology can imply that coding and markup practices are not rhetorical practices (Vee, 2017) and that transparent software, among which the authors list the content management system WordPress, lay bare their rhetorical qualities and affordances to the user in a meaningful way that requires no further attention or analysis (Lewis, 2016). In an online-only course, a focus on the rhetoric of specific platforms could be especially important because of

their power in mediating an online-only class. The question of writing and technology then becomes related to where the line is drawn between the two and how the invisible qualities of composing online can be taken up effectively in the online-only course.

A small survey with a group of 11 online-only writing instructors revealed a mixed response to the statement "An online writing course should focus on writing and not on technology orientation or teaching students how to use learning and other technologies." Asked to rank their agreement on a Likert scale (1 = Strongly agree, 5 = Strongly disagree), the average response was 3.36, indicating moderate disagreement. Four teachers responded that they strongly disagreed and two that they somewhat disagreed, whereas two indicated strong agreement and two indicated that they somewhat agreed with the statement. The mixed responses could relate to the tension between the productive and limiting effects of rhetorics that distinguish writing from technology. The rhetoric of design in the statement raises additional questions concerning the effective design of online learning environments.

6.1.3 Rhetoric of Design and Usability

The second move reflecting a rhetoric of purification in the Statement of Effective Practices is a rhetoric of design that centers issues such as efficiency and ease of use of platforms in producing the online learning environment. Principle 1 states that "Online writing instruction should be universally inclusive and accessible" (p. 7). An important focus within the document is accessibility for all users and all across devices, such as offering alternative versions of course materials for use with screen readers or other accessibility software. Important practices identified by the document include "Teachers should consider that students may use mobile devices to access the course materials" and "Institutional administrators should

select their LMS for OWI according to its accessibility" (p. 10–11). The following relevant design practices are included in the position paper:

- The course and its digital designs should be usable by all students and teachers
- The course and its digital design should accommodate a wide range of individual preferences and abilities
- Use of the course materials and the digital design should be comprehensible regardless of the user's experience, knowledge, language skills, or current concentration level.
- The course materials and the digital design should communicate necessary information effectively to the user
- The course materials and the digital design in particular should minimize the potential for failure based on accidental or unintended actions such as a technological crash
- The OWC's digital design should be usable efficiently, comfortably, and with a minimum of fatigue (pp. 8–9)

The items listed in the Statement of Effective Practices are important practices for developing an online learning environment that should be considered when designing online courses. Instructors and administrators need to consider issues of accessibility in online-only writing courses, especially in light of the field's history as related to access and gatekeeping (Fox, 1999). But the practices included, and those not addressed in this rhetoric of design, raise deeper questions about the politics of online course delivery platforms beyond design considerations such as efficiency, responsiveness, and ease of use. This rhetorical move helps to address the complexity of hybridity among users, devices, and platforms in the design of online-only classes, but it is also important to keep in mind what this rhetoric of design can

miss in terms of how platforms related to course delivery function within the hybrid context of an online learning environment.

Addressing what this rhetoric of design overlooks relates to the rhetoric of usability and user experience and how these concepts have been taken up in relation to online-only writing courses within the field. Within Princple 1 of the Statement of Effective Practices, "users" and "usable" are mentioned in five of the nine specific design guidelines articulated. In the context of design, usability and user experience focus on ease-of-use of technological platforms, with a goal of "trying to reduce the friction between the task someone wants to accomplish and the tool they are using to complete that task" (Buley, 2013, p. 4). This is of course a fine goal, because designers should avoid inflicting unnecessary challenges on users. However, an approach to course design drawing from usability and user experience can gloss individual, political, and ideological tensions between a learner, a system, and the context within which the two interact.

When considering online classrooms, the shift from user to learner is more than a simple lexical adjustment and has rhetorical implications that warrant additional consideration (Greer and Harris, 2018). Hovde (2015) has suggested that general usability principles cannot be applied directly to online learning because the needs and goals of participants in an online class are specific and situated. The author additionally argued that currently no general consensus exists concerning a unified set of principles that combines usability best practices and pedagogical principles. In other words, best practices based on efficiency and ease-of-use of general websites do not necessarily correspond to enacting meaningful online pedagogies because students and teachers have specific needs in an online course that differ from other contexts. Digital rhetoric can speak to these needs by critically considering how digital procedures make arguments about what they represent and how the concept of usability may vary between individuals and contexts.

A critique of design rhetorics and practices rooted in digital rhetoric can interrogate the ideologies present in digital interfaces and procedures and can reposition technology and writing within the hybrid space of an online learning environment co-constructed between teachers, students, devices, and platforms. Bjork (2018) has argued that employing design methods that emphasize user experience "without digital rhetoric risks eliding the social, cultural, political, and ideological stakes of partaking in an online writing course" (p. 7). A rhetorical analysis of a common learning management system beyond usability can demonstrate how learning management platforms enact arguments about education. Through how these platforms represent learning processes, they position students as users with specific needs and goals that may be at odds with learning outcomes and pedagogical objectives in an online-only writing course.

6.2 The Rhetoric of Learning Management Systems

Some 93 percent of colleges report the use of an officially supported learning management system to deliver course content online (edutechnica, 2017). Sometimes the use of these platforms is required by institutional policies (Kolowich, 2012). In other cases, use of the platform is not mandated, but support for the system and its availability and prevalence lead teachers to use it regardless of their own preferences and pedagogies. The selection of a learning management system by an institution has significant political consequence because it concretizes specific ways of designing, delivering, and participating in courses. In other words, I argue that learning management systems make arguments about what learning is and who students and teachers are.

An analysis of online course delivery from a rhetorical perspective is an important initial step in understanding the design space for online learning environments. This analysis can

also demonstrate how technology intersects with writing in the context of writing instruction within an online learning environment. Finally, this analysis speaks to rhetorics of purification by helping to better understand both what is gained by representing an online course as a digital object based on interface design in terms of usability and how that understanding can be built on through a rhetorical approach to usability.

My goal in offering this analysis is not to argue that effective practices for the design of online writing courses should not include ease of use and simplicity of platforms. Instead, I suggest that effective practices can be expanded to include ideological and political concerns alongside usability and accessibility as part of a comprehensive approach to online learning platforms and the design of pedagogically effective online learning environments. I believe that accounting for the procedural rhetoric of platforms as part of the design of online courses can additionally serve to address some of the other effective practices addressed in the Statement of Effective Practices. Rhetorical consideration of online learning platforms can identify how the politics of online learning platforms relates to both enabling and limiting effective pedagogical practices including interacting with students to develop "a collaborative OWC and to ensure participation of all students, the free and productive exchange of ideas, and a constant habit of written expression with a genuine audience" (p. 14) and employing "the interactive potential of digital communications to enable and enact knowledge construction" (p. 15).

I offer this framework in response to a lack of clear consensus on the assessment of learning platforms from the perspective of users and how this relates to usability (Hovde, 2015). In contemporary digital design work, usability and user experience have been adopted as key metrics in the evaluation of interfaces. Usability is a design goal that "refers to ensuring that interactive products are easy to learn, effective to use, and enjoyable from the user's perspective" (Preece et al., 2015, p. 19). Usability studies tend to focus on lab studies of users

completing an assigned set of tasks using a product in a controlled setting. User experience is related to usability, but user experience tends to focus on the affective dimension of a technology product (Buley, 2013). Both of these approaches are comparable in that they position individuals engaged with technology as "users," or passive consumers of a product.

Greer and Harris (2018) have argued that user experience is a critical consideration for online instructors, but that "Importing UX practices from industry into educational, learner-focused settings requires a considered, deep translation and reframing" (p. 15). In this section, I will briefly summarize methods of rhetorical interface analysis before considering the learning management system Canvas from a rhetorical perspective. I have provided screenshots of specific instances of the Canvas interface to support my analysis. While I cannot offer an exhaustive analysis of all of the components of the Canvas interface, I have focused on those elements which most relate to the politics of Canvas and its relationship with pedagogy.

6.2.1 Incorporating Digital Rhetoric in Online Learning Environments

In my analysis of the Statement of Effective Practices, my intent was not to suggest that usability is not an important heuristic with which to address the complexity of online learning environments. Instead, what I would like to suggest is that we can build upon a framework of usability when developing effective practices to further consider the political and ideological impact of platforms. This is especially important in online-only writing courses, where platforms play a large role in the emergence of an online learning environment. At the heart of my argument is that writing is a technology with associated material and embodied practices and that abstracting writing in digital environments from hybrid contexts misses some opportunities related to pedagogy and course design. Because technology and writing

cannot be completely extricated from one another in terms of student experience of online writing courses, it is important to develop a critical approach toward design and course technology.

A critical approach to technology is especially important in the context of online-only courses. In an online-only writing class, the platform(s) used to deliver course materials represent a central component of infrastructure, which DeVoss et al. (2005) characterize as invisible structures that "make possible and limit, shape and constrain, influence and penetrate" acts of composition (p. 16). While the authors focused specifically on new media composition, their article is nonetheless relevant to online courses in general and to the use of platforms in online-only writing courses in particular. In their definition, the authors include "operating systems, computer programs, interfaces, and their interrelatedness" as a component of infrastructure (p. 21), and they offer an analysis of an interface to demonstrate how interface representations of files and workflows and procedures such as creating a new file place an emphasis on final products over process. The authors conclude that "teachers and students need to be able to account for the complex interrelationships of material, technical, discursive, institutional, and cultural systems" to better understand how infrastructure, such as platforms, both affords and limits possibilities in writing classrooms (pp. 36–37).

A rhetorical approach to online course design and delivery can help to address the role of technology as infrastructure within the hybridity of an online-only writing course. Bjork (2018) has argued that a "key difference between digital rhetoric and usability testing lies in the latter's lack of attention to politics and ideology," and that integrating digital rhetoric with usability specifically in the context of online writing instruction can call attention to the rhetorical qualities of online course delivery (p. 7). From this perspective, a learning management system is rhetorical to the extent that the designer of the system makes provisional decisions about what to represent and how to represent it within an economy of symbolic

representation. In other words, any given instantiation of a learning management system is inessential and arbitrary. The designs that are ultimately realized reflect the values of the designer and the culture in which the systems were designed.

In provisionally representing certain objects and procedures in specific ways, learning management systems make arguments about ways of seeing and making sense of the world, and specifically ways of seeing and making sense of education. These choices in turn interpolate users during moments of interaction as they are transformed into subjects within the system. A rhetorical analysis of learning management platforms can serve as a problem-finding heuristic to identify potential design opportunities as they relate to the representation of users and procedures.

While much early literature focused on examples of the interface as a static container of meaning, more recent work in interface analysis has contested the interface as a stable entity. Bogost (2007) proposed a theory of procedural rhetoric highlighting the dynamic qualities of interfaces as they represent interactive processes unfolding over time. Bogost argued that interactive digital platforms such as video games use processes to make arguments. By nature of the aspects of a system included and excluded by a digital simulation, the simulation makes arguments about the reality of the underlying process it represents.

Like Bogost, Brooke (2009) considered the interface as a dynamic space where meaning crystalizes only in specific moments of interaction. Brooke argued that rhetorical analysis of interfaces must move away from earlier work that constructed the interface as a stable text and instead consider interfaces as a material practice through which meaning unfolds in dynamic and multimodal ways. In other words, Brooke proposed that it was through the instability of interfaces, which prior studies had neglected, that meaning was conveyed and users influenced. Brooke's approach to the interface speaks to the importance of considering the role of the interface within hybrid contexts of interaction.

This shift to the rhetorical study of interfaces as dynamic is important to the study of learning management systems because these systems function to represent the process of learning. These representations of learning become foregrounded in an online-only class where most, if not all, interactions are mediated through the platform. Tarsa (2015) has studied the rhetorical qualities of interface interaction and found that website affordances, such as the ability to vote on content, appeal to users in ways that can influence the audience composition of particular sites. According to her findings, websites construct their own audiences based on user identity and the interface features particular platforms afford. Building from work like that of Bogost and Brooke, Lewis (2016) has argued that a content management system (CMS) mediates activity and in so doing shapes identity. These theories inform an understanding, from a rhetorical perspective, of how platforms make arguments that impact their users and interpolate them in specific ways. In what content management systems afford and what they obfuscate, these platforms interpolate individuals as users with discrete needs and goals that may reflect more or less accurately the actual needs and goals of users outside of the context of the system. The specific organizing logic and affordances of a content management system create users as particular kinds of subjects within the system.

To the extent that these systems are successful, they perform this ideological work in the background. In other words, the rhetorical power of the content management system to affect users remains invisible to users as they interact with the platform provided that those interactions are experienced as smooth and seamless. This is similar to Selfe and Selfe (1994), who argued that the ideological power of the graphical user interface (GUI) exists especially when the organizing principles and metaphors an interface leverages appears as natural. The experience of the platform simply working naturalizes its agency as a mediator and produces users with specific attributes and behaviors. In the next section, I apply digital rhetoric to the analysis of a learning management platform. My goal is to demonstrate how learning

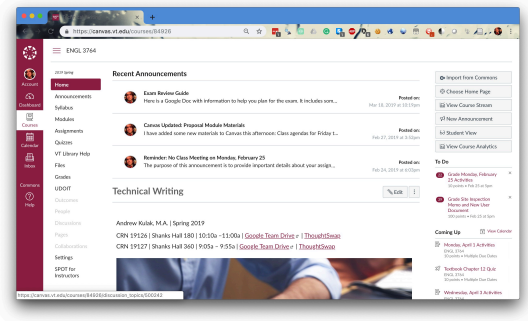
management systems relate to the hybrid context of an online-only course beyond interface features and usability.

6.2.2 Critical Procedural Analysis of a Learning Management System

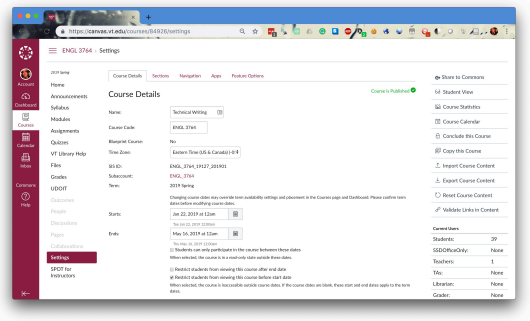
The shared features across learning management systems reflect particular understandings of learning, and in so doing produce students and teachers assumed to have specific motivations and goals that may differ from the complex motivations and goals of individual students and teachers (Mehlenbacher et al., 2005). Canvas, the platform currently in use at Virginia Tech, presents an object study for the rhetorical analysis of a learning management system interface. Canvas is one of the most widely-used learning management systems among colleges (McKenzie, 2018).

Through interface affordances, Canvas is strongly focused on product-based assessment, and numerical grading in particular. Canvas prioritizes products over processes by representing assignment submission and grading around moments of submission instead of within ongoing processes of invention, revision, and negotiation. Students are encouraged to test hypothetical grades to determine exactly how much effort they need to put into an assignment (or not put into an assignment) to earn a given grade. Grade visibility settings such as displaying class averages to students are on by default, and teachers must negotiate several levels of menus to adjust their preferences (Figure 6.1).

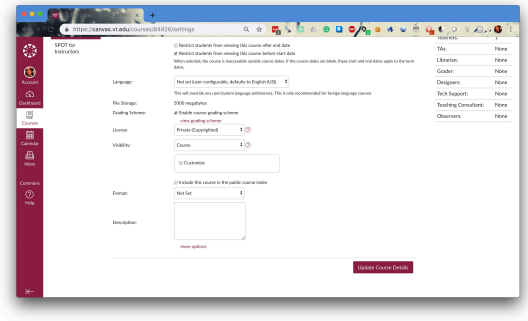
To adjust course grade visibility settings, a teacher first must log in to Canvas and access the home page for a given course. Then, they must navigate to the settings section, which is one of the lower tabs in the course navigation menu. Next, they must scroll to the bottom of the



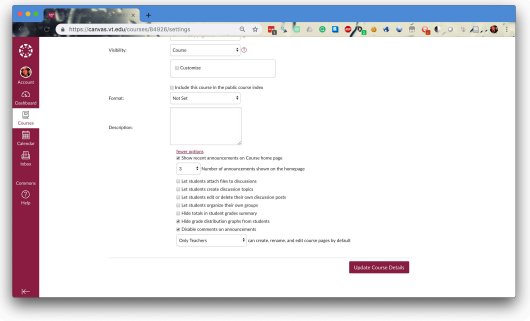
(a) Course home page



(b) Course settings page



(c) Bottom of the settings page



(d) Expanded options menu

Figure 6.1: Steps to adjust grade visibility settings in Canvas

settings page and expand a "more options" tab to access a toggle that sets grade visibility preferences.

Because grade distribution visibility is active by default, a teacher may not even know that this setting is customizable due to the difficulty in locating and modifying the settings. By foregrounding grade distributions, students are encouraged to focus on grade outcomes in comparison with their peers rather than the development of their own ideas and projects. Students are further encouraged to evaluate their own performance in reference to that of their peers rather than their own personal growth from assignment to assignment and in a class overall.

The representation of the procedure of assessing student work similarly foregrounds grading as numeric assessment through the use of the SpeedGrader tool (Figure 6.2). The trade-

marked name “SpeedGrader” itself reflects a bias toward streamlined numeric grading as opposed to other kinds of formative assessment. The SpeedGrader allows instructors to step through each student in a class and quickly add a numeric grade to a text input box. While there are additional assessment options available through the SpeedGrader, these options are less convenient and intuitive than grading using numeric grade entry, and the resulting numeric grades are more readily available to students than other types of feedback provided by teachers (Laflen and Smith, 2017).

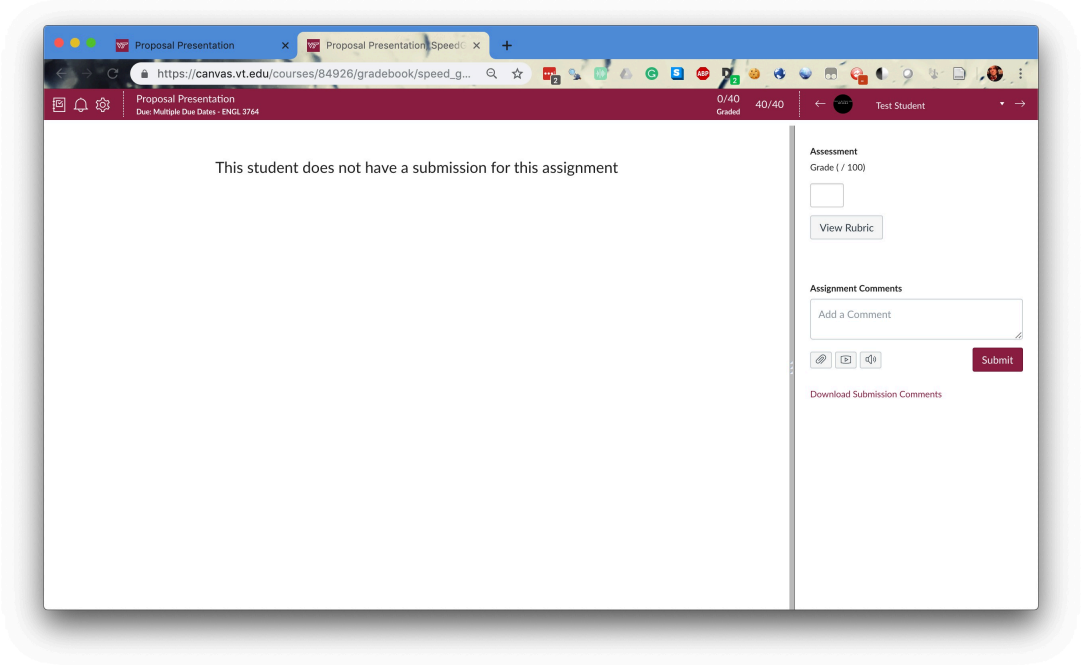


Figure 6.2: Canvas SpeedGrader tool

For instance, commenting is allowed in a small text box, which is presented underneath the grade input field. There are additional options for adding feedback, including audio feedback. Some files additionally allow for limited in-file commenting and suggesting. But these options require additional steps both for providing and reviewing feedback, and in some cases the use of specific file formats. Moreover, while numeric grades can be uploaded from a teacher’s own records, there is no option to upload written comments. As a result, if

a teacher uploads assessment from their own files, they must still move through each student manually and upload or copy and paste text feedback individually for each student, a much more labor-intensive process than simply uploading numerical grades.

Assessment and accessing grades reflect one area where Canvas posits arguments about the process of learning. The representation of specific objects likewise contributes to a procedural argument about the nature of participating in a class. Canvas uses specific categories of digital objects as an organizing principle. Files go in one place, quizzes go in another, discussions in still another, and so on. In Canvas, these different objects are represented as distinct tabs on the course navigation page, and interacting with more than one type of object at a time requires navigating different browser tabs or windows (Figure 6.3). These tabs include distinct areas for course files, quizzes, discussions, and assessment. While this seems intuitive from a content management perspective, it makes less sense in a classroom where readings and discussions take place within the same context (Konstan et al., 2014). For instance, a set of readings or a discussion might be used as activities to frame a quiz.

Organizing information within these content-based categories may work when project-based structure is provided in the pedagogical context of an in-person classroom, but it begins to become problematic when interactions take place only online in the context of an online-only course. While instructors can use Canvas to form modules, or units of multiple file types and assignments, this still requires a linear, one-size-fits-all structure that runs counter to classrooms and tutorial sessions where content can be adjusted depending on the needs of specific classes and specific students (Dung and Florea, 2012).

How a platform like Canvas represents online identity formation can additionally serve to limit how students and teachers understand themselves and their relationship to one another in online learning environments. This limiting effect is especially important to note in an online writing class, where interactions only take place online through specific learn-

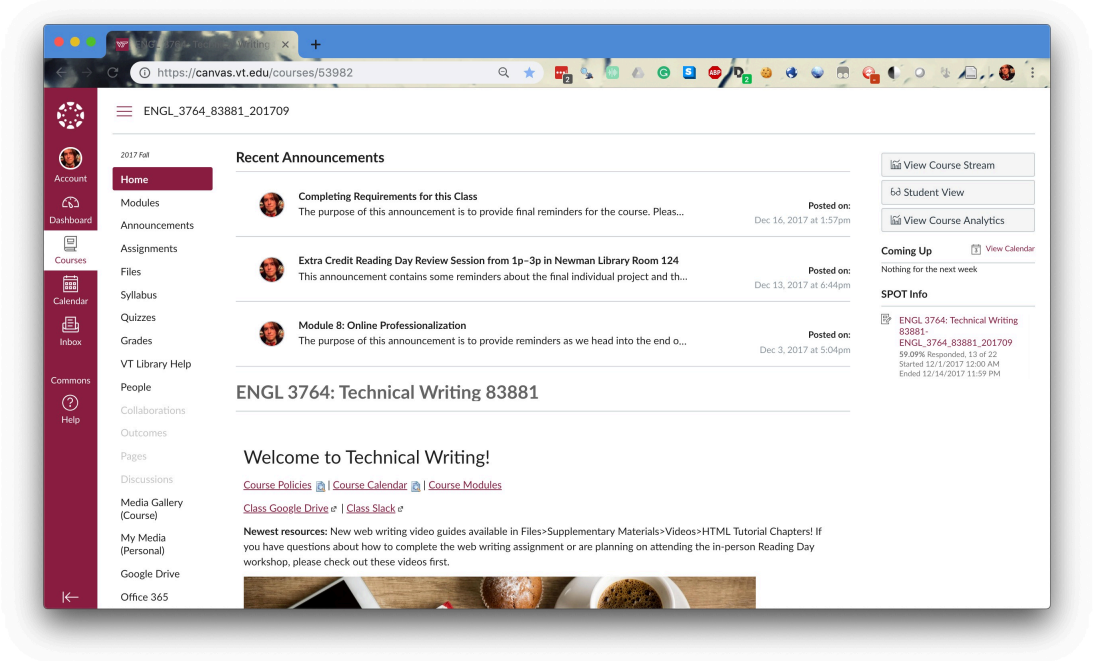


Figure 6.3: Different categories of learning objects in Canvas

ing platforms. deWinter and Vie (2008) have argued that "participating in virtual online communities and cultivating player avatars are particularly fruitful activities for students' analyses and production of media in the writing classroom" because they foreground questions about subjectivity in online spaces that are relevant to rhetorical considerations of writerly identity (p. 314). If a platform restricts how students and teachers can construct online avatars, deWinter and Vie's work suggests that can in turn restrict engagement with questions of identity and interaction in the online writing classroom.

Elements of identity and interaction are downplayed in Canvas in favor of product-based assessment. Users all have profiles (Figure 6.4), but most do not go to the trouble of negotiating the system to edit them. The profiles that are offered are limited in terms of how students and teachers can represent themselves. Users can upload a small static avatar, but this avatar is not strongly incorporated into the overall design of Canvas. Its presence is limited to a small thumbnail image that appears next to certain menus and items created by

the user. In addition, users can create a brief profile limited to some text, links, and social media contact information. This profile information is not foregrounded in the interface, and these details must be purposefully sought out by users to learn more about individual students and teachers.

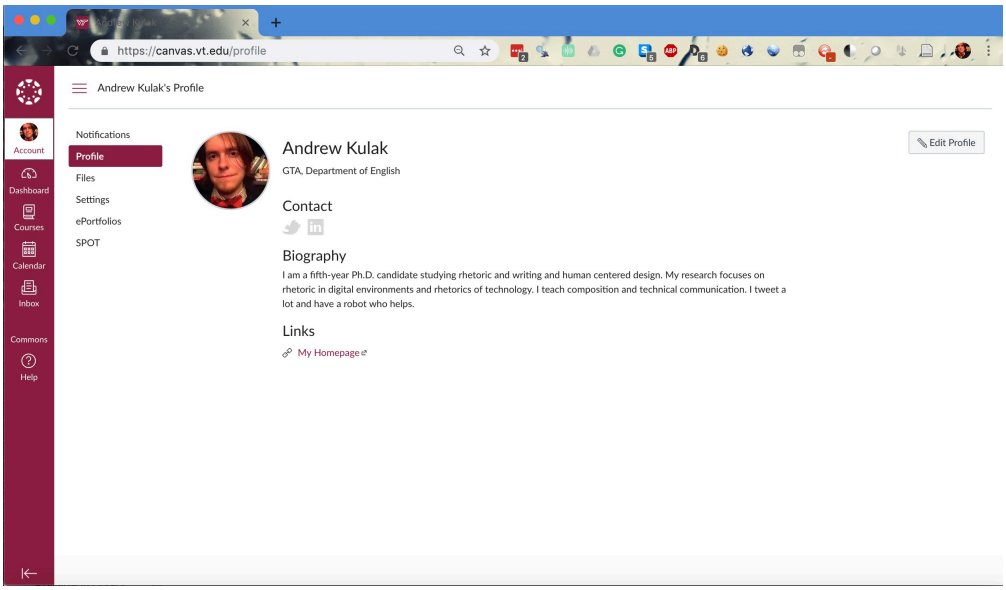


Figure 6.4: Canvas profile

The Canvas messaging feature affords limited person-to-person communication, but messages are divided between a message inbox and individual assignment comments and discussion. Notifications for messages and comments are sometimes presented using badges and notifications as message alerts and at other times pushing notifications to a separate email account. In some cases, no additional notifications are made visible at all depending on the type of comment. Notification settings are customizable, but this requires the user to access a settings submenu and manually adjust numerous different notification options and time-based settings divided by different contact options (Figure 6.5).

A user's "inbox" is separate from comment streams on assignments, which is also separate from discussions on the site, which are represented as a different kind of object all together.

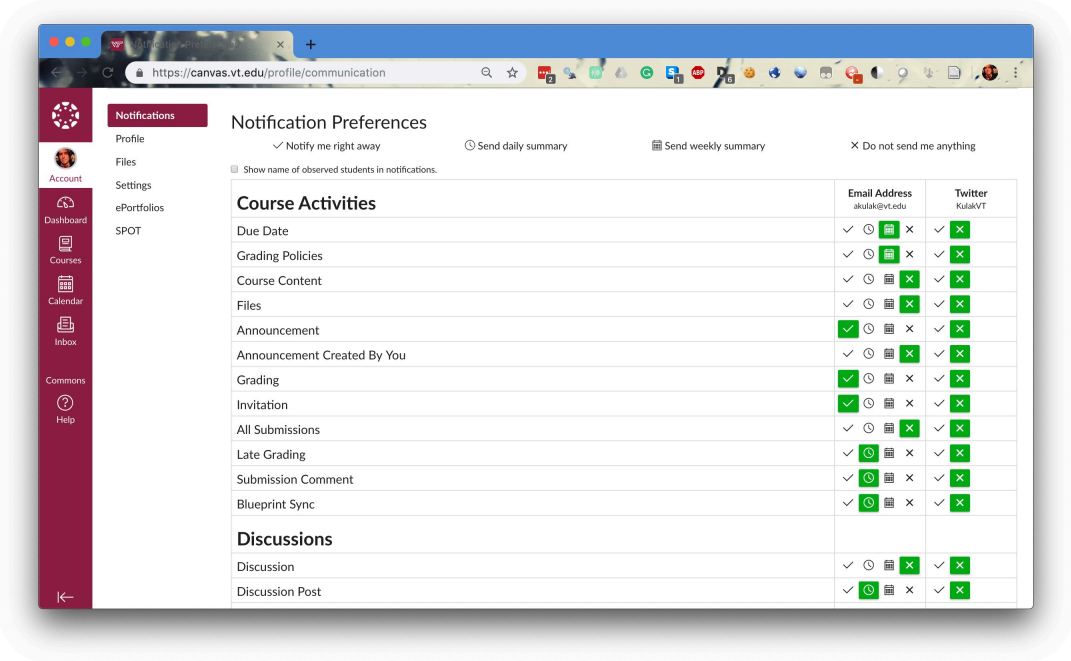


Figure 6.5: Canvas Notification settings

Discussions work through a forum system, a way of representing online exchanges that feels formal and limiting by today's standards, as compared to more streamlined social media and team messaging stream views. These discussions are grouped in submenus within individual classes. While identity and interaction features are cumbersome and difficult to negotiate, grades are posted conspicuously, and students are notified as soon as new grades become available.

Canvas would likely pass many usability assessments due to its design and accessibility options. The platform is responsive, and it works well across devices. The system has an appealing flat design and a straightforward interface. Many features are intuitive, and a number of course design features can be implemented without knowledge of HTML, CSS, or scripting languages. In a survey of 82 online writing students from an online-only technical writing course, I found that students on average rated Canvas 5.06 out of six in terms of ease of use.

Notwithstanding, features discussed earlier like a heavy emphasis on product-based assessment and grades, a static and linear assignment-based structure, and a backgrounding of identity and interaction enact a procedural rhetoric that devalues learning as a meaningful and collaborative social process. In online-only settings especially, Canvas creates students who produce products and teachers who deliver assembly-line assessment, reducing knowledge to a discrete commodity rather than an ongoing critical project. Compositionists, among other pedagogical theorists, have been resisting these types of rhetorics and pedagogies for decades (Matsuda, 2003).

6.3 Implications for Online Course Design and Effective Practices

In the two analyses presented in this chapter, I compared how an online learning environment is produced in discourse surrounding effective practices for online course design to how learning management platforms themselves function rhetorically. The combined analysis of rhetoric surrounding online writing courses and the rhetoric of the Canvas platform speaks to an ongoing conversation in the field about the growth of online writing courses and their challenges (Bartolotta et al., 2018). It also connects with my research questions concerning how rhetorics of purification address the hybrid complexity of an online course that connects students and teachers with databases and digital platforms. The findings from the case study concerning the procedural analysis of the Canvas interface can additionally help to inform the design of online-only classes in order to provide online learning environments that are pedagogically sound, engaging for all students, and accessible.

6.3. Implications for Online Course Design and Effective Practices

As a teacher, my interests in engaging with the design of learning management systems and discourse surrounding online education are practical, but they are also political. I have argued that a learning management system orients both students and teachers in specific configurations that produce learning as a discrete product rather than an ongoing and interactive process. This can not only result in negative outcomes for students, but also reify a political system in which learning is valued as a individual commodity rather a shared social and political project. The impacts of this political commitment are wide-ranging, from the individuation of investment in education in the form of rising tuition and student loans to the growth of education as certification exemplified by predatory for-profit colleges (Cottom, 2017; O'Neil, 2017).

Within the field, it is important to engage with how platforms represent learning and how this relates to online writing course learning outcomes and pedagogical goals. Work in this area is especially pressing given the gravitation of higher education toward a limited range of learning management systems (edutechnica, 2018). The learning management industry is worth billions of dollars and is expected to grow into the next decade (Bersin, 2014). The mass deployment of corporate learning management tools is worrisome because schools at a local level lose power over the delivery of course content. When control over the representation of learning shifts from teachers to software development companies, especially for-profit companies competing for positive user evaluations, conflicts arise. These companies, accountable to their shareholders, have little incentive to drastically overhaul their products as it could risk their profitability.

To address concerns with learning management systems, Harris and Greer (2016) have found that writing teachers working across a broad range of learning management systems—they mention platforms including Wimba, Angel, WebCT, Elluminate, NTI Group, Presidium, Edline, Moodlerooms, Blackboard, and Canvas—regularly supplement their learning man-

agement systems to account for constraints within those systems. The authors explored some of these ways that instructors can hack around learning management system limitations to offer a writing experience for students and teachers capable of "reuniting people in space and time around the act of both course design and delivery" (p. 49). The authors claimed that the best methodology to bring this about is a backward design process, which shifts the focus from online learning outcomes to the individual activities that students need to reach these outcomes. According to the authors, centering online learning around student needs and preferences rather than learning outcomes is akin to "what F2F faculty do when they set up small circles of chairs in a classroom and then challenge students to create what happens in that space" (p. 52). Given that multiplatform workflows can be challenging for users (Nielsen, 2016), the study from Harris and Greer suggests a need for additional research that incorporates pedagogy, politics, and usability with the experiences of teachers and students to create human-centered online learning environments.

The design and implementation of new online learning environments creates a space for research at a local level that explores how online learning platforms relate to online coursework and to broader course experiences and pedagogical goals. For such work to result in meaningful change, however, the design of systems for learning must take into account the needs of participants in learning contexts. Eyman (2009) has argued that "Students have particular needs and goals, but we don't always have a clear understanding of what those needs and goals are" (p. 222). In closing, I would like to suggest that participatory design (Evia and Patriarca, 2012) may offer one way to engage with student needs and goals and to move beyond usability toward the design of online classes across platforms that are usable, accessible, and well suited to the specific needs of both students and teachers in online-only contexts. Just as platforms make arguments, expanding design practices to foster account-

ability toward online-only students enacts an argument that education should be a hands-on, collaborative, and democratic process.

The level of participation would have to be negotiated as a future component of the development of this project based on the needs of different types of stakeholders. Avenues of involvement could range from interviews, questionnaires, and fieldwork to more direct involvement with the project teams and design iterations (Kensing and Blomberg, 1998). While participatory design can be difficult to negotiate, the higher education setting makes it likely that both student and teacher participants share some core values as a community and are familiar with participatory processes. This suggests that participatory design related to online course design could be fruitful (Ehn, 2008). Moreover, involving students in the development of both effective practices for online courses and online courses themselves can help "to design spaces that afford students more voice in the structuring of those spaces and provide more opportunities for them to use technology in ways that reflect their interests" (Powell, 2007, p. 32). Taken together, this work could address the online course as hybrid co-constructed experience beyond the usability of a particular interface.

Chapter 7

Beyond the Digital/Physical Divide: Implications for the Field of Rhetoric and Writing

In the previous chapters, I have explored a rhetorical theory of the internet building on a philosophical framework borrowed from the work of Latour (1993). Instead of the human and non-human divide that Latour posited, however, I have suggested the emergence in rhetoric of a material divide between digital and physical objects, which I described as rhetorics of purification. I explored these rhetorics in the context of discourse surrounding the internet, which I have argued comprises different kinds of hybridity between users, places, devices, platforms, and data in ways that transcend a physical and digital distinction. Each case study in this dissertation explored one example of this kind of hybridity: (1) anonymous, ephemeral, and geolocated (AGE) social media, which maps digital content onto physical times and locations; (2) internet surveillance, which leverages digital data and metadata to invade the privacy of individual users; and (3) online writing instruction, which interconnects teachers and students via protocols and databases represented by platforms including learning management systems.

While I have borrowed the theoretical framework of purification and hybridity from Latour, it is important to emphasize that the stakes of my project in rhetoric and writing differ

from those of Latour. An important distinction is that Latour argued that the modern Constitution, which supported the purification of humans and non-humans, could never be fully realized and was in effect "helpless" in addressing the challenges of hybridity (Latour, 1993, p. 50). In terms of a physical and digital divide, however, purification can indeed be productive in addressing the internet. This is because the internet is impossibly vast and can never be completely addressed in all its varied dimensions and possibilities (Morton, 2013). Based on my analysis, what I conclude is not that rhetorics of purification can never be applied to the complexity of the internet, but rather that is important to understand what is gained and what is lost, in terms of how the reality of the internet and its consequences are understood, as a result of rhetorics of purification. Therefore, it is important to understand how the language surrounding the internet can abstract certain components of the internet while eliding others when developing a critical approach to rhetoric surrounding the internet.

To sum up the results of my work from each different study, I understand the different realities of the internet that arise out of negotiations of hybridity as ontologies (Graham, 2015), or a set of developing relationships within a given discursive space that relate to what the internet is and the moments when it matters in terms of its physical and digital components and effects. In rhetoric, these ontologies are reflected by a specific logic of physical and digital materiality, of what counts as actual or virtual. Moreover, these ontologies may shift over time as individuals and communities come to understand and experience the internet in different ways. These ontologies are productive rhetorically in that they allow a complex entity such as the internet to be operationalized in a meaningful way, but they can be limiting when the effects resulting from shifting technological circumstances cannot be accounted for effectively or completely in new contexts. In the case of the internet in legal rhetoric, for instance, developing ontologies have allowed the internet and its relationship to privacy to have a space in legal discourse, but have also limited how the effects of new internet

technologies and distributed data collection and analysis methods can be accounted for within the context of the law.

In the following sections of this conclusion, I return to each case study briefly to consider the implications for the field that were raised by the findings in each section. These reflections are based on the case studies in the previous chapters, and they are by no means intended as an exhaustive litany of either the implications of rhetoric beyond a physical and digital divide or the relevance of this theoretical orientation to the field. At the end of the chapter, I close by returning to Latour. I offer some general conclusions concerning hybridity and digital rhetoric and reflections on my own experience during this research. Within each section, I will return to the research questions from which I began this dissertation to ground the discussion of my results and how I understand their broader implications for the field of digital rhetoric going forward.

7.1 The Reality of Virtual Discourse

In chapter 4, I considered the emergence of the once popular social media application Yik Yak. While Yik Yak went out of business in 2017 (Statt, 2017), the app itself remains relevant to how we understand digital and physical objects and the consequences of rhetorics of purification. Though the combination of several contemporary devices including smartphones and global positioning system technologies, Yik Yak functioned to interconnect anonymous and ephemeral digital content with physical communities and locations in new ways. The hybridity between place and messages effected by Yik Yak resulted in local exigences to address the app when negative discourse, including bullying and racist messages, appeared in specific Yik Yak communities.

7.1. The Reality of Virtual Discourse

The attention Yik Yak received is noteworthy because anonymous digital discourse in general is not a new phenomenon (Levmore, 2010) and rarely receives the degree of scrutiny Yik Yak attracted, which ultimately led to calls and attempts to ban the app and movements encouraging users to delete the app from their phones. Nationwide trends demonstrated how local news stories took up the app in response to these events, and a common theme within these stories was disentangling the digital content on Yik Yak from the communities where it appeared. This took the form of rhetorics of purification that assigned Yik Yak content to a digital, virtual space that could then be distanced from the norms of the communities where negative content appeared. Movements to delete the app likewise participated in these rhetorics by producing the app as negative anonymous posts and eliding the reality of negative digital discourse.

One result of the application of rhetorics of purification in response to negative messages was the creation of distinct zones of discourse, with the digital and anonymous content of Yik Yak understood as inherently different and disconnected from so-called actual community discourse. This rhetorical move functioned both to fuel calls to delete the app to address incidents of negative discourse and to suggest that the kinds of negative behavior present on the app, such as racism and bullying, did not reflect behavior outside of the application. My case study of a Yik Yak community demonstrated that content on the app was predominantly not negative, and in fact user posts reflected the negotiation of the unique rhetorical ecology of the app (Carlson, 2018).

While my sample was limited to a single Yik Yak community, additional larger-scale studies have confirmed that Yik Yak discourse is not significantly more vulgar that other types of online discourse and that certain social norms and rhetorical behaviors reflective of college communities persist on the app (Saveski et al., 2016). Moreover, my findings suggest that the unique rhetorical space afforded by Yik Yak was in fact productive for certain kinds

of discourse, such as seeking help and support for personal issues and debating community values (Drouin et al., 2018). This is similar to Bayne et al. (2019), who found social value in the local and anonymous qualities of Yik Yak and suggested that negative behavior on the app should be understood beyond its digital content, within the broader contexts of communities where it was used.

Rhetorics of purification that addressed the hybridity reflected by Yik Yak through creating distinct discursive zones both belied the complexity of Yik Yak and its resulting existence as a hybrid public sphere encompassing digital technologies and local communities (Hauser, 1999). More broadly, these rhetorical moves allowed communities to sidestep the reality of negative discourse on the app when it did occur by relegating negative posts to a virtual discursive space, thus diminishing the reality of negative behaviors in the respective communities where Yik Yak was used. This is paralleled in work by Stephens-Davidowitz (2018), who found that racism present in Google searches mirrored trends in racism following the 2016 election in the United States, even as general consensus before the election held that racism was declining in the country.

Taken together, my own research demonstrates the importance within digital rhetoric of considering both rhetoric about technology and rhetoric on technological platforms (Eyman, 2015) in order to better understand how distinctions are drawn between so-called actual and virtual discourses and whether or not these distinctions accurately reflect discourse on the internet and its connection with discursive trends and practices beyond digital apps. This work is important within the field because it can help us to better understand how people respond to the reality of online discourse and how rhetorical practices transgress physical and digital distinctions.

In terms of my research questions, my findings demonstrate some rhetorical moves that are used to effect rhetorics of purification, such as the creation of distinct zones of in-person

and online discourse with inherently different norms. In some communities, this resulted in calls to ban or delete the app. However, studying digital participation sites like Yik Yak can help provide a constructive critique to these rhetorics. My study demonstrates ways that online discourse is similar to and different from in-person discourse, but challenges an intrinsic distinction between the two that can result in moral panics about social media use, especially among young people (boyd, 2014). In studies of social media sites, digital techniques such as distant reading of posts from online communities can help to inform critiques of rhetoric about those communities and can contribute to a deeper understanding of online communities and online discourse in general within the field.

7.2 Technology and Shifting Contexts of Privacy

In chapter 5, I took up the pressing issue of privacy and surveillance in the context of new kinds of surveillance enabled by internet hybridity (Hutchinson, 2018). As more and more devices are connected using the internet and different types of interactions become digital data through the proliferation of ubiquitous computing and the internet of things, new types of distributed surveillance become available that threaten the privacy of both users and nonusers of the internet. One example of this type of surveillance is the National Security Agency (NSA) PRISM program, which combined data and metadata from a number of different sources using the internet and allowed for the development of a surveillance dragnet capable of building complex profiles of individuals (Greenwald and MacAskill, 2013). Recent court decisions demonstrated several ways that individuals were able to claim standing and sue for invasion of privacy in these contexts, and these cases relied on specific rhetorics of purification that functioned to extract physical searches and seizures from hybrid internet surveillance. These rhetorics were productive insomuch as they were able to render online

surveillance as an object of legal discourse, even as legal precedent has developed around violations of privacy in physical contexts.

This case study demonstrated two effects of rhetorics of purification. On the one hand, these rhetorics functioned to produce the complexity of the internet and hybrid surveillance as an object of legal discourse. As such, these rhetorics were productive in accounting for the possibility of internet surveillance within a discursive context that historically has privileged physical materiality and contexts as a core component of privacy. On the other hand, these rhetorics of purification also limit how the internet can be understood in legal discourse, and in so doing can make it more difficult to argue for privacy in the context of more distributed surveillance programs which do not necessarily effect discrete privacy breaches. This surveillance is virtual in the two senses discussed by Reid (2007): It is virtual in that it exists discursively within the space of the non-physical materiality of technology and it is virtual in that it has not yet been realized, although it could be realized at any moment. As an example, the collection and storage of large amounts of data over time could enable retroactive surveillance, where a profile of an individual's previous activities could be created at an arbitrary date in the future, in effect producing an invasion of privacy in the past.

The cases I studied relied on developing commonplaces related to physical contexts of privacy and the assumption of an "either you have it or you don't" sense of privacy that assumes the experience of a discrete loss of privacy on the part of an individual. This sense of privacy, however, overlooks how distributed data collection enabled by the internet can afford distributed surveillance that may never be discretely experienced as such by individuals (Greenwald, 2013). The legal case study illustrates how rhetorics of purification can be both productive in that they can elucidate the consequences of the internet beyond digital data and also limiting in terms of how the reality of the internet and surveillance enabled by the internet is understood.

Current rhetorics of purification in legal decisions, while productive for introducing internet surveillance, are not well-equipped to handle new kinds of distributed surveillance. They still rely on the concept of discrete and provable searches and seizures as opposed to the existence of virtual surveillance which cannot be argued to have produced "actual" harm. Analysis in terms of rhetorics of purification both helps to better understand how claims about privacy online can be articulated within different discursive spaces and speaks to opportunities for further research within the field concerning rhetoric and complex internet-enabled surveillance.

Returning to my initial research questions, this case study demonstrates how rhetorics of purification leveraged commonplaces to render the internet salient in terms of its relationship to the privacy of users. The application of rhetorical ontological inquiry (ROI) (Graham, 2015) illustrates one way that the materiality of digital and physical objects can be studied within digital rhetoric as part of a broader project concerned with rhetorics of technology. The shifting legal ontologies of the internet, built on commonplaces developed surrounding other technologies, show how writing about technology is informed by commonplaces related to digital and physical materiality and can be studied systematically.

The case study also suggests the need for additional research to explore what Graham described as cross-ontological calibration, which considers how individuals within different disciplines, each with its own ontology of a given subject, are able to communicate with one another across disciplinary boundaries. In the case of the internet, this kind of discourse across disciplines will be increasingly necessary if the network is to be taken up effectively in legal and political discourse. Research in this area also relates to the disparate internet ontologies possessed by individual internet users, who must make decisions about how to safely and productively use the internet as its reach continues to spread and its risks to privacy

and safety continue to grow. While my case study cannot address all of these questions, it suggests one trajectory for future research within the field.

7.3 Writing and Technology in Online Learning Environments

In chapter 6, I considered the rise of online-only classes and the resulting development of best practices for online writing pedagogy rooted in usability of online platforms (Bartolotta et al., 2018). When addressing online classes, which reflect hybrid connections between digital data and platforms and individual instructors and students, rhetorics of purification can serve to isolate those components of the online course that merit attention from the perspective of writing pedagogy and effective course design. These rhetorical moves can be productive inasmuch as they create a distinction between zones of content knowledge within an online writing course and online writing course technology itself. Distinguishing between technology and writing can help to create distinctions between material and instruction appropriate to an online writing course and resist a focus in online writing courses on tutorial content and technical support. Rhetorics that distinguish between writing and technology can also ground arguments concerning expectations for online writing teachers, such that teachers can remain focused on course outcomes related to rhetorical skills.

In the Position Statement of Principles and Example Effective Practices for Online Writing Instruction (OWI) (2013), the distinction created between technology and writing served to support arguments concerning the purpose of online writing classes and to centralize the position of rhetoric and writing competencies within those classes. Moreover, this rhetorical distinction supported a political project concerned with the professionalism of writing

instructors in terms of the material they are responsible for covering. In other words, distinguishing between writing and technology pushes back against reducing an online writing instructor to the role of technical support within the online-only classroom. What I would like to suggest, however, is a critical approach to where the line is drawn between writing and technology in the context of online-only classes, where the mediating role of technology intersects with the pedagogical goals of instructors. This speaks to the productive and limiting implications of rhetorics of digital and physical purification. I fear that rhetorics of purification that isolate technology from the online-only writing classroom can serve to overlook the rhetorical consequences of online course delivery and its impact on online writing pedagogies (Harris and Greer, 2016).

The Statement of Effective Practices foregrounds usability in distinguishing between technological and writing components of an online-only writing course. In other words, usability is used to purify those components of the technology of online course delivery that matter from other technological components of online course delivery. I understand this as a rhetoric of design that produces the complexity of an online-only course as a particular kind of digital object, namely the course delivery platform interface, which comes to be known primarily in terms of its efficiency and ease of use. While I do not suggest that usability is not an important considerations when selecting course technologies, I do suggest the need to critically reflect on how usability is leveraged rhetorically within the context of online course design in order to deliver courses that are both accessible and pedagogically sound.

Because usability, and the related concept of user experience, are derived from industry and based on a specific consumer relationship with technology, digital rhetoric can provide a framework to provide productive critique concerning how we understand these terms in the context of online-only courses (Bjork, 2018). In a critical procedural interface analysis, I considered several ways that the popular learning management system Canvas makes specific

procedural arguments about the nature of learning and the identify of students and teachers. By foregrounding final products and assessment, the platform itself contains certain politics and ideologies about writing that can be limiting in terms of how online teachers are able to enact their pedagogical goals.

The learning management system I studied was fairly usable, as evidenced by a survey of online-only writing students. It offers many of the features suggested by the Statement of Effective Practices, such as different accessibility settings and an uncomplicated user interface. However, the way the platform represents processes like completing and submitting an assignment and communicating assessment can impact student course experience and pedagogical outcomes. This case study suggests a space within the field to further consider the role of technology in online course design and delivery and to build from usability using theories based in digital rhetoric. The critical procedural analysis offered relates to the need for the development of best practices that include usability and accessibility alongside politics and ideology (Selfe and Selfe, 1994) in selecting course platforms and in addressing the rhetoric of technology itself in the online-only writing classroom.

Just as we teach students to incorporate critical rhetorical thinking in their writing assignments in the classroom, we can also offer constructive critiques of digital technology to help students develop a critical awareness of the role of technology in shaping an online learning environment. In this sense, I aim to build on the Statement of Effective Practices by suggesting areas that can be further developed within online writing instruction with reference to methods and theories from digital rhetoric. One area for future work within the field is the development of human-centered design work, such as participatory design, with students and teachers to better understand student needs and the effects of platforms beyond usability on online coursework (Evia and Patriarca, 2012).

7.4 Finding the Thing of Digital Rhetoric

I introduced this dissertation by positing a rhetorical theory of the internet in terms drawn from Latour's (1993) critique of modernity. The stakes of this study are different. While Latour was concerned with the human and the non-human, I am interested in the materiality of physical and digital and the implications of the reality of physical and digital objects in rhetoric and writing specifically. Due to the difference between the two arguments, my conclusions are not completely similar to Latour, but I do think it worth returning to his theories in the way of a brief conclusion.

Rhetorics of purification that distinguish between digital and physical can be productive in that they can operationalize the vastness of the internet by isolating a specific part of it within a given discourse. They can be leveraged to advance the reality of the digital in contexts that privilege physical objects, locations, and experiences. They can articulate how the internet matters Barad (2007). But rhetorics of purification can also be limiting. They can obfuscate how the internet exists and the ways that its growth and hybridity complicate how people understand and interact with digital technology. Engaging with these productive and limiting rhetorics will only continue to grow more pressing as a result of new devices and new data networked by the internet (Zappen, 2017). While the challenge of theorizing the internet within digital rhetoric is daunting, it presents new and exciting opportunities within the field that I would like to briefly explore.

Latour (2000) posited an opportunity for researchers concerned with the social and symbolic "to take seriously the enormous difficulty of accounting for objects, which oblige them to take up the radical hybridity of their topics" (p. 121). My primary goal across the case studies of this dissertation has been both to recognize how a digital and physical distinction can emerge in rhetoric and writing through the practice of purification and to apply methods

for placing digital objects, once purified, back in conversation with elements of the hybrid connections from which they emerge. Returning to my research questions, this approach relates to how the internet becomes knowable in discourse, but it can also inform a critique that helps to better understand the internet in different ways beyond how it exists within specific discourses and disciplines. In the field of digital rhetoric, I understand engaging with the digital and physical to call for engagement with digital and physical hybridity through the development and implementation of methods including computer programming, computer assisted analysis, and data visualization alongside other modes of rhetorical analysis.

My approach to digital and physical in this dissertation is informed by Santos and Zoetewey (2015), who argued that researchers "are too concerned with talking to each other and too little invested in talking with the (messy) outside world" (p. 59) and suggested digital technology as a means to "extend rhetoric and composition's reach beyond its traditional boundaries" (p. 73). The chapter by Santos and Johnson is important in that it both challenged the epistemological project of the university, which they argued segments knowledge "into discrete, autonomous disciplines, each with its own bounded purview," and performed the critique of these bounded disciplines using digital technology through participation in activism on Twitter the analysis of social media discourse (p. 61). My approach is also informed by Reid (2015), who has called for a speculative digital rhetoric that "takes up the challenge of investigating a hybridized space that technology, nature, society, culture, and discourse commonly share" by examining the ontological barrier between physical and digital objects in rhetoric and opening the floor of digital rhetoric to new digital hybrids (p. 19). This call suggests the need for a practice that combines rhetorical analysis with inquiry into digital technologies and digital platforms.

I have attempted to demonstrate this practice in different ways in this dissertation, including the application of computational analysis to digital discourse and the critical procedural

analysis of platforms. In choosing to engage with digital technology and incorporate digital methods in different ways, I aimed to perform both an analysis and a constructive critique of purification through incorporating methods of digital analysis alongside close readings to better understand the internet in terms of both its rhetoric and its hybrid contours that encompass users, texts, devices, algorithms, places, and times in different ways. Taken together, this approach connects most directly with the third research question from which I began this dissertation, namely the development of constructive, critical approaches to digital technology within the field. I believe part of this work is to shovel around bits, "to get our hands dirty with grease, juice, gunpowder, and gypsum," as it were (Bogost, 2012, p. 34). My goal has been to develop different understandings of how the internet and digital discourse exist in order to inform a deeper understanding of the digital objects that the field takes up. This is part of the thing of digital rhetoric.

In Latour's (2004) parlance, a thing is different from an object. An object is something that has been operationalized and accepted as a coherent whole. An object transforms into a thing when that stability becomes fractured. The object is no longer considered a matter of fact, but it becomes a matter of concern. Whereas an object is "a completely mastered, perfectly understood, quite forgotten by the media, taken-for-granted, matter-of-factual" entity, a thing is an arena, a gathering, an unsettled assortment of humans and non-humans (p. 234). Again, I wish to emphasize that the political stakes of my own arguments are somewhat different than the distinction between human and non-human broached by Latour. Nonetheless, digging into the technology we use every day and take for granted, shifting the platforms through which we peer into the internet from a matter of fact to a matter of concern, can create a new space for digital rhetoric to consider the ethics and politics of digital technologies and how we talk about them. It creates a space for hybridity.

In some sense, the field of digital rhetoric itself reflects a rhetoric of purification. It is productive in so much as it allows the field of rhetoric to accommodate and consider new writing technologies and the internet. It may even be tactical (Kirschenbaum, 2010), a new interdisciplinary branding for the field to draw in new researchers and justify new work. Yet it can also be restricting in as much as the object of digital rhetoric can limit what is understood as a valid site of inquiry and source of knowledge. Finding the thing of digital rhetoric requires expanding beyond a matter-of-fact object of inquiry in digital rhetoric. This shift calls the field to think both about and beyond the digital object of inquiry going forward in order to take up the ways that the internet, in its physical and digital hybridity, possesses a reality that resists material delineation. As a hybrid, the internet results in unintended consequences that transcend a neat physical and digital divide.

I believe that one part of studying these hybrid relationships in the field will require moving beyond abstracted digital text and moments of the interface and engaging directly with digital technologies. Through engaging with the internet and tinkering with its machinery, we can gain a better understanding of how it works and how that compares with the ways it emerges in rhetoric and writing, whether as a graphical user interface, a superhighway, a virtual reality, or a series of tubes (Osenga, 2013). It is not my intent to suggest that digital methods like distant reading should replace rhetorical analysis, but rather that the two can complement one another and co-exist productively in studies of discourse on and about the internet. Moreover, drawing from interdisciplinary design methods and working with users represents an additional opportunity to account for the reality of the internet.

In the end, the thing of digital rhetoric, like the internet itself, resists easy disciplinary confines. Had I not engaged directly with the platforms I studied and dug into their code, databases, and protocols, I would not have been able to develop as clear an understanding of discursive practices on locative social media, the risks of internet surveillance, or the

representational logics of learning platforms. This engagement in turn informed my approach to rhetorics of purification and my understanding of the parts of the internet that emerged in discourse and those that did not. Working directly with digital technologies is a material and embodied practice (Haas, 1995) that has helped me throughout my research to understand the complex realities of the internet and its relationship to internet discourse. This practice may not be completely reflected in the words in the previous chapters, but it is woven within the text.

I have aimed to build on current research in the field to create some additional space for the hybridity of the internet within the thing of digital rhetoric. Doing this work has admittedly not been easy for me, but I think it is necessary. My hope is that it is easier for others in the future.

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Appendices

Appendix A

Legal Cases Referenced

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