Virtual Friction: Networking Sexuality and HIV Prevention in the Digital Age

by

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Abstract

From advances in HIV prevention science bringing us pre-exposure prophylaxis (PrEP) to the proliferation of hook-up apps like Grindr, the late 20th/early 21st centuries have introduced intense socio-technical transformations in gay men’s intimate lives. In particular, the networked decentralization and privatization of sexuality has generated a corresponding set of discourses within gay men’s communities and in the social world of HIV prevention. Community narratives either construct the Internet as a virtual community where acceptance, solidarity, friendship, romance, and sex become easily accessible in a largely hetero-normative world, or a virtual bathhouse accelerating the depoliticization and commodification of gay life (Kapp, 2011; Ward & Arsenault, 2012). In public health, accounts oscillate between exploring the Internet’s potential to revitalize HIV prevention efforts (Chiasson et al., 2009; Rhodes et al., 2011; Rosser et al., 2010), and debating its possible role in facilitating HIV risk and transmission (Berry et al., 2008; Bull & McFarlane, 2000; Wohlfeiler & Potterat, 2005).

Intersecting perspectives from communication, Internet studies, and public health, this dissertation traces the erotic and epidemiological contours of a “network society” (Castells, 1996) where the Internet plays an ambivalent role in social life. Based on archival research, personal experience, and 31 interviews with gay men, public health actors, and Internet entrepreneurs in San Francisco and Vancouver, this project uses the concept of virtual friction to think through the tensions, contradictions, and paradoxes that characterize the networking of sexuality and HIV prevention in the digital age. Broadly speaking, I ask whether and how the Internet has transformed sexuality and HIV prevention by examining the discourses, subjectivities, and practices that have emerged, as well as the subsequent set of opportunities and challenges they generate for the various social worlds involved (Strauss, 1978). I argue that virtual friction is not only an inevitable but necessary part of the process because it renders visible the limits of imagining social problems and solutions in purely technological terms. Friction challenges us to acknowledge the competing epistemologies, interests, and perspectives that underpin life in the digital age, taking us out of our comfort zones by asking how we know and believe what we do about science, technology and society.

Keywords: HIV prevention; sexuality; network society; Internet; LGBT; friction
Dedication

To gay men and the women who love them.
Acknowledgements

A dissertation is not an individual achievement but rather a product of the contributions of a number of kind-hearted people. I’d like to begin by thanking my informants for their time and generosity as they shared important stories that helped me learn more about their experiences as gay men, HIV prevention actors, and Internet entrepreneurs. In offices, during breaks, over afternoons, and after work, my informants made this research possible. I’d also like to acknowledge and thank the gay men’s health community in Vancouver for giving me the opportunity to learn and participate as a researcher. In particular, I am indebted to Olivier Ferlatte, Sarah Chown, Terry Trussler, Rick Marchand, Travis Salway Hottes, Mark Gilbert and many other fantastic people from CBRC’s gay men’s health reading group, BCCIE, HIM, Positive Living, AIDS Vancouver, Mpowerment, Totally Outright, and the Investigaytors. Special thanks to archivists Marjorie Bryer (GLBT Society), Margaret Hughes (UCSF), and Tess McCarthy (Center for Sex and Culture) for their assistance with the historical research portion, and to Josh Robbins, Grindr, Hornet, Priape, BuzzFeed, and the AIDS Healthcare Foundation for generously permitting the use of their images in this dissertation.

I’d also like to acknowledge my dissertation committee for all of their support: Dr. Peter Chow-White was my senior supervisor and offered an endless source of positive energy and enthusiasm for this project from its early days. Professor Andrew Feenberg introduced me to science and technology studies and gave me a home in the ACT lab for many years. Professor Kitty Corbett kindly helped me navigate through the world of public health and provided vital connections for me in San Francisco that I am eternally grateful for. My internal examiner, Dr. Anne-Marie Nicol, asked me some provocative questions that will have me thinking more about the heat of virtual friction for years to come. My external examiner, Dr. Kane Race, offered thoughtful and kind feedback that encouraged me to delve deeper into the nuance and complexity that follows the digitization of sexuality and HIV prevention. My chair, Professor Ellen Balka, did a wonderful job keeping all of us on track. What a pleasure it was to have this group of people there with me as I crossed the finish line.
I also wish to thank my friends and colleagues I have met during grad school. My San Francisco sister Klaudia Kristina has always been my #1 fan, letting me stay with her for an entire summer while I began this project. In Vancouver, Helena Krobath, Milan Singh, Milena Droumeva, Ashleigh Rich, Jo Shin, Rebecca Yoshizawa, Julie Frizzo-Barker, Shivaun Corry, Ayumi Mathur, Itrath Syed, Pippa Adams, Heidi Jasper, Graeme Webb, Bob Neubauer, Matthew Greaves, Graham Mackenzie, Joey Comrisso, and especially David Murphy were all vital sources of food, laughs, and support. Dave has taught me everything I know about pedagogy and is inspirational in so many ways. To Rugged Fox, Kevin, Ducky, Marcos, Tyler, Joshun, Lief, Carven, Jacob & Matthew—thank you so much for your friendship and love. I am so lucky to have you all in my life! I also must acknowledge my long-time friends Nyree O’Shaughnessy, Eliana Dell’Acqua, Adelina Pepe, and Kendra Magnus-Johnston who all knew me way back when and have cheered me on endlessly via texts and FaceTime.

I’d also like to thank my family: My mother, Teresa Zolyniak and father Brian MacAulay for supporting their daughter’s never-ending pursuit of learning, and my terrific aunt Danielle MacAulay-Williams and cousin Mati. My academic “mom” Dr. Jacqueline McLeod-Rogers from the University of Winnipeg has been a true mentor to me from my beginnings as an undergrad keen. My Italian in-laws are truly magnificent people: Thank you Nonna (RIP), Mary, Pino, Vito, Sandra, Ethan, Niko, Auntie Loo, Zia Maria, Zia Pina, Uncle Tony and the other 300+ relatives I have met at weddings and other family events. Having come from a small family, it is such a pleasure to be welcomed in by such a wonderful group of people.

And finally, a heartfelt thanks to my better half Vincent Andrisani. Vincent has been there every step of the way—from comps to fieldwork to the endless writing (and rewriting). Completing a dissertation is tough work and I am so cosmically lucky to have this person in my life as both a colleague and partner. We did it, v!

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# List of Acronyms

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<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>ART</td>
<td>Anti-retroviral therapy</td>
</tr>
<tr>
<td>ASO</td>
<td>AIDS service organization</td>
</tr>
<tr>
<td>BCCDC</td>
<td>British Columbia Centre for Disease Control (Canada)</td>
</tr>
<tr>
<td>CBO</td>
<td>Community-based organization</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control (U.S)</td>
</tr>
<tr>
<td>HAART</td>
<td>Highly-active anti-retroviral therapy</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>MSM</td>
<td>Men who have sex with men</td>
</tr>
<tr>
<td>PHAC</td>
<td>Public Health Agency of Canada</td>
</tr>
<tr>
<td>PnP</td>
<td>Party ‘n Play</td>
</tr>
<tr>
<td>PrEP</td>
<td>Pre-Exposure prophylaxis</td>
</tr>
<tr>
<td>TasP</td>
<td>Treatment as Prevention</td>
</tr>
</tbody>
</table>
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome occurs when advanced HIV lowers a person’s T-cells below a certain threshold (also called late stage HIV). Can potentially be fatal.</td>
</tr>
<tr>
<td>Barebacking</td>
<td>Known either as unprotected anal intercourse or condomless anal intercourse. Often associated with seropositive sexual cultures, although not exclusively. Popularized in the 1990s.</td>
</tr>
<tr>
<td>Behavioural intervention</td>
<td>HIV prevention interventions targeting individual attitudes, values, and beliefs in order to modify behaviours.</td>
</tr>
<tr>
<td>chemsex</td>
<td>Recreational sex involving illicit substance use. Popularized in the 2000s.</td>
</tr>
<tr>
<td>cruising</td>
<td>Gay vernacular for partner-seeking.</td>
</tr>
<tr>
<td>HIV</td>
<td>Human immuno-deficiency virus that causes AIDS. Since 1996, is often considered a manageable chronic condition.</td>
</tr>
<tr>
<td>Incidence</td>
<td>Number of new HIV infections in a particular time period.</td>
</tr>
<tr>
<td>Party and Play (PNP)</td>
<td>Recreational sex involving illicit substance use. Popularized in the 1990s.</td>
</tr>
<tr>
<td>poz</td>
<td>Vernacular for seropositive or HIV-positive.</td>
</tr>
<tr>
<td>PrEP</td>
<td>Pre-Exposure Prophylaxis refers to the use of anti-retroviral therapies in seronegative people to reduce their chance of HIV infection.</td>
</tr>
<tr>
<td>prevalence</td>
<td>Number of ongoing HIV infections.</td>
</tr>
<tr>
<td>seroconversion</td>
<td>When HIV enters a person’s bloodstream (usually through unprotected sexual contact, sharing intravenous needles, receiving a blood transfusion, birth) and integrates itself into their blood cells and DNA.</td>
</tr>
<tr>
<td>serodiscordant</td>
<td>Sexual partners who do not share the same serostatus (i.e. one is seronegative and the other is seropositive).</td>
</tr>
<tr>
<td>seronegative</td>
<td>A person who is HIV-negative.</td>
</tr>
<tr>
<td>serophobia</td>
<td>Fear of HIV and people with HIV.</td>
</tr>
<tr>
<td>seropositive</td>
<td>A person who is HIV-positive. The more politically correct term is a person living with HIV.</td>
</tr>
<tr>
<td>serosorting</td>
<td>A risk-reduction practice where people limit their sex partners according to those who share the same serostatus.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>sexual networking platforms</td>
<td>Websites or apps designed for the purpose of facilitating sexual communication and connection. Often also referred to as dating or hook-up apps.</td>
</tr>
<tr>
<td>social marketing</td>
<td>Adapting marketing principles for use in social change.</td>
</tr>
<tr>
<td>structural intervention</td>
<td>HIV prevention interventions targeting environments and public policy to reduce transmission at the population level.</td>
</tr>
<tr>
<td>Treatment as Prevention (TasP)</td>
<td>A population-level intervention designed to reduce HIV transmission by offering treatment to newly-diagnosed patients.</td>
</tr>
<tr>
<td>undetectable</td>
<td>A biosocial category when the level of HIV in a seropositive person’s blood has been lowered to the point that the risk of transmission is effectively zero. Most often achieved through regular adherence to anti-retroviral therapy, medical care, proper nutrition, exercise, stable housing, etc.</td>
</tr>
<tr>
<td>virological suppression</td>
<td>See Undetectable</td>
</tr>
</tbody>
</table>
Chapter 1. Viral Transmission: Sexuality and HIV Prevention in the Digital Age

Introduction

Metaphors may create realities for us, especially social realities. A metaphor may thus be a guide for future action. Such actions will, of course, fit the metaphor. This will, in turn, reinforce the power of the metaphor to make experience coherent. In this sense metaphors can be self-fulfilling prophesies (Lakoff & Johnson, 1980, p. 156).

A virtual community. A bathhouse in your pocket. A digital glory hole. A male-order catalogue. A gay buffet. A gay slot machine. A time-sucking techno toy. The world’s biggest, scariest gay bar.¹ Since the introduction of the geolocation-based app Grindr in 2009, these are some of the metaphors that people—users, researchers, entrepreneurs, and pundits—have used to talk about gay sexual networking platforms, or what we commonly refer to as gay hook-up apps. Allowing users to log on, cruise, and connect with the hopes of meeting up and getting off, sexual networking platforms have become one of the most popular and polarizing technological developments of the contemporary age.

Today, it would be rare to meet a single and sexually-active gay man who has never used a sexual networking platform. Research suggests that upwards of 85% of gay men in the U.S. have used the Internet to find partners (Gudelunas, 2012), while the average Grindr user checks the app 8 times daily for a total of 11.5 hours weekly (Grindr, 2014). By contrast, the average user spends 7 hours on Facebook and under 2 on the micro-blogging site Tumblr (Woo, 2013, p. 42). The reasons for the popularity of sexual networking platforms are many. Providing opportunities for sociability that are

¹ For examples of these metaphors in the gay and popular press, see Moylan (2014), Field (2014), Kerr (2014), Kapp (2011), and Gremore (2016).
anonymous, accessible, affordable and accepting (Grov et al., 2014a), sexual networking platforms help gay men connect with each other. This is especially important for men who may still be coming to terms with their attraction to other men, people who want privacy, people who may not frequent more traditional gay venues like bars or bathhouses, those who have busy schedules or live far from gay neighbourhoods, and/or those explicitly seeking a casual sexual encounter (or NSA)², among other reasons. Sexual networking platforms have virtually transformed the meaning of cruising (or partner-seeking), making sex (or at least the idea of having sex) available almost anytime and anywhere (Crooks, 2013).

Depending on whom you ask, sexual networking platforms are either a blessing or a curse. More celebratory accounts construct sexual networking platforms as important tools that facilitate intimate connection and freedom of expression among gay men. This is particularly vital for youth, adults still exploring their sexuality, and people living in social conservative zones where homosexuality remains stigmatized or even criminalized. Grindr’s “Grindr for Equality” (G4E) initiative is an example of such discourse in action, with the company using its global presence to champion human rights for sexual and gender minorities, promote anti-discrimination laws, push for more lesbian, gay, transgender, and bisexual (LGBT) representation in politics, and advocate for improvements in HIV prevention and care. With sexual networking platforms offering some of the protection, support, and solidarity associated with historic gay community institution such as bars and bathhouses, liberatory narratives position them as venues for political and potentially emancipatory activity.

Such accounts are in stark contrast to dystopic, apocalyptic, or negative reports of cruising in the digital age. In these accounts, critics blame hook-up apps for everything from the closure of gay bars to the destruction (!) of gay culture (Lucas, 2016; Musto, 2016). In the comments sections of these types of stories, critics often reminisce about what life was like in the pre-Grindr days. They contrast this against descriptions of atomized gay millennials transfixed by the glowing screens of their smartphones in a gay zombie apocalypse of desire. Young gay pop singer Sam Smith once complained to a

² NSA is short-form for “no strings attached”.

reporter that apps like Grindr and Tinder were “ruining romance” by virtue of the fact that people were “losing the art of conversation and being able to go to speak to people” (Metro U.K., 2014). Similarly, an article in the popular gay U.S. magazine The Advocate accuses Grindr of “dehumanizing” gay men by “creating a bunch of gay sex robots who only know how to communicate with each other via pictures and sexual function” (Curry, 2015). And lest the reader assume that such critics are curmudgeons out of touch with contemporary gay culture, it is worth pointing out that many of these critiques come from younger gay men whose accounts of the “good old days” of gay life are second-hand. As one young Advocate writer muses,

queer culture was once a vibrant underground scene that was, for the most part, all-inclusive—a consortium of gay men, drag queens, and lesbians taking refuge in the few places where they could congregate and cruise, just as long as they avoided the cops. But that was the 1960s and ’70s. In 2015, gay meeting spots have moved to digital spaces that are not all-inclusive—far from it (Cheves, 2015).

Although I understand the writer’s concern about the exclusivity of gay online spaces, namely in terms of how they can be alienating for users who are not young, white, fit, and hegemonically masculine gay men, his depiction seems at odds with other accounts of lesbian, gay, and queer histories that are less often discussed.³ Consider, for example, the documented practice of some gay bar owners requesting multiple forms of identification from patrons of colour (Bérubé, 2011), or how some gay bars, including New York’s famous Stonewall Inn, restricted admission among the very drag queen patrons now celebrated in popular culture (Marcus, 2002). Divisions among gay men and lesbians are made clear in separatist lesbian critiques of male chauvinism within gay liberation in the 1970s (Frye, 1983; Martin, 1970), as were tensions among some lesbian communities over trans women’s inclusion in bar and leather scenes (Califia, 1981; Pasulka, 2015; Rubin, 1996) that ultimately erupted as part of the infamous feminist “sex wars” of the 1980s (Rubin, 1984). Now, although we can make similar claims about most other political communities and this does not mean that truly inclusive LGBT spaces did not (and do not) exist, it is clear to me that some of the critiques I see from people of my generation have nostalgia for a past that is not quite how everyone remembers it.

³ Some excellent scholarly accounts include Nan Alamilla Boyd’s Wide-Open Town (2003) and George Chauncey’s Gay New York (1994).
What are we to make of such conflicting accounts of the Internet in contemporary gay life? Can the tension between such opposing perspectives be productive in discussions of technology and sexuality? I think they can. Such divergent positions reveal some of our greatest hopes and anxieties about our technological era. The Internet offers us the promise of connectivity that will help us build supportive communities and mitigate the sense of loneliness or isolation many of us experience. It does so in a highly personalized manner that gives users a sense of control over their physical and emotional vulnerabilities. That is a seductive proposition, especially when we consider that the world can still be a hostile and unfriendly place for many gay people. For these reasons, the Internet’s privacy and anonymity can often make it feel like a safer and more inclusive space than the so-called “real world”. It can make a big difference in a person’s life to be able to log on and find acceptance online when the physical world can be a site of judgement, scorn, and even physical danger. And yet, from the critiques offered above, it is clear that “real world” tensions do not dissipate as soon as we log on. It is not a frictionless environment. Critics are right to express concern about the negative implications of the Internet in shaping social interaction—particularly when it can help intensify conflict and division within gay communities. Technology may not independently drive social change and produce direct “effects”, but it seems reasonable to me that communication tools that human beings design and use have social implications—some less desirable than others. The communicative freedom we gain online occurs just as we see positive forms of social control that promote human decency erode. I do not believe that simply because critics’ concerns are not “new” that they are unfounded or that we should not take them seriously. On the contrary, I see a great deal at stake when we seem so compelled to celebrate and demonize phenomena as multi-faceted, dynamic, and complex as sexual networking platforms. What compels us to venerate apps as tools for political liberation or condemn them in such totalizing terms?

A Virtual bathhouse: Sexual networking and HIV

A similar polarization of opinions emerges when we consider the relationship between sexual networking sites and HIV risk for gay men. While pundits once considered the Internet to be a “safe space” for gay men to pursue their sexual desires
through the medium of cybersex in the 1990s, the tone shifted during the early 2000s after media and public health reports documented gay men moving sex from the screen to the sheets. Both the gay press and the mainstream media covered the rise of sexual cultures online, with discussion of barebacking providing ample fodder for journalists and commentators alike.\textsuperscript{4} With its growth supported by an anonymous, uncensored, and decentralized medium that allows users to organize casual sexual encounters away from the reach of public health and business owners, barebacking quickly became a site of intense community discussion.

Many in the HIV prevention community were perplexed by its emergence, as public health actors feared it would lead to a dramatic resurgence of the epidemic. It also ignited friction within the gay community. It challenged gay activists who had worked tirelessly to mobilize around HIV/AIDS, promoting safe sex as a way to affirm gay sexuality during the horrific “plague years” of the 1980s—the memory of which was (and is) still painfully-fresh for many. Establishing condom use as an articulation of good gay citizenship, some gay commentators even went as far as to label barebacking a supremely reckless, selfish, and stupid act (Cohen, 2005; Scarce, 2011). This further polarized discussion, as members and defenders of this nascent subculture mobilized discourses of sexual autonomy and individual responsibility to argue that barebacking had helped them restore some of the intimacy and joys of gay sex that had been stolen from them by the AIDS epidemic (Adam, 2005; Shernoff, 2006). And given that many so-called barebackers were already living with HIV and managing their conditions with effective anti-retroviral therapies (c. 1996), they reasoned that their contribution to the epidemic was nil.\textsuperscript{5}

\textsuperscript{4} In clinical terms, barebacking is known as unprotected anal intercourse.

\textsuperscript{5} During this time, there were concerns that unprotected sex among seropositive partners could lead to an epidemic of HIV “superinfection”, with a suspected case involving a gay man in New York. This case generated intense interest from public health and media actors (New York Department of Health and Mental Hygiene, 2005; Confessore, 2005). However, such fears turned out to be largely unfounded. Instead, scientists believed that the patient’s dual-tropic, drug-resistant strain had likely been missed at the time of initial diagnosis and that his low CD4 count may have been an outcome of acute infection rather than rapid progression (Thaczuk, 2007). In short, this was an extremely rare case.
With time, the situation became both clearer and more complex. Public health concerns over barebacking followed with a focus on the emergence of an online “party and play” (or PnP) recreational sex and drug scene that we now call chemsex. While recreational sex and drug use is not always a problem in itself, public health became concerned with how extensive sex and drug use may place people at higher risk for HIV transmission by lowering their inhibitions and reducing their motivation to engage in protective health behaviours (Halkitis et al., 2014; Theodore et al., 2014). This encouraged the world of HIV prevention to broaden its focus from sex acts alone to the contexts and factors that shape sexual decision-making. “Unprotected anal intercourse” may be a techno-scientific explanation for HIV risk and transmission, but it is important to remember that they also occur in broader social, cultural, political, and technological milieus. And although it is important to acknowledge that the Internet did not invent recreational sex and drug use, it is not insignificant that the Internet became an important venue where gay men could express, explore, and co-ordinate desires that mainstream society and even many of their peers deemed taboo. The Internet had helped make subcultures visible in ways that challenged the analogue expertise of public health and community actors.

Sexual networking has also informed scientific debates regarding the Internet’s possible role in shaping HIV risk for gay men. Writing across the pages of scientific journal articles and within the gay and mainstream press, some have compared the Internet to other risk environments like bathhouses and bars due to their semi-anonymous, immediate, and hyper-sexualized aspects. Proponents of this Internet risk hypothesis usually point to case reports documenting Internet-related STI/HIV outbreaks among gay men, or data collected from clinic patients and chat-room users documenting more reported risk behaviours (i.e. condomless sex, multiple partners, and illicit substance use) than those who meet their partners in more traditional venues (Bull, et al., 2004; Elford et al., 2001; Klausner et al., 2004; McFarlane et al., 2000; Ogilvie et al., 2008). From this perspective, the Internet is not simply a neutral space but rather acts a venue that may influence people’s behaviours. This means that HIV prevention interventions need to address the Internet’s structural aspects in order to be effective. It follows that many proponents of this perspective may also feel that owners of platforms
have some obligation to support the health and safety of their patrons in ways similar to bar and bathhouse owners (see Figure 2, position D).

Predictably, this Internet risk hypothesis has generated controversy in some social and scientific circles. Skeptics have argued that the venue where sex occurs makes little difference (“it’s not where you do it, it’s what you do”) and may believe this is simply another way that sex-negative public health discourses pathologize gay male sexuality (see Figure 2, Position A). Taking a person-centred perspective, critics may also point to data from other studies suggesting that those who seek high-risk sex online report similar levels of risk with online partners as with offline ones (Bolding et al., 2005; Chiasson et al., 2007; Grov et al., 2007; Hirshfield et al., 2004; Horvath et al., 2008). For these reasons, some believe that business owners have little responsibility for what consenting adults do in private and therefore have minimal obligation to assist in efforts
(see Figure 1, position D). It also would not do to simply focus on sexual networking platforms alone, some might argue, when we know that there are so many other factors at play. The disproportionate burden of HIV infections among marginalized populations suggests that social determinants of health like education, income, and housing play a much bigger role in shaping health outcomes, along with structural forms of oppression like homophobia and racism. And besides, with the many advances in HIV prevention and care that have occurred over the past 20 years, some might wonder, is HIV even that big of a deal anymore?

**HIV: Scientific rhetoric vs. reality**

This is an important question worth considering, particularly because of the distinction between scientific advancements in HIV and people’s lived experience. There is no question that scientific advancements have helped make HIV has a less urgent and visible phenomenon than it once was. In the past, scientists defined the “window period” to conclusively diagnose HIV as 12 weeks. This meant that someone with a possible HIV exposure used to have to wait up to three months before they could trust the results of an antibody test, with results taking weeks or even months to be returned. In 2017, this window period has dropped to 6 weeks. People can now take an array of tests (measuring antibodies, antigens, or a combination of the two) administered in the clinic, a mobile van, or even their homes using standard blood samples or those from a finger prick or oral fluid swab. In some cases, people can receive results in as soon as 20 minutes. These are important developments because the sooner someone receives a diagnosis, the sooner they can make an informed decision about their health. This can have implications at a population level, as it is believed that HIV is more easily transmitted at the early or acute stages of infection.

Treatment has also changed. Since the release of effective anti-retrovirals in the mid-1990s, the scientific meaning of HIV has been transformed from a death sentence.

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6 Antigen tests are able to identify HIV, while antibody tests identify the antibodies the body produces in response to HIV infection.

7 This may have to do with the virulence of the virus at the early stage, or may be due to the fact that people may not change their sexual behaviours until receiving a diagnosis.
into a chronic, manageable condition for many. And with advances in HIV medicine, the availability of less toxic and more effective treatments has made HIV more liveable. Some people living with HIV manage their condition with a few pills daily as opposed to the iconic “drug cocktails” of the 1990s, while the HIV treatments have become effective to the point that many people living with HIV are in excellent health and can expect to live well into their senior years. This has also boded well for their sex lives, especially for people able to achieve what scientists call virological suppression (also known as “undetectability” or “being undetectable”)—which occurs when a person’s adherence to anti-retrovirals has lowered the level of HIV in the body to the point that the chance of transmission during condomless intercourse is effectively zero (Cairns, 2014).

This has had tremendous implications for HIV prevention, as the relatively recent use of anti-retrovirals to prevent transmission has changed our understanding of risk. Consider the term of “unprotected sex”. In 2014, activists successfully lobbied the U.S. Centers for Disease Control (CDC) to stop using the term “unprotected” to refer to the non-use of condoms during sexual intercourse. In light of data demonstrating the efficacy of virological suppression and the use of pre-exposure prophylaxis (PrEP) among seronegative people in preventing HIV transmission, activists argued that not all condomless sex occurs in “an environment of heightened HIV risk” (Madoori, 2014) and that the language needed revision. The changing biomedical landscape has also implications at the policy level, as cities like Vancouver and San Francisco have worked to scale up Treatment as Prevention (TasP) initiatives. Encouraging recently diagnosed people to begin treatment immediately (as opposed to the previous practice of waiting until people became immune-compromised), TasP is a biomedical intervention designed to reduce transmission at a population rather than individual level. Such efforts matter because they ultimately work to challenge our understanding of HIV infection from a fatal condition to something that is manageable and chronic.

The scientific reality of HIV may be changing, but what about the social realities of those affected by HIV? Some things seem to change less. The demographics remain similar, as HIV continues to disproportionately affect historically disenfranchised groups

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8 Research estimates that approximately half of people living with HIV in the U.S. and Canada are virologically-suppressed (49% and 54%, respectively; see Ryan, 2017; Arkell, 2017).
such as gay men, transgender women, people of colour, Indigenous peoples, people who use drugs, and sex workers. Classified in epidemiological terms as men who have sex with men (MSM) to include bisexual men and other men who do not identify as gay, MSM represent just over 2% of the national population in Canada and the U.S. while representing the majority of HIV infections. According to 2014 estimates, Canadian MSM represented 57% of new and 53% of ongoing infections (PHAC, 2015), while 2010 data from the U.S. has placed them at 67% and 56%, respectively (CDC, 2016, 2017). And although the number of new diagnoses among MSM have stabilized since 2010, subpopulations such as youth and men of colour remain disproportionately vulnerable. In the U.S., the number of new infections increased 16% among young Hispanic/Latino gay and bisexual men between 2010 and 2014 while there was a slight decline among young African-American and white men. Current estimates also suggest that if current rates of diagnoses persist, upwards of 50% of Black and 25% of Hispanic/Latino MSM in the U.S. will be diagnosed with HIV in their lifetimes (CDC, 2016). Given that many MSM of colour experience racism and economic instability in addition to the homophobia that affects MSM more generally, the elevated rates among these subgroups suggest that there are multiple factors at play.

In Canada, the situation is somewhat less pronounced although it remains a cause for concern. Young MSM represented nearly 65% of the 474 youth diagnosed with HIV in 2014 (CATIE, 2015). And although there is unfortunately little national data available regarding HIV infection among Canadian MSM according to race/ethnicity,

some evidence suggests that minority MSM are disproportionately affected. Consider these statistics in light of recent 2011 estimates that 1.7% of the Canadian population identifies as gay and 1.3% of the population identifies as bisexual, respectively (Statistics Canada, 2015). Indigenous men represent just over 4% of Canada’s male population in 2011, while Indigenous MSM comprised 4% of new infections between 1998-2014 (PHAC, 2014; Statistics Canada, 2013a). Black men comprised nearly 3%,

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9 Not all provinces include information about the race/ethnicity of patients when reporting to the Public Health Agency of Canada.

10 This is likely an underestimation due to unwillingness to disclose, survey phrasing, measurement issues, and cultural shifts in how people think about sexuality (see Aspinall, 2009; Coffman et al., 2013; Ferlatte et al., 2017; Rich et al., 2017).
while Black MSM represented nearly 5% of new infections. And among Latino men who made up just over 1% of Canada’s population, Latino MSM accounted for 6.7% of infections (Statistics Canada, 2013b).\textsuperscript{11}

Provincial-level estimates paint a similarly concerning picture. In British Columbia, an increasing number of minority MSM—particularly Asian men—are being diagnosed with HIV infection. From 2005-2014, the proportion of new diagnoses among non-white MSM increased from 22.7% (41 cases) to 36.7% (55 cases) (BCCDC, 2015). In 2011, Indigenous MSM—who represent part of the 2.6% of Indigenous men living in British Columbia (Statistics Canada, 2013a)—comprised nearly 6% of new HIV diagnoses in the province. And in Ontario, where there are much larger Black and Latino populations than in British Columbia, these groups also appear to be disproportionately affected. In 2011, Black and Latino men comprised less than 2% and 1% of the provincial population, respectively (Statistics Canada, 2013b). And yet, they collectively represented just over 20% of new infections among MSM in Ontario between 2009-2011 (Sullivan et al., 2011). White MSM may currently represent the absolute majority of new and ongoing HIV infections in Canada, but the combination of increasing rates among minority MSM coupled with the lack of demographic information about them suggests that we need to take a more intersectional approach to making sense of the HIV epidemic.

One thing that this data does not explain is why. If it is true that “HIV does not discriminate”, then why are gay and other MSM overrepresented in the data? As someone new to HIV research, this was an honest question animating my interest in the study. And as I discovered, the reasons are many and the answer you receive depends who you ask. A behavioural researcher may tell you that at the individual level, gay men are more vulnerable to HIV infection because they tend to have more sexual partners and tend to have higher-risk sex than the general population. Non-use of condoms obviously plays a role, but so does anal sex—where the risk of HIV transmission can be up to 18 times greater than vaginal intercourse (Peabody, 2010). Scientific narratives position anal sex as riskier due to a number of biological factors, namely that: 1) blood

\textsuperscript{11} Admittedly, there may be some methodological issues drawing comparisons between these different datasets but I am mainly using this for illustrative rather than analytic purposes.
cells in the comparably delicate rectal lining are more vulnerable to HIV (due to the possibility of tearing), and 2), both seminal and rectal fluids contain higher levels of the virus than vaginal fluids do. This places many gay men at a higher level of HIV risk than heterosexuals or lesbian/queer women, since anal sex is often the main penetrative option. Epidemiologists may explain it differently. At the population level, they may attribute this to the fact that gay men belong to relatively small sexual communities or networks where as many as 1 in 5 are already living with HIV. Because epidemiology often focuses on risk in the presence of an infection rather than in the context of individual behaviours, such narratives posit that this automatically increases one’s chance of exposure regardless of what one does. Furthermore, in these small sexual communities, the pool of potential partners is smaller. This means that gay men’s sexual networks are often densely connected, where people can have a number of sexual partners in common (Wohlfeiler, 2000; Wohlfeiler & Potterat, 2005). Individual behaviours still matter in the end, but epidemiology reminds us that the characteristics of our socio-sexual environments can make the consequences of a slip up greater for some than for others.

Community activists, social epidemiologists, and critical public health scholars will likely take issue with the above explanations and argue for a different perspective. Taking a social determinants of health approach, they may argue that what is driving the epidemic among gay men is not simply anal sex or statistics but homophobia and HIV stigma. Although sexual minorities have made significant political gains in terms of establishing anti-discrimination laws and receiving state recognition through the full legalization of same-sex relationships in Canada and the U.S., homophobia remains a serious social problem. Homophobia negatively shapes gay men’s experiences with the health care system when it prevents them from fully disclosing their sexual orientation to their care providers; it is present when their care providers treat them like “diseased faggots” (as one gay male informant put it to me bluntly) simply because they are sexually-active gay men; and it is present in cultural discourses that represent gay men

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12 This may change in the future, due to the growing interest in anal sex among heterosexuals. Commonplace in contemporary commercial pornography, anal sex has even received attention in a highly informative post on actor Gwyneth Paltrow’s goop lifestyle blog aimed at heterosexual women (“Reality Check,” 2017).
as vectors of disease. Stereotyping HIV as a “gay disease”, HIV stigma negatively affects gay men in several ways. Besides exacerbating the challenges many gay men already face navigating the health system, HIV stigma impedes prevention efforts by facilitating denial among men who may be at risk (“I’m not that kind of gay man”), by inhibiting gay men from openly discussing HIV with each other before having sex (“I don’t want him to think I’m that kind of gay man”), and by promoting fear of a positive result that may ultimately discourage regular HIV testing (MacAulay & Wang, 2016). When we consider how homophobia and HIV stigma combine with other dimensions such as racial oppression, economic inequality, unequal access to education, housing, health care, mental health disparities, and addiction, it becomes clear that the HIV epidemic among gay men in Canada and the U.S. is a complex and multi-faceted phenomenon.

The tension between scientific rhetoric and the social reality of the HIV epidemic also becomes clear when we consider areas where progress has stagnated. We know more than ever about HIV risk, transmission, diagnosis, and treatment in 2017, and yet gay men remain disproportionately affected by HIV with no significant decline since the late 1990s. Gay men test for HIV more frequently than the general population, and yet nearly 20% of MSM living with HIV in Canada and the U.S. are undiagnosed. The enhanced prognosis for people living with HIV is promising, but misconceptions around HIV remain. Many people living with HIV are living long and full lives, but news reports continue to portray them as dangerous vectors of disease. This often happens in the context of covering legal cases where people living with HIV are charged with failing to disclose their serostatus to their sexual partners. Based on laws policymakers developed in response to the fear and ignorance surrounding AIDS in the 1980s, non-disclosure cases often use frameworks of sexual assault and attempted murder to classify the accused as criminals—regardless of whether or not transmission even occurred. Such perceptions play out in the sexual sphere as well. Managing a chronic medical condition may be challenging, but so too is dealing with stigma, prejudice, and discrimination from potential partners. For people living with HIV who face other forms of systemic oppression (i.e. homophobia, racism, misogyny, etc.), HIV stigma only compounds this. We may be able to more effectively treat HIV in a biomedical sense, but we have yet to remedy our socio-cultural response to its presence. Why do these differences still exist?
How do they get articulated at the level of discourse, communication, and policy? And what role might networked information technologies play in ameliorating or exacerbating them?

**Virtual friction: The study**

This study takes these issues into account—the tensions the Internet introduces into gay men’s cultures, the competing accounts of the role it plays in HIV risk and transmission, and how it mediates present-day incongruities between the scientific and social realities of living with HIV. It understands the Internet as a disruptive technology that reconfigures everyday and official discourses, subjectivities, and practices with respect to sexuality and HIV. Based on over two years of qualitative research conducted in the cities of San Francisco and Vancouver, BC, this dissertation considers these disruptions from the perspectives of gay men, HIV prevention actors, and Internet entrepreneurs (see fig. 3). Broadly, this study asks whether or not networked information technologies like the Internet have transformed sexuality and HIV and how we can characterize these changes. What are the emergent discourses, subjectivities, and practices that follow the networking of sexuality and HIV? What are the subsequent opportunities and challenges that arise? How have actors responded to these challenges, and what does it reveal about sexuality and HIV prevention in the digital age?

I examine these questions by considering the ambivalent role of *friction* in the networking of sexuality and HIV prevention. While we typically think of friction in the scientific sense—as a physical mode of resistance that emerges when surfaces rub against one another—this study treats friction as the tension that mediates the relationship between new socio-technical developments and established systems or forms of organization. Friction appears when new technologies “erode” existing infrastructure or when social progress stagnates in spite of technological change, often occurring when issues traverse boundaries and social worlds (Wasén, 2015). It emerges through what anthropologist Anna Tsing terms the “awkward, unequal, unstable, and creative qualities of interconnection across difference” (2005, p. 4). What I am calling *virtual friction* emerges as the Internet intersects gay men’s worlds, the worlds of HIV
prevention actors, and those of Internet entrepreneurs, inviting epistemic tensions, divergent perspectives, and asymmetrical power relations. Virtual friction appears in the polarized perspectives regarding the community implications of sexual networking platforms, the opposing viewpoints surrounding causality and responsibility, and the tension that exists between scientific rhetoric and social realities concerning HIV in contemporary society. It demonstrates how individual and community interests can become at odds, how the firm distinction between structure and agency can blur, and how scientific rationality can sometimes fail to fully account for human experience. In this sense, virtual friction is an ambivalent phenomenon because it presses us to reconsider our comfortable assumptions about the relationship between science, technology, and society.

I argue that virtual friction primarily occurs as a result of networked decentralization and privatization, which destabilizes the structures and norms of the analogue era. Virtual friction emerges among gay men when sexual networking platforms detach sociability from the dominance of physical space and reassemble it in a novel setting where the experience of gay life becomes diffuse and individualized. Gay men become networked individuals (Wellman et al., 2003) online, which presents a corresponding set of opportunities and challenges at the subjective and community level. Virtual friction also confronts public health actors, who must deal with the implications of sexuality’s networked decentralization and privatization. The Internet’s anonymity, accessibility, and affordability (Cooper, 1998) presents a paradox, offering HIV prevention the promise of enhancing its reach as it also redirects people from venues where prevention efforts have typically been concentrated. It also problematizes scientific narratives of HIV risk and transmission constructed for physical spaces, reviving traditional debates that pit structure against agency in a networked context. In this situation, privatization takes on a dual dimension as it not only refers to the individualization of experience and media consumption but also the involvement of private actors like owners of sexual networking platforms and designers of sexual health platforms. The emergence of public-private partnerships can invite further friction as actors with competing perspectives, interests, and expertise attempt the messy work of organizational collaboration and co-operation. The result is a frictional socio-technical situation, where the Internet resists traditional modes of control and demands new kinds
of engagements. This occurs because power in the digital age may be decentralized, but is not necessarily distributed equitably or harmoniously.

Friction is a particularly ambivalent force because it can just as easily lead to inertia and stagnation as movement and transformation (see Tsing, 2005; Håkansson & Waluszewski, 2011; Wasén, 2015). For organizations, friction can be frustrating when it becomes part of their “core rigidities” (Leonard-Barton, 1992). Core rigidities are the flipside of an organization’s core capacities or strengths, and can emerge in periods of transition. Let us consider public health as an example. As an administrative arm of the state, public health holds authority and is well versed in disciplines like epidemiology and social work. This grants them a degree of legitimacy, trust, and expertise—their core capacities—that other organizations may lack. Yet these same capacities can also stifle their movement and growth as a field. As an arm of government, public health inherits the public sector’s notoriously sluggish and bureaucratic tendencies, often assumes that its solutions are best (017, interview), and tends to think in more conservative and instrumental terms. This has made it difficult for public health, for example, to respond quickly to networked changes in sexuality, which requires adaptability, innovation, collaboration, and a willingness to think outside the box—something that is more commonplace in technology sectors and fields like business and marketing.

Friction, however, is not always necessarily a bad thing. When it comes to technological change, friction can help ensure that technology develops in a more deliberate and equitable way. It acts as a stabilizer that prevents systems from “going completely berserk” and “[falling] apart completely” (Nowotny, 1993, p. 41-42). Friction “stops you from careening past the tangent points, ultimately ending in outer space: It attaches you to the ground, and, mysteriously, ‘sorts things out’, albeit on a lower level than hoped for. If it stops schemes from being completely fulfilled, it also stops them from going totally awry” (Åkerman, 1993, p. 9). “Difference can disrupt,” Anna Tsing observes, “causing everyday malfunctions as well as unexpected cataclysms. Friction refuses the lie that global power operates as a well-oiled machine” (2005, p. 6). This is particularly important in our networked age, as at its best, friction can help ensure that technological change does not occur too rapidly or without relevant groups’ input. In chapter 5, I will discuss an example of productive forms of friction that came from gay men who successfully protested Grindr’s proposal to add HIV status as a filterable option.
to the user interface. Friction can be helpful in situations when it forces people to consider different perspectives, as social frictions and cultural clashes can trigger transformations and modifications that can challenge rigidity (Wasén, 2015, p. 66). This is particularly salient for the world of HIV prevention, as some of the frictions that have emerged among public health actors, owners of sexual networking platforms, and users have encouraged public health to adopt a more collaborative and balanced approach.

Understanding friction as an ambiguous and ambivalent force requires us to adopt a postmodern perspective on the role of science and technology in society. Science, technology, and society move in underdetermined and non-linear ways that create instabilities or ruptures in established ways of thinking. Friction erupts at a time when we are grappling with uncertainty and the limits of techno-scientific rationality in helping us address contemporary social issues like HIV. One scientific explanation is at odds with another, exposing the gaps and inconsistencies of competing scientific paradigms. Friction also emerges in the contradictions and paradoxes that surround the situation, opening up provocative questions about structure, agency, and power. In what moments do digital structures shape our behaviours, and in what moments do we control the outcomes? If we believe that the state has no place in citizens’ private bedrooms, who becomes responsible for their sexual health? Do we allow individuals to decide and let the market take care of it?

Hybridity also generates friction. Gay sexual networking platforms simultaneously signify community spaces and operate as private enterprises (see Marwick, 2013). In our current market-based society, patients not only become health citizens but consumers. Public health groups and Internet entrepreneurs must learn to navigate a world that is full of these interdependencies and tensions. Such instabilities may open up new

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13 Postmodernism is a term that has many meanings and streams. Throughout this dissertation, I use postmodern to describe a late 20th century paradigmatic shift that occurred across the social sciences and humanities (Best & Kellner, 1997; Susen, 2015). A sensibility rooted in a skepticism of the authority and legitimacy of grand or metanarratives (Lyotard, 1984) to explain social life, postmodernism understands reality as discursively-produced and culturally-embedded. In the social study of science and technology, postmodern approaches emphasizes understanding their ambivalent, contingent, contradictory, and destabilizing tendencies. Where modern paradigms stress an either/or relationship between technology and society, postmodernism tries to explore it in terms of both and.
pathways for discovery, but they also open up our collective vulnerabilities in ways that can make us deeply uncomfortable (Åkerman, 1993, p. 26). Friction “reminds us that heterogeneous and unequal encounters can lead to new arrangements of culture and power” (Tsing, 2005, p. 6). Studying the role of friction, therefore, helps us learn how to identify and respond to such vulnerabilities in a networked and uncertain world.

Figure 3: Social worlds map

Coastal friction: Studying San Francisco and Vancouver

The location of this study matters. Located on the West coast of North America, the port cities of San Francisco and Vancouver share a number of similarities. Both are smaller, densely populated cities on the Pacific coast of North America (with populations of under 1 million according to recent census data) known for their progressive attitudes and prominent gay communities. Historically, both have also served as countercultural
milieus where alternative living, anti-war, and environmental movements have blossomed. The loosened sexual norms of San Francisco and Vancouver are at least in part related to the relative historical leniency of authorities enforcing laws around sexuality.\textsuperscript{14} This has helped “gaybourhoods” like San Francisco’s Castro neighbourhood and Vancouver’s Davie Village earn both cities their reputations as havens for sexual communities since at least the 1950s (Brown, 1997; Sides, 2009).

With respect to the HIV/AIDS epidemic, there are aspects of each neighbourhood that have undoubtedly influenced its history. The architectural design of these neighbourhoods resulted in many high-density apartment buildings that helped people recognize and know their neighbours, making the epidemic much more visible and pronounced than in other neighbourhoods. Their proximity to physicians and prominent hospitals (San Francisco General and St. Paul’s in Vancouver) also helped alert the medical community early on when gay male patients began presenting with unusual symptoms (that we now know was AIDS) in the early 1980s. These neighbourhoods have been home to prominent AIDS Service Organizations (ASOs) like the San Francisco AIDS Foundation and AIDS Vancouver, and now also house local gay men’s health clinics like San Francisco’s Strut and Vancouver’s Health Initiative for Men. Although we can argue that likely many historically gay neighbourhoods are close to hospitals and have gay-specific health services, it is worth noting that the grassroots-based gay men’s health movement is also intimately connected with these cities (Rofes, 1998).

\textsuperscript{14} I am certainly not trying to say that homophobia has never been an issue in San Francisco and Vancouver, however it is worth noting that the level of police persecution against sexual minorities has never erupted in the same ways as in other “gay” cities like New York and Toronto. Some have even suggested that this is because San Francisco and Vancouver police have historically demonstrated more tolerance and sensitivity toward sexual minorities (see oral histories in Brown, 1997; Perelle, 2006). A notable exception is the Compton’s Cafeteria riot that took place in San Francisco’s Tenderloin district in 1966 over police persecution of transgender people. Involving pickets and smashed windows, the riot officially began after a transgender woman threw coffee in the face of a police officer who tried to arrest her (Stryker, 2008).

\textsuperscript{15} It is not my intention here to paint a rosy picture of gay life in cities where homophobia and public attacks toward gay men do indeed happen. Rather, I am trying to draw comparisons and focus on how the popular imaginary perceives them.
Historically, both cities have been leaders in HIV prevention and care. At a time of profound ignorance and fear, organizations like the San Francisco AIDS Foundation and the community-based STOP AIDS project were innovators in developing many sex-positive community interventions and support services that other cities like Vancouver adopted (Singhal & Rogers, 2003). There is also a significant level of public infrastructure allocated toward HIV prevention and treatment services. At the policy level, both cities have made efforts to reduce HIV transmission by fully subsidizing the cost of HIV medications. They have also supported Treatment as Prevention (TasP) models that have integrated HIV testing within routine medical care while encouraging those recently diagnosed to begin treatment immediately.

And yet, despite these important gains, both San Francisco and Vancouver are places where HIV remains elevated among gay men. In Vancouver, the most recent estimates are from 2008, where nearly 1 in 5 MSM was living with HIV (CATIE, 2017). Meanwhile, MSM represented approximately half of new infections in 2008 and 2011 (BCCDC, 2015). In San Francisco, MSM represented over 70% of new and ongoing HIV infections in 2014 and 2015. The most recent estimates of HIV prevalence among San Franciscan MSM is from 2010, where researchers estimated that nearly 1 in 4 was living with HIV (Raymond et al., 2013). Given that both San Francisco and Vancouver are relatively progressive cities offering a range of services to support gay men’s HIV prevention needs, I was curious to understand why HIV remains persistent among this community and not other historically-disenfranchised groups.

I also focused on these particular cities due to the prominent role of the technology sector. With its proximity to the Silicon Valley and major Web 2.0 start-ups like Facebook and Twitter, San Francisco has always been a hyper-networked city full of what marketers and researchers call the “early adopters” (Rogers, 1962): well-educated, cosmopolite people with disposable incomes and a penchant for the newest innovations. From the bulletin board systems (BBS) of the 1980s to the virtual communities Internet scholar Howard Rheingold described in the 1990s, the city by the bay has always served

16 This happens at the provincial level in British Columbia.
17 We can compare this to declining rates of transmission among populations like sex workers and people who inject drugs.
as a techno-cultural incubator for new innovations. San Francisco was where I saw locals walking around the Mission wearing Google Glasses while others only read about them online. It has also played an important role in developing Internet-based HIV prevention efforts. As the first municipal health department to document an Internet-related syphilis outbreak among MSM in the late 1990s (Klausner et al., 2000), the San Francisco Department of Public Health was an early innovator of digital interventions like online partner notification and printable lab testing requisitions years before it became a mainstream practice in public health. While Vancouver’s tech industry is nowhere near as prominent as San Francisco’s, the start-up scene is emerging alongside more established corporations in the gaming industry such as EA sports. Vancouver is home to a bustling sector of industry actors trying to collaborate with the public health system to enhance service provision. The British Columbia Centre for Disease Control has a dedicated Internet sexual health team and has invested significant resources into establishing and promoting Internet sexual health services for the public. Given these factors, I was curious to learn whether or not being in a technological milieu like San Francisco or Vancouver was advantageous for HIV prevention efforts. If so, what might other cities and regions be able to learn? And if not, why not?

Outline of the dissertation

This dissertation examines the role of friction in mediating the networking of sexuality and HIV prevention for gay men. Chapter 2 is a literature review that engages with Manuel Castells’ network society thesis (2009). Reviewing the public health literature about gay men, HIV prevention, and the Internet, I suggest that virtual friction problematizes the binary of continuity and change that structures a key debate within the fields of communication and Internet studies. Kristian Wasén’s observation that one is usually stronger than the other at specific moments in time (2015, p. 49)—in other words, how they ebb and flow—is instructive here, as it characterizes the relationship between the Internet, sexuality, and the world of HIV prevention. I begin by considering how the Internet reshapes gay men’s erotic social worlds. As it reconfigures gay men’s social experience of time and space, the Internet becomes embedded within a gay culture of real virtuality where mediated experiences become part of the experience. Next, I consider some of the challenges and opportunities that the Internet brings for HIV
prevention practice. I do so by exploring some of the scholarly debates in the public health literature about causality and consequence with respect to networked information technologies. Conversations about the Internet’s role in shaping the dynamics of HIV risk and transmission are central here as researchers grapple with whether the Internet represents a novel risk environment, an opportunity to augment efforts, or a hybrid of both. I end this chapter by considering some of the techno-cultural elements that emerge through the networking of sexuality and HIV prevention. Using the examples of barebacking, serosorting, and sexual racism online, I argue that the Internet’s digital logic plays a productive role as it generates subjectivities and practices that brush up against established ways of thinking about risk and communicative freedom in the digital age. Although my use of Castells’ work to read through the public health literature is somewhat unconventional, I do so to demonstrate how the Internet opens up new questions about continuity and change in contemporary society.

Chapter 3 explains the methodology behind this study. In it, I ground my inquiry in the tradition of situational analysis. A methodology developed by feminist science and technology scholar Adele Clarke (2005), situational analysis is a contemporary version of grounded theory (Glaser & Strauss, 1967) that takes into account how actors, institutions, social processes, discourses, politics, and controversies shape the unit of study—the situation—broadly conceived. I begin by presenting an overview of situational analysis’ origins, epistemologies, and methods before distinguishing it from other qualitative modes of inquiry like ethnography. Following this, I situate myself in relation to this study. Being a straight woman who researches gay men raises ethical questions about what it means to conduct outsider research and how a researcher’s subjectivity shapes analysis. Here, I reflect on some of the tensions and frictions but also the positive aspects of studying a culture one does not “belong” to. I follow this with a discussion of how I gathered my data—through informant interviews, archival research, and analysis of online paratexts—and consider how they shaped my findings. And finally, I end by explaining situational analyses’ key analytic activity—mapping—by charting the various social worlds, arenas, positions, and interests that are part of the networking of sexuality and HIV prevention.

The subsequent three chapters shed light on the different ways that friction mediates the networking of sexuality and HIV prevention, moving from micro-
perspectives to meso-level accounts. In chapter 4, I begin with human experience by applying Castells’ concept of the culture of real virtuality (2009) to the social worlds of gay men. This erotic culture of real virtuality emerges from gay men’s media cultures and physical socio-sexual environments, affording them a sense of freedom and control otherwise difficult to attain in face-to-face settings. Borrowing many of their codes and conventions, the erotic culture of real virtuality remakes them in a networked context. Castells’ conceptualization of timeless time and a space of flows is relevant here, as sexual networking platforms create individual and highly personalized environments organized around immediacy, simultaneity, and timelessness. Sexual networking platforms and other gay virtual spaces also facilitate a type of networked individualism that supports people’s abilities to sustain fleeting, multiple, and overlapping types of connections varying in intensity and duration. This is ideal for meeting users’ intimate needs, even as it may also pit the desires and interests of individuals against those of the community. My interviews with gay men reveal that the culture of real virtuality produces a tension or friction between the subjectivities users enact online and their modes of self-presentation rooted in physical place. In these networked cultures, users’ positive experiences associated with having the Internet as an outlet and making meaningful connections exist alongside sometimes frustrating, alienating, and even lonely accounts of life online. The gay culture of real virtuality is therefore a contradictory space that both enables and constrains self-expression and intimate connection in the network society. I argue that understanding this culture of real virtuality and how it creates frictions and flows is necessary for designing meaningful efforts for networking HIV prevention for gay men.

In chapter 5, I move from individual experience to examine the discourses, subjectivities, and practices that emerge through the networking of HIV prevention. As HIV prevention becomes literally encoded into the design of sexual networking platforms and other digital platforms, it enables a sub-process that I term the informationalization of HIV prevention (see Chow-White, 2008; Castells, 2009). The informationalization of HIV prevention is a socio-technical process that occurs when technology mediates HIV prevention. It takes form through interfaces that allow users to input, upload, access, and share personal health information like serostatus with others as a mode of risk-reduction. It gains power through databases and algorithms that classify, sort, and filter user data—
digital practices that later emerge in HIV prevention discourse. The digital logic underpinning the informationalization of HIV prevention also dovetails with market logic, interpellating users as “smart shoppers” in an erotic marketplace of choice (see Adam, 2006). Digital branding also becomes an important informationalizing practice in areas such as scientific research, treatment advocacy, and public education. In these moments of hybridity, barebackers become sero-sorters, activism resembles brand promotion, and education appears similar to a marketing campaign. Such efforts are clearly important if we are serious about modernizing HIV prevention efforts for the digital age, but what frictions might emerge? The ambivalent implications of the informationalization of HIV prevention become clear when we consider how its digital logic corresponds to the binary logics of law, media, and science. Reproducing hierarchies that code people as innocent/guilty, victim/perpetrator, and healthy/diseased, they challenge us to consider the social implications of technology.

Chapter 6 moves from discourse to consider the perspectives and experiences of people who work in the social worlds of HIV prevention and Internet startups. It examines how public health actors and Internet entrepreneurs deal with the virtual friction that accompanies the networking of HIV prevention. The chapter demonstrates that most of the challenges people face in this arena are social rather than technological. The networking of HIV prevention takes place in a world where incommensurable paradigms (Kuhn, 1962), competing public and private interests, institutional barriers, resource constraints, and a system of unevenly distributed power and responsibility create inertia for actors at the social, political, and economic levels. The dynamic character of online communities, communication, and cultures further complicate these efforts, as actors must mobilize different kinds of expertise, navigate tricky boundaries, and form strategic alliances in the absence of scientific consensus. This takes place against a techno-cultural landscape where the stigmas surrounding sexuality, same-sex desire, and HIV remain persistent—no matter how oversexed or accepting mainstream representations of culture seem to suggest. With the nature of the problem poorly-defined and understood, I borrow from the public policy literature to suggest that the networking of HIV prevention is an example of a “wicked problem” (Rittel & Webber, 1974). By framing it in this way, I argue that the central task for actors in these worlds is less about innovating away friction than it is about co-ordinating and building the
networks—technical, social, and political—that help people learn how to negotiate, collaborate, and collectively problem-solve in the digital age.

In the concluding chapter, I summarize my findings and discuss the implications of this study for research and practice. I argue that virtual friction has ultimately transformed the cultures of sexuality and HIV prevention. Uprooting cruising and HIV prevention from their analogue origins, the Internet has become a novel terrain where practices such as browsing, networking, sorting, and filtering shape erotic life online and off. This generates virtual friction for users, who must navigate digital worlds that expand the opportunities for connection while exacerbating many of the same troubles that gay men face in physical environments. The same can be said for HIV prevention actors and Internet entrepreneurs, who find themselves facing a paradox where the possibilities for communication seem endless and yet remain very much limited by real-world constraints. In both cases, it appears that virtual friction plays an important role in rendering visible the cultural factors that mediate and co-produce gay men’s worlds and their HIV prevention needs. Examining sexual networking and HIV prevention through the framework of virtual friction therefore provides an opportunity to revitalize prevention efforts by considering the new literacies, skill-sets, and connections required. It is certainly the case that the Internet is not the only technology that has transformed gay male culture and HIV prevention; however, to overlook its role is to miss out on one of the most important technological developments affecting gay men’s lives since the emergence of anti-retroviral medicines.

A note on terminology

Social worlds

In this dissertation, I will use several terms that require explanation. The first is the concept of social worlds. Social worlds are at the heart of this socio-technical situation and involve the convergence of people, processes, and things. Symbolic interactionist and grounded theory co-creator Anselm Strauss (1978, p. 122) defined social worlds as groups of actors who coalesce around at least one primary activity where technology is always involved, developing this concept to stress the action-
oriented nature of social formations. Emphasizing these socio-technical aggregations of people, things, and activities as dynamic, situated, and contextual, Strauss was particularly interested in understanding a social world’s history and its trajectory of action. “What are its origins?” Strauss asked. “Where is it now, what changes has it undergone, and where does it seem to be moving? Is it evolving, disintegrating, splintering, collaborating, coalescing?” (1978, p. 122). This emphasis on action and its temporal and spatial developments was particularly helpful in helping me make sense of the situation I explored that appeared to include various groups of people involved in what I would later identify as the networking of sexuality and HIV prevention.

The networking of sexuality is a social activity that involves the social worlds of gay men and Internet entrepreneurs. Emerging as a result of the mediation and distribution of sexual content, images, and expressions through communication channels, it coalesces around what I term in chapter 4 as the gay culture of real virtuality. Like Manuel Castells’ culture of real virtuality he discusses in his network society thesis (2009), the gay culture of real virtuality has analogue origins but is a digital phenomenon. The networking of sexuality has both decentralized and privatized the act of cruising. This has on one hand afforded gay men a great deal of communicative freedom, convenience, and choice while also helping to erode forms of social control that promote cohesiveness and political solidarity. With free and open communication serving both the interests of the market and sexual citizens, the networking of sexuality reveals itself to be an ambivalent social process that creates novel opportunities for interaction while rendering visible the tensions and cleavages within sexual communities.

The networking of HIV prevention arises in response to the networking of sexuality. As part of efforts to modernize HIV prevention efforts for the digital age, it involves actors from the social worlds of public health/HIV prevention and Internet start-ups. These social worlds come together due to their shared interest in members of another social world—the gay men who are part of the gay culture of real virtuality. Although not all gay men in this social world are directly involved in the networking of HIV prevention, many of them are affected by it. The networking of HIV prevention involves two sub-activities: 1) debating the relationship between the Internet and HIV risk/transmission in terms of causality and consequence, and 2) working together to
leverage the Internet’s informational and communicative capacities to “reach people where they are”, to borrow discourse from the field of public health.

“Where they are” is both online and in consumer culture, a hybridized sphere I examine in my discussion of the informationalization of HIV prevention (Chapter 5). Here, the networking of HIV prevention occurs in the technical sense and involves artefacts like user interfaces and apps. On the surface, the decision to include an HIV status field in a sexual networking profile can appear seamless. Yet, when we dig deeper, we see how it can ignite tensions. Filtering, matching, and sorting mechanisms can have the unintended consequence of encouraging people to engage in classifying practices that can be understood as divisive. Divisions by race/ethnicity and serostatus are examples, where these “menu-driven identities” (Nakamura, 2002) may present challenges for well-intentioned and meaningful efforts to modernize HIV prevention for the digital age. At the same time, the two-way modality of Internet communication gives users and publics the opportunity to push back against such changes. This demonstrates the necessity of friction in ensuring technology develops in an equitable manner.

In Chapter 6, I explore more fruitful forms of networking with respect to friction, which involve groups coming together to legitimize, negotiate, and debate their viewpoints. This is challenging, given the history of friction between the social worlds of HIV prevention and Internet start-ups, but not impossible. What we find upon further examination is that the more pressing barriers for the effective networking of HIV prevention are related to institutional bureaucracy and the twin stigmas surrounding sexuality and HIV. Technology and sexual cultures may evolve rapidly, but the culture of institutional life cannot always keep up. Trying to develop meaningful interventions for groups online becomes a Sisyphean task when sexuality remains an unmentionable topic and public perception of HIV continues to be mired in fear and ignorance. Networking HIV prevention, then, becomes about how groups learn to work together in a world that is technologically-flowing yet socially stagnant.

The malleability of the term “social worlds” was also useful for a study that required me to describe people’s experiences in a range of settings. Where alternative words like “community” might have been helpful to explain gay men’s worlds, it would
have been less accurate to use it to describe people who work in public health or Internet entrepreneurs. There is also great heterogeneity among people who work in public health or HIV prevention, and the word “community” seems to imply sameness among them (Willson, 2010). This is similar among Internet entrepreneurs, where owners of sexual networking platforms are not necessarily in a “community” with designers of sexual health apps. They might be better described as colleagues or competitors. The social world of HIV prevention is therefore a useful umbrella term that characterizes the convergence of epidemiologists, social workers, health care providers, researchers and activists around the shared practice of networking HIV prevention. Similarly, the social world of Internet start-ups helps us temporarily group different entrepreneurs together while acknowledging their differences.

This flexibility was also helpful for describing gay men who seek sex online. Compare gay male users of sexual networking platforms with those who might be part of more traditional online communities where people discuss common issues (obviously, many gay men participate in both). We can consider the group “Gaybros” on the social networking site reddit (also known as a sub-reddit) as an example of online community in the more traditional sense, where there is a shared sense of place, a shared practice, shared resources and support, shared identities, and interpersonal relationships (Baym, 2010). Users who participate in this sub-reddit may view it as a virtual gathering space for gay men to get together to share interesting Internet content, discuss a range of issues affecting them as gay men, and offer emotional support. As users, they may assume the collective identity of the “gaybro” and participate in conversations that are accessible to anyone. This is different on sexual networking platforms. Like other social media platforms, a site may collectively refer to its members as a “community”, but the user experience on sexual networking platforms may be too individualized to meet the traditional definition of online community. Platforms that use geolocation technologies display lists of users by proximity and the conversations among them are one-on-one. However, there is no question that this is a community online. Therefore I refer to the gay men who seek sex online as belonging to a diffuse and decentralized social world where the central activity is sexual networking or cruising.
Gay men

In this dissertation, I also use the term “gay men” rather than the epidemiological category of men who have sex with men (MSM). There are several reasons for this. First, MSM is a category designed to include a wide range of men—some gay, some bisexual, others transgender, some sex workers, and other men who have sex with men but do not necessarily identify as gay. Initially, many gay activists championed the use of the term MSM in public health discourse because it was more inclusive and emphasized practices rather than identities as risky vis-à-vis HIV/AIDS (Young & Meyer, 2005). This was especially important during the height of the AIDS epidemic, when popular discourse positioned HIV as a “gay disease” and gay men as its vectors. However, since then many voices in public health and community-based research (including initial proponents of the term) have suggested that such a homogenizing category overlooks very important distinctions among men while reducing gay male subjectivity to sexual practices alone.

HIV risk and prevention look very different for men depending on who they are and how they identify. Gay men live in communities that have and continue to be disproportionately affected by HIV, with a lingering community memory of the AIDS epidemic. For many of them, HIV prevention is not only an individual practice but also a community norm with its own political and cultural history (see Callen et al., 1983; Crimp, 1987; Shilts, 1988). Many MSM-focused HIV prevention services are also designed for gay men who identify at least partially with mainstream gay culture. The imagery and messaging of many MSM-focused HIV prevention campaigns will resonate with gay-identified men before most any other group. Bisexual men and transgender people, for example, may have a different relationship to MSM-focused messaging. They may not often see themselves represented in mainstream gay culture, and therefore do not always identify with HIV prevention messaging designed for cisgender gay men.\(^{18}\)

Bisexual men and transgender people may also have different sexual health needs, as those who have vaginal intercourse may also need to consider pregnancy as a possible outcome of sexual activity. Further, while transgender people and bisexual men may at

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\(^{18}\) Cisgender tends to refer to people who identify with the gender assigned to them at birth.
least identify as gender and/or sexual minorities, male sex workers and other men who have sex with men represent another group who may not identify at all with mainstream gay culture. They may not frequent venues like bathhouses or bars (where public HIV prevention efforts tend to be concentrated), and may not even consider their sexuality to be an important part of their identities. It is also worth noting that for some male sex workers, having sex with men may have less to do with being gay than with economic survival. And for other men who have sex with men but otherwise live their lives as heterosexuals, the shame and stigma they may experience might prevent them from engaging with anything related to gay culture. As someone primarily interested in mainstream gay culture and HIV prevention, I limit my findings and observations to gay men while recognizing that I engage with public health literature that relies on the term “MSM”. For these reasons, I use “gay men” whenever possible and “MSM” only when referencing scholarly literature using that term.

I also recognize that some of my informants may alternatively prefer to identify themselves as queer rather than as gay men. Identifying oneself as queer may be a way of demonstrating solidarity with all gender and sexual minorities rather than a specific social category, or may be used to problematize the stability and homogeneity of labels. On the other hand, the term “queer” has also historically been used as a slur and some groups of gay men find this re-appropriation problematic. As someone who grew up reading scholarly literature from both gay/lesbian studies and queer theory, I therefore use the term “gay men” loosely, acknowledging its limitations. Social categories are always limiting, changing, and imperfect.

Sexual networking platforms

I also use the term “sexual networking platforms” to refer to the digital technologies gay men use to meet sexual partners. Initially, I oscillated between using terms like “online dating” and the vernacular “hook-up app” until I learned that there was an important distinction between them. Researchers typically use the term “online dating” to refer to platforms that are more relationship-oriented (017, interview). Users’ intentions and what happens when they meet up is up to them, but the overall focus of an online dating site is to help people form romantic relationships. An app like OKCupid
could be an example of this, and this is reflected in the fact that users complete long profiles and the platform quantitatively assesses “compatibility” among users using algorithms.

This is in contrast to the term “hook-up app”, which is what many people use to describe sexual networking platforms (e.g. Grindr, Scruff, etc.). Here, the intended objective is to meet someone quickly to form a romantic or sexual connection. Designers of such platforms are usually quick to dispute such categorizations (see Trebay, 2014), due not to naivety or their own moral position but (in my opinion) socially-conservative Apple and Android store guidelines that prohibit platforms from explicitly marketing themselves as such. For consistency, I use the term “sexual networking platform”, but a reader could substitute the term “hook-up app” and the meaning is virtually the same. Another difference is technical. “Apps” are applications designed for mobile devices, while platforms can exist on both a traditional web browser and a smartphone.

I also felt that “sexual networking platform” would include a wider range of practices and experiences than the term “hook-up app”. Where “sexual networking” can mean an activity where people virtually meet each other and the sexual outcome is undefined, “hook-up” seemed to imply a physical meeting. Although the face-to-face meet-up is what I am most interested in as a researcher, solely focusing on the physical encounter tends to overlook the fact that many online connections do not end that way. Flirting and exchanging sexual images (“sexting”), for example, are other important activities worthy of consideration. And finally, I felt that using the term “sexual networking platforms” emphasized the importance of networks—both social and technical—to this situation. Sexual networking platforms involve social networks of gay men who get together for sexual communication and they involve the technical infrastructure that makes connectivity possible. Because this is a study of the networking of sexuality and HIV prevention, I wanted to select a term that conveyed action.

Introduction

In the spring of 1999, San Francisco Department of Public Health epidemiologist Dr. Jeffrey Klausner found himself witnessing the debut of the networked era of sexual health. Interviewing a gay male patient about his sexual practices during his weekly rounds at the municipal STD clinic, Dr. Klausner was taken by surprise when the patient reported a spike in his number of sexual partners over the past two months. When he asked him what had happened, the patient smiled and replied, “I got online” (Klausner, 2010, p. 276). The patient then recounted how gay chat rooms helped him find sex partners quickly and easily—something Dr. Klausner interpreted as a sign that things were changing for a public health system still firmly rooted in the analogue era (Toomey & Rothenberg, 2000).

Shortly thereafter, officials at the San Francisco Department of Public Health (SFDPH) observed an increase in the number of syphilis cases among gay men. When they attempted to connect the dots, they found that cases were not coincidental but were part of a sexual network linked to a local SFM4M AOL chat room. Some of these patients were only able to provide a username as contact information for their sexual partners, making it difficult for SFDPH to provide partner notification services.¹⁹ Their disease control efforts were also stunted when AOL refused to divulge the contact information of the pseudonymously named partners, citing privacy concerns. The SFDPH found itself in the uncharted territory of cyberspace, a regulatory no man’s land.

¹⁹ In public health, partner notification services involve health department actors contacting a patient’s named sexual partners to inform them of a possible exposure and encourage testing. Traditionally, the health department did this by mail or telephone.
where local state power brushed up against an Internet built to support users’ free and open communication.

It also did not help that there was strong resistance to the notion that a small outbreak of syphilis warranted this level of state intervention. Critics from the local community expressed skepticism that the Internet was in any way responsible for disease transmission, even after Klausner and his colleagues found that local syphilis cases were nearly nine times more likely to have met partners online than clinic patients who had tested negative (2010, p. 280). The idea of the health department requesting users’ contact information also raised privacy concerns, which revived the classic public health question of when civil liberties should yield to the need to protect the health of communities (Nieves, 1999). With the health department’s argument that chatrooms were facilitating high-risk sex and disease transmission unconvincing to decision-makers and the public (“People were getting syphilis on the Internet? It was like, ‘No, there is no way that happened’,” one informant recalled), health officials had to instead learn to leverage the affordances of the Internet to their advantage.

Networking became one solution for managing the situation. SFDPH responded by forming partnerships with local organizations and developing their own digital tools. They partnered with gay Internet service providers like Gay.com to launch online awareness campaigns, collaborated with an Oakland-based sexual health non-profit (now called YTH) to facilitate online partner notification and testing services, and created web forums for users to ask sexual health questions (Ask Dr. K). Generating a new field of applied epidemiological inquiry, the networking of sexual health has represented one response to the virtual friction introduced by communication technologies in the network society.

The network society

The network society is a sociological construct developed by urban sociologist, communication theorist, and Internet sociologist Manuel Castells (2009). His network society thesis places networks—both social and technical—as the dominant social structures driving social change. Castells observes that although networks are nothing “new”, they have taken on a new life through networked information technologies that
have shaped society at the levels of productivity, experience, and power. Building on theories of the post-industrial society predicting that the information technology revolution of the 1970s would transform work and the economy (Bell, 1976; Touraine, 1971), Castells’ information-technology paradigm suggests that the accumulation of information and its digital generation, processing, and transmission have eclipsed industrialism as the primary mode of social and economic development. Referring to this mode of development as *informationalism*, a paradigm involving the technical creation, combination, and circulation of information, Castells places the information-technology revolution on par with the Industrial Revolution.

Castells also suggests that the pervasiveness of networked information technologies like the Internet have reshaped human experience and communication by reconfiguring the social meanings of space and time. Building on the work of media theorists Harold Innis (1961) and Marshall McLuhan (1964), who focused on the centrality of communication technologies in culture and society, Castells labels such spatio-temporal phenomena as the *space of flows* and *timeless time*. The *space of flows* emerges when individuals form nodes in electronic networks connecting them and their activities across geography (Castells, 2009, p. xxxi). Castells adds that although physical places—the *space of places*—still matter, networked communication technologies have destabilized their dominance by allowing people to communicate in real-time, regardless of physical location. This disruption of space has implications for time as communication technologies help break with the sequential order of practices and make them simultaneous (Castells, 2009, p. 497): Under this form of *timeless time* (2009, p. xli), time becomes compressed, elastic, and even annihilated as we use communication technologies to multi-task, telecommute, and form sexual relationships online. As a virtual time where immediacy, simultaneity, and *timelessness*—the space between the ephemeral and the eternal—structure human experience, timeless time works in tandem with the space of flows to facilitate the emergence of what Castells calls a culture of real virtuality. Blurring the boundary between “the real” and “the virtual”, the culture of real virtuality, Castells argues, is a place where digital screens not only mediate the experience—they become it (2009, p. 404):

It is not virtual reality because when our symbolic environment is, by and large, structured in this inclusive, flexible, diversified hypertext in which
we navigate every day, the virtuality of this text is in fact our reality, the symbols from which we live and communicate (Castells, 1996, p. 403). Such a statement suggests that the Internet plays an active role in shaping the interactions that produce culture.

One of the shortcomings of Castells’ network society thesis is that there is little discussion of its implications with respect to the networking of sexuality or HIV/AIDS. This is surprising considering how intense sexual politics and the AIDS epidemic were during the time period of the 1970s and 1980s he discusses in his work. Notable exceptions include his discussion of sexual communication over France’s Minitel system (2009, p. 374; see also Feenberg, 2010) and San Francisco’s Kinky Komputer bulletin board system (BBS) of the 1970s and 1980s (2001, p. 52), although both are brief and position sexual communication as an anomaly rather than the norm online. Likewise, Castells’ network society thesis makes brief mention of gay men’s community-level mobilizations around HIV/AIDS in the 1980s without further exploring how the epidemic and prevention have evolved since then.20 The aim of this chapter, then, is to extend the network society thesis to these domains and demonstrate how the networking of sexuality and HIV prevention enrich our understanding of the ambivalent social implications of networked information technologies.

The network society thesis helps to contextualize the literature about gay men, the Internet, and HIV prevention by providing a theoretical framework to help us understand the changes and challenges that accompany the emergence of new communication technologies in society. Such themes should resonate with scholars in the fields of communication and science and technology studies (STS), where the relationship between technology and society has been a popular area of inquiry. Debates over causality have been longstanding in the field, as scholars have examined whether technologies produce distinct social effects or whether the social factors influencing design and use play a more important role (Boczkowski & Lievrouw, 2008;

20 To his credit, Castells also discusses feminist and gay political mobilizations in the second volume of his network society trilogy The Power of Identity (Castells, 2004) as well as in his early work on urban geography (1983). Yet he does not do so in the context of new information technologies.
We can partly attribute the strong contemporary resistance to the influence of technology on social change as being a response to the administrative, positivist tradition of communication studies in the postwar era, with its emphasis on measuring, analyzing, and predicting the “effects” of media exposure. Responding to critiques that his network society thesis is technologically deterministic by placing technology at the centre of social change (see Fuchs, 2014; Garnham, 2004), Castells states that although technology does not determine society, society does not always script the course of technological change (see also Latour & Callon, 1992). Rather, he emphasizes a more complex understanding “[where] technology is society, and society cannot be understood or represented without its technological tools” (Castells, 2009, p. 5). Communication scholars Paolo Boczkowski and Leah Lievrouw also argue against the false distinction between technology and society, urging us to instead adopt a dialectical perspective that examines the ebbs of determination and flows of contingency that arise as technologies unfold (2008, p. 959). The tensions such perspectives generate reminds us that no matter how “settled” certain debates appear to be, they can quickly reignite.

The network society thesis also opens up the question of consequence that asks whether new technologies represent a radical break with the past or whether they are simply an evolution from prior historical forms. These are important questions in the field. In studies of technology, early proponents of the discontinuity perspective like Karl Marx (1955) noted that the steam-mill brought on the age of industrial capitalism just as the hand-mill had introduced feudalism, while others like Lewis Mumford (1934) alternatively proposed the invention of the clock as a watershed moment due to its time measuring properties. Canadian communication scholars like Harold Innis (1961) and Marshall McLuhan (1964) looked specifically at the historical development of media and communication technologies, arguing that the emergence of new media have profoundly shaped cultural values and human experiences. The development of networked information technologies in the 1970s prompted sociologists like Daniel Bell (1976) and

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21 For an overview of the administrative and critical traditions, see Boczkowski & Lievrouw (2008).
Alan Touraine (1971) to argue that society was in the midst of a “post-industrial” revolution that signaled a departure from industrialism as the main mode of production.22

Yet others have critiqued this revolutionary rhetoric, arguing that the similarities eclipse the differences. Political economy scholars argue that while impressive, technical changes have occurred just as economic structures and inequities have remained intact (Garnham, 2004; Webster, 2006; Terranova, 2000). How can we really call something revolutionary, we might argue, when the status quo remains uninterrupted? Many Internet scholars have also adopted a continuity perspective shared by science and technology (STS) scholars, suggesting that socio-technical change is a gradual and incremental process rather than an isolated event (Boczkowski & Lievrouw, 2008; Jankowski et al., 2004; Wellman, 2004). With respect to the Internet, the network society thesis is uncompromising in its view that we have entered a new era—a theme that will later emerge in the public health literature regarding gay men, HIV prevention, and the Internet.

For the remainder of this chapter, I will continue to explore questions of causality and consequence as I use the network society thesis to read the scholarly literature about gay men, HIV prevention, and the Internet—arguing that the Internet introduces ruptures into established practices. I begin with a theoretical discussion that explores the network society thesis in greater depth and applies it to sexual networking platforms, taking into consideration the differences and continuities with respect to more traditional modes of partner-seeking. Next, I will use the network society thesis to contextualize public health accounts of the virtual tensions that accompany the use of the Internet for HIV prevention efforts. The networked democratization of information and communication has ambivalent implications for this field, as it on one hand allows groups to disseminate information efficiently while on the other may potentially reshape sexual networks in ways that facilitate more efficient transmission of infections. This raises

22 Today we can argue that we are experiencing a similar techno-cultural moment. The rise of big data, cloud computing, and the sharing economy promise to “revolutionize” how we think about information, management, and productivity in the digital age. On the heels of the identity politics of the 1990s and early 2000s, the question becomes how we ensure that our rapidly-evolving technological world can accommodate the perspectives, needs, and desires of historically-marginalized groups.
questions regarding the unintended consequences of technology. In the final section, I examine the networked implications of both HIV prevention and sexual networking platforms in terms of the virtual frictions they generate. Taking a techno-cultural perspective, I explore how phenomena like barebacking, serosorting, and sexual racism take form online while also transforming HIV prevention research and practice. I conclude this chapter by outlining the research questions of this study as they pertain to the networked convergence of the Internet, sexuality, and HIV prevention.

**Cruising the erotic network society**

Castells’ network society thesis may only provide cursory attention to the networked life of sexuality, but there is no question that what I call an *erotic network society* exists—and with it, the *gay culture of real virtuality*. Let us consider how networked information technologies like the Internet have shaped the practice of *cruising*. Before the Internet became a popular way for people to meet each other, urban gay men cruised for partners in physical places like parks, restrooms, bars, bathhouses, gyms, bookstores, and movie theatres (Bérubé, 2003; Chauncey, 1994; Rubin, 1997; Shilts, 1988). And when those spaces were inaccessible or non-existent, men also communicated their desires tacitly and explicitly throughout the pages of print media catering to gay men or men more broadly (Meeker, 2006). With the rise of networked communication technologies like the Internet, the once public act of cruising has become privatized and decentralized. People still meet in physical spaces but increasingly connect online.

Like its Castellian predecessor, what I term the *gay culture of real virtuality* is made possible by the *space of flows* and *timeless time*. The space of flows appears on sexual networking platforms that have geo-location features. On an app like Grindr for example, the platform displays users in a grid (or what Grindr calls a “cascade”) according to their physical proximity from the user (expressed in feet or miles/kilometers). These users still exist in their own physical locations—the space of places—just as they exist together in the space of flows they create through their

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23 *Cruising* is gay vernacular for partner-seeking.
interaction with the technology. Timeless time is evident through the private messaging feature. Allowing users to reach back and forth between cultural expressions as they communicate, interaction becomes ephemeral in an online culture of instant communication that is always fleeting. Such temporal logic is also embedded within the design of sexual networking platforms, which allow users to upload past and current images of themselves to their profiles and retain prior conversations. Meanwhile, the grid of potential partners is continually being updated as the user moves through space and time. Time is constantly stabilized and liquefied.

![Figure 4: Grindr’s user interface](source: Grindr promotional materials)

**Networked communication, culture, and identity**

The network society thesis also suggests that digital technologies like the Internet have troubled the once firm distinction between mass and other forms of communication. Castells argues that the Internet helps destabilize the traditional, vertically integrated mass media system that corporate and political elites own and control, allowing for the proliferation of horizontal, interactive, and integrated digital networks. In turn, these networks facilitate the rise of self-generated, self-directed, and self-selected modes of communication that support information sharing and the
formation of social spaces in a more grassroots manner. Castells labels this phenomenon *mass self-communication*, where such multimodal, multichannel systems of digital communication integrate all forms of media (2009, p. xxvii) to produce boundless virtual networks that are part of a diverse and widespread virtual society (2009, p. xxix). Where accessing images and information about gay life used to be tightly controlled and regulated according to obscenity laws applied to letters, print, and visual media, the Internet has in many ways democratized its production and consumption. Internet infrastructure is still largely corporately owned and state-regulated, but the content users exchange online is relatively uncensored and able to move with few obstructions (Jin & Feenberg, 2015). Such networked disruptions serve as challenges to traditional flows of power, where elites have historically used media and communication technologies to command, control, and co-ordinate citizens and audiences.

User profiles on sexual networking platforms are a perfect example of mass self-communication. The user profile is typically composed of a picture, statistics input by the user (i.e. height, weight, age, and even penis size in some cases), some free-form text for the user to further describe himself and desired traits he seeks in a partner, and perhaps links to his user profile on other social media platforms like Facebook or Instagram. It forms part of his online identity, allowing him to communicate his desires to a public audience. At the same time, it also produces content for users to interact with as the interface allows them to filter and sort potential partners based on the characteristics they input. Users are generally free to post whatever content they wish, although publicly posting sexually explicit images or hate speech is banned under platforms’ terms of service agreements.

The rise of networked information and communication technologies has also enabled a cultural transformation where the virtual and the real converge. Influenced by the media ecology tradition of Marshall McLuhan (1964) and his work on television, Castells suggests that the digital integration of interactive text, images, and sounds has facilitated the emergence of a culture of real virtuality. In the culture of real virtuality, Castells argues, people’s material and symbolic selves are entirely captured and fully immersed in a digital world where screens do not simply mediate but create the experience (2009, p. 404). By this he means that the culture of real virtuality transcends the boundaries between the virtual and physical world. Castells traces the origins of the
culture of real virtuality to the mass media age, where the corporate expansion of television in the 1980s and 1990s through cable networks and recording devices enabled the differentiation, segmentation, customization, and individualization of audiences into niche groups (2009, p. 365). This generated different demands for content, as audiences were no longer consuming the same media simultaneously and advertisers/broadcasters no longer considered them an undifferentiated mass with homogenous tastes. One major limitation, however, was the broadcast era's mode of communication. Its one-way flow of content prevented the growth of a media format where audiences could participate in its production. Such changes have clearly materialized through sexual networking platforms and other Web 2.0 technologies, where designers build digital infrastructure that allow users to actively create their environments using text-based and visual media. Segmentation and customization are also processes that appear online. The interfaces of such platforms provide drop-down menus that allow users to classify themselves according to their subcultural affiliation (i.e. bear, geek, jock) and personalize their profiles.

**Sex over the phone**

The culture of real virtuality also has roots in the telephone era where interpersonal communication ruled. In the 1970s, France’s efforts to modernize the nation, stimulate the economy, and bring citizens into the much-hyped information age resulted in the large-scale distribution of the Minitel system into every French household (Castells, 2009, p. 371; see also Feenberg, 2010). The government–subsidized Minitel was a videotex system that used existing telephone infrastructure to provide basic information and services to its users. Although this was an important development, most remarkable was how Minitel users transformed it from an information technology to a communication medium. We can attribute part of the Minitel’s widespread popularity to its use as a medium for sexual communication. Whether through erotic chat-lines (*messageries roses*) or through cybersex initiated by users on general-topic channels, the exchange of sexual fantasies and desires generated revenue for advertisers while serving as an important cultural outlet for people of all sexual orientations.\(^{24}\) The Minitel’s popularity continued throughout the 1990s until the development of the Internet and

\(^{24}\) For interesting lesbian and gay histories of the Minitel, see Chaplin (2014) and Duyves (1993).
computer-mediated communication, whose horizontal, multi-modal capacities rendered this hierarchical, text-based system virtually obsolete.

Over in North America, the early culture of real virtuality emerged as a result of technological innovations and social shifts. The technical development of the early Internet began in the late 1960s as a result of partnerships between big science corporations, military, and universities. Values of freedom, innovation, and entrepreneurialism emerged from an eclectic mix of the counter- and corporate cultures residing in Northern California (Castells, 2001; Abbate, 1999; Marwick, 2013). Yet the Internet remained a project largely confined to institutions, hobbyists, and hackers until the development of networked personal computers in the 1970s. Personal computers made it possible for engineers, hackers, virtual communitarians, and entrepreneurs to come together and build networked platforms and communities online (Castells, 2001, p. 37). This too opened up many possibilities for connection among people of all genders and sexualities, as transgender and queer Internet innovators like Mary Ann Horton and Tom Jennings built infrastructure to support early gay/lesbian online communities (Castells, 2009, pp. 13, 49; Correll, 1995; O’Riordan & Phillips, 2007; Wakeford, 2000). With these community-minded groups also came the development of erotic channels, with San Francisco’s Kinky Komputer, STUDSNet, Glory Hole, and Backdoor BBS as historic examples (Auerbach, 2014a, 2014b). Here, users could read erotica or share fantasies for others to read—with the local and intimate size of these digital spaces making it possible for users to actually meet face-to-face.

Yet BBS never took off in the same manner as the Minitel, largely due to the costs of personal computing equipment and the slow connection speeds of 1980s modems. Instead, networked erotic communication in North America coalesced around pay-per-minute phone sex (also known as dial-a-porn) and adult party lines that emerged after the U.S. government deregulated the telephone industry in 1982. This happened at a pivotal moment in HIV/AIDS history, with one informant reminding me that the popularity of phone sex emerged at a time when the virus had not yet been isolated, testing technologies had not yet existed, and the modes of transmission were still uncertain. Sharing with me how the epidemic had “scarred [him] and a lot of [his] friends for life”, where “no longer do I just think that a spot is, you know, nothing” and “every little symptom you had, you just were sure…that you had HIV”, the terror he
experienced as “people [didn’t] just [drop] dead, they had horrible deaths” made it “a big relief to be able to contact people over the telephone” (024, interview). As the epidemic meant that ads for bathhouses became less prominent across the back pages of gay newspapers like the Bay Area Reporter, ads for phone sex services served as their networked replacements. One Bay Area Reporter ad from 1982 for the very popular San Francisco-based phone line The Conneector asks, “Tired of Baths and Bars? Worried About Catching Something?” while the Harvey Milk Gay Democratic Club’s iconic Can We Talk? brochure from 1983 depicts a cartoon of a gay man in leather and fishnets trying out phone sex and porn as an example of “[using] your imagination!!”. The music video for the Village People’s Sex Over the Phone (1985) single celebrated the integration of 976 numbers as part of the new ethos of safe sex. With people largely fearful of this-then unknown and fatal disease, phone sex allowed people to safely explore their fantasies anonymously in the form of solo or mutual masturbation.

Both gay men and AIDS prevention groups like the San Francisco AIDS Foundation welcomed these new services, with the telephone providing opportunities for people to have “hot and healthy sex” without fear of transmission.25 Yet this also provoked friction, generating controversy among some gay men who expressed concerns about the advertisements in letters to the editor as well as moral panic among conservatives about how the easy access to uncensored adult content could potentially exploit vulnerable children (or perhaps their parents’ pocketbooks when they received their monthly telephone bills). Conservative efforts to quash such services under obscenity laws proved fruitless. A 1989 Supreme Court decision defined this mode of sexual communication as constitutionally protected free speech, treating telephone service providers as pipelines rather than publishers (Hall, 1995).

While the emergence of the Internet coincided with the dethroning of phone sex as the mediator of uncensored sexual fantasy, establishing phone sex as free speech set a precedent for how the state would later regulate adult content on the Internet in the

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25 In my archival research at UCSF, I also discovered that the San Francisco AIDS Foundation had also taken a strong public position supporting phone sex. I had even found an internal memo (dated April 11, 1990) written to its education department soliciting “hot, horny gay male safe sex fantasies” for its Rubberman safe sex fantasy line. Unfortunately, I could not find any further evidence to confirm it, suggesting that it may have only been a proposal.
1990s. Amidst concerns that the Internet would exacerbate child sexual exploitation, civil libertarians, the adult entertainment industry, gay Internet service providers and AIDS educators successfully joined forces against censorship by championing legislation like the Internet Freedom and Family Empowerment Act (Chun, 2006; O’Donnell, 1998). A subsection of the Communication Decency Act of 1996, the Act attempted to promote innovation online by removing website owner’s liability for user communication and empowering users to decide for themselves what constituted “indecent” content. This regulatory development, along with the production of faster and cheaper computers, the availability of user-friendly software (i.e. AOL), the establishment of flat rate Internet access, and the diffusion of broadband internet penetration in the mid-1990s helped lower the barriers to computer-mediated communication even more. Contributing to the Internet’s massive growth in terms of user adoption, these changes effectively created the terrain for the culture of real virtuality to take form.

Virtual communities? Pundits and skeptics

Emerging from computer-mediated communication, the then-nascent culture of real virtuality provoked strong opinions from enthusiasts and critics alike. With users coalescing around shared interests and values in the online chat rooms and message boards of the 1990s, scholars and early adopters like Howard Rheingold (1994) optimistically framed virtual communities as digital agoras that could potentially revitalize democracy and a sense of community. Enthused regarding the liberatory potential of our cyborg selves leaving the “meat” behind (Bell & Kennedy, 2000; Haraway, 1991; Stone, 1991; Stryker, 1996), scholars like Sherry Turkle (1995) examined the possibilities for identity construction and play in these largely pseudonymous online worlds where, as the infamous New York Times comic quipped, “nobody knows you’re a dog” (Baym, 2010). The perception that what happened online had no material implications for other spheres of life certainly resonated with publics in the era of safe sex. Like the era of phone sex, the HIV/AIDS epidemic encouraged many to treat these virtual worlds as liminal spaces where carnal pleasures could be divorced from the viral anxieties

26 This Act makes it possible for a user to leave a negative review for a company on Yelp without concern that the company in question would try to sue Yelp for slander.

27 Between 1995-1999, the number of Internet users grew 1450% from 16 to 248 million (Internet World Stats, 2013).
attached to the flesh (Lupton, 1994). Affixing cyber to any word made it somehow not “real”, or at least, materially inconsequential. As one pundit described the joys of cybersex on multiple user domains (MUDs): “Within this cyberspace, men and women can in theory take a part of their sexuality and emphasize it without fear of consequences. There is no HIV…no herpes, no unwanted pregnancies. The physical side of sex is under your control” (Benedikt, 1995; see also Wakeford, 2000).

Technology enthusiasts may have seen a promising future full of networked communities, identities, and pleasures, but critics saw something else. Sociologists like Robert Putnam (2000) cited declining levels of U.S. civic participation as evidence that the Internet was isolating rather than connecting people, while gay critics viewed the rise of mainstream online platforms like PlanetOut and Gay.com as a sign of the digital co-optation and commodification of gay community (Campbell, 2005; Gamson, 2003). Feminist scholars criticized the gender-blind perspectives extolling the virtues of the World Wide Web. Judy Wajcman (2004, p. 62) expressed ambivalence regarding Castells’ seemingly uncritical celebration of the white male hacker ethic, while Nina Wakeford (2000) pointed out how lesbian and queer women users were often subject to the same vitriolic sexism and homophobia online as off.28 And critical race scholars like Lisa Nakamura (2002) pointed to how “fun” phenomena like “identity tourism” and “passing” (pretending to be someone of a different race online) re-inscribed rather than challenged hierarchies of race/ethnicity in these so-called “post-racial” digital worlds (see also Chun, 2006). Although many of these critics acknowledged the emancipatory possibilities of computer-mediated communication, they nonetheless provided a sobering perspective that helped mop up the “idealistic cyberdrool of the digerati” (Terranova, 2000) evident in many early accounts. With respect to the network society thesis, we can see that the intellectual friction it has generated has re-opened debates about the relationship between technical and social change. And although many of these early critiques of the Internet remain valid today, there is no denying that horizontal modes of communication have had profound implications for how we connect with each other in the digital age.

28 See also Julian Dibbell’s “A Rape in Cyberspace” (1993).
Networked communities, networked relationships

Networks represent new modes of connection. The network society thesis argues that networks not only decentralize traditional modes of communication, but also displace traditional communities as the dominant mode of social organization. Castells characterizes those who decry the alleged fragmentation, isolation, and alienation imposed by Internet communication as people lamenting the loss of an idealized notion of community that perhaps never was (2001, p. 17), arguing that networks have simply destabilized the dominance of communities premised on shared values and geographic proximity. Traditional communities still exist, but now exist alongside networked “communities of choice” (Castells, 2001, p. 125)—loosely bound, far-flung networks premised on horizontal modes of interaction and exchange that provide “sociability, support, information, a sense of belonging, and a social identity” (Castells, 2001, p. 1; see also Wellman et al., 2003). Communication technologies act as vital infrastructure that help people achieve “networked individualism” (Rainie & Wellman, 2012)—a mode of subjectivity supported by new technologies that enables people to sustain multiple, fluid and overlapping types of relationships varying in intensity and duration.

The notion of the gay community—offline and online—is an example of a community that also exists as a network in the culture of real virtuality. Of course, gay communities have never been “traditional” in the sense that they have historically existed in opposition to the patriarchal model of the nuclear family. Additionally, they have always existed as loosely bound and far-flung “communities of choice”. Gay people commonly refer to other gay people as “members of the family”. Some also refer to their group of friends in terms of kinship—as part of their “chosen family”. Gay communities are also imagined (cf. Anderson, 1991) and affectively experienced in the sense that people can feel a connection to gay community, even if they are physically far removed from the gay urban enclaves that characterize “the gaybourhood”. This is another interesting feature of the gay community with respect to the network society. The gay community is simultaneously a decentralized and virtual construct that is located within specific histories and exists in specific physical spaces. In short, the gay community has been a hybrid and networked phenomenon long before the Internet came along.
Geography is not the sole defining characteristic of the gay community, but it is undeniable that it plays a role— with San Francisco’s Castro neighbourhood and Vancouver’s West End/Davie Village acting as some of its homes. Being able to walk around and see other gay people—as business owners, in couples, as friends—is important. We also see that gay communities exist as networks online—whether they take shape through sexual networking sites or through various online communities that coalesce around specific subcultural identities and interests. The platform Reddit, for example, hosts a number of gay online communities (also known as sub-reddits) such as “Gaybros” and “Gaymers”, where users discuss everything from race and racism in the gay community to video games and other “geeky” endeavors. The micro-blogging site Tumblr is another site for gay subcultural expression, with sites like “Douchebags of Grindr” acting as a space where users upload screenshots of offensive users and content they encounter on sexual networking platforms. These forums are interesting because they provide many of the benefits of community—namely, “sociability, support, information, a sense of belonging, and a social identity” (Castells, 2001, p. 1)—without requiring co-presence or long-term engagement. This is especially important for gay men who may be geographically or socially isolated, and for minority gay men who want to connect with others like them.

Both networked individualism and the culture of real virtuality are structured around weak ties—the informal and loose relationships we have with acquaintances, or with people we chat with online. As opposed to strong ties—traditional relationships typically organized around kinship or shared geography (Granovetter, 1973)—weak ties do not require face-to-face interaction or sustained contact. The Internet helps expand the possibilities for weak-tie communication, as online networks help us meet people outside of our immediate circles, find others who share our interests, gain exposure to new and challenging ideas, and quickly move along. The convivial nature of many online networks means that users can log on virtually anytime to meet their social needs—whether that includes sex or simply a conversation. As a personalized medium, it caters to the needs of the individual. This can be both liberatory and challenging, especially when individual and group interests clash. The ephemerality of online culture and the lack of face-to-face cues can make interpersonal relationships seem easily disposable and their interactions inconsequential (Castells, 2009, p. 389). This may encourage what
one researcher described as a “here today, gone tomorrow” attitude to relationships (017, interview) or it may even embolden users to engage in inflammatory or other antisocial online behaviours they might not engage in otherwise (Phillips, 2015). While it would be unwise to download the bulk of the responsibility onto the Internet and unfairly denounce weak-tie relationships, these concerns demonstrate that networked modes of interaction are not frictionless.

HIV prevention in the network society

HIV prevention is also becoming a networked phenomenon. In the HIV prevention literature about gay men and the Internet, the network society is a seldom-discussed yet highly relevant topic. However, discussion and debate surrounding the changes introduced by communication technologies like the Internet are commonplace. One example concerns the possible role of the Internet in facilitating HIV risk and transmission. In surveys of gay men who use sexual networking platforms, person-level or individual analyses have found that they tend to report a greater number of sexual partners, more condomless anal intercourse with a partner of a different or unknown status, and more illicit substance use overall compared to men who seek sex in physical venues (Brown et al., 2015; Bull et al., 2004; Clark et al., 2012; Elford et al., 2001; Huang et al., 2014; Kakiitedek et al., 2011; Kim et al., 2001; Ko et al., 2012; Kong et al., 2012; Lau et al., 2003; Lehmiller & Loerger, 2014; Leobon & Frigault, 2008; Liu et al., 2012; McFarlane et al., 2000; Ogilvie et al., 2008; Sun et al., 2016; Tikkanen & Ross, 2003; White et al., 2013; Wong et al., 2005). However, event-level analyses (i.e. describing one’s most recent sexual encounter) tell a different story. Data from these studies suggest that those who seek high-risk sex online do so regardless of venue and take similar levels of risk with partners met online as those met offline (Al-Tayyib et al., 2009; Bien et al., 2015; Bolding, et al., 2005; Chiasson et al., 2007; Franssens et al., 2010; Garofalo et al., 2007; Grov et al., 2007; Hirshfield et al., 2004; Horvath et al. 2008; Hospers et al., 2005; Jenness et al., 2010; Melendez-Torres et al., 2015; Menza et al.,

29 One notable exception is an article (Davis et al., 2006a) where the authors used social theory to conceptualize online dating and risk vis-à-vis the network society. However, they did not delve into the network society thesis in-depth. For another example of the use of the network society to briefly theorize HIV prevention, see Washer (2011).
These competing sources of data make it difficult to empirically confirm whether or not the Internet actively shapes HIV risk or whether it is simply a neutral terrain where risk behaviours occur.

So why the inconsistencies and discrepancies? Part of the reason is methodological. Differences in terms of recruitment venues (i.e. recruiting at a Pride parade vs. recruiting on a sexual networking platform), the age/race/serostatus (HIV status) of participants, and even the phrasing of survey questions can shape findings significantly. It makes sense, for example, that men recruited from more sexually-charged venues like bathhouses or the Internet report more risk behaviours than those recruited from less sexually-charged venues like bars or Pride parades or that studies recruiting men who use sexual networking sites find that they report more sex partners than those who do not. This reminds us that the research process is one highly sensitive and specific to its time and context. Another mitigating factor is related to the ongoing challenge of maintaining boundaries and distinctions vis-à-vis a rapidly changing technoscape. Researchers who studied gay male online sex-seeking in the late 1990s/early 2000s may have captured a sample of the Internet’s early adopters during a period where it was easier to distinguish between online and offline, or users and non-users (Rosser et al., 2011). While early adopters of sexual networking platforms may have been at the highest risk, “you don’t see any differences in risk behaviour now between guys who go online and guys who don’t. Everybody’s online”, one informant told me (017, interview). Sexual networking is no longer a fringe phenomena, as users have transformed online dating and sexual networking from desktop-based activities to everyday, decentralized practices. Their ubiquity has therefore complicated the online/offline, user/non-user distinction (Prestage et al., 2015; see also Baym, 2010; Markham & Baym, 2009). From a network society perspective, we could also attribute this to the space of flows in the culture of real virtuality that users create through sexual networking. Where are users meeting, for example, if they meet through a sexual networking platform while out at a bar, or when they use Grindr to arrange a hook-up that takes place at their homes? Or when someone recognizes someone from Grindr on

Rietmeijer and McFarlane note, for example, that Internet research may have also led to a collapse of distinctions between physical venues—falsely rendering different environments like bars and bathhouses analogous (2009).
a public sidewalk, and that face-to-face interaction leads to a sexual encounter? Networked communication technologies make these distinctions far less clear.

**Networked epidemiology**

Epidemiology has always been networked, but takes on a new form online. In epidemiology, researchers go beyond individual-level data to focus on populations. Studies using retrospective data from STI clinic and health department records have found associations between online sex-seeking and increases in STI transmission such as syphilis (Bernstein et al. 2013; Chew Ng et al., 2013; Heffelfinger et al. 2007; Jayaraman et al., 2003; Klausner et al., 2000; Niccolai et al., 2007; Simms et al., 2005; Taylor et al., 2004), chlamydia and gonorrhoea (Al-Tayyib et al., 2009), and hepatitis C (Danta et al., 2007). There have even been a few case reports of Internet-related HIV transmission (Pennise et al., 2015; Tashima et al., 2003). These findings, while very interesting, also have their own limitations. One concerns the frequently debated representativeness of clinic samples. Clinic samples may report more risk behaviours than members of the general population, and may have a greater likelihood of infection. It is also worth acknowledging that the retrospective analyses are proposing correlations or associations rather than causality in its own right. There are of course many factors shaping the dynamics of HIV risk and transmission, and it is difficult to prove conclusively that such outbreaks would not have occurred without the Internet. Nevertheless, such analyses can provide important insights to help us understand the dynamics of HIV/STI risk and transmission in groups that may be at an elevated risk. This can help public health researchers develop interventions for patients in an accessible clinic setting.

Networks can also play an important role in helping us better understand the context and dynamics of Internet-related outbreaks. During an outbreak, one of the first things epidemiologists do is figuratively and literally connect the dots by looking for patterns and connections. After interviewing patients, epidemiologists can use the data to assess whether an outbreak was truly random, or whether patients had something in common (e.g. attending a similar venue or having mutual sexual partners). If there are suspected similarities, epidemiologists may use the data to graphically represent a
sexual network (in the form of a sociogram) using social network analysis. Social network analysis uses network and graph theory to empirically study social structures. Classifying individuals as nodes and their relationships as ties, epidemiologists can then measure a person's centrality or prominence in a network by measuring how many relationships each person has (degree), how connected people are to others in the network (closeness), and the extent to which some of them serve as intermediaries between groups (betweenness) (Wasserman & Faust, 1994). It is interesting that in the traditional sense of social network analysis, high centrality often translates to having a great deal of influence, prestige, and even power. But in network epidemiology, high centrality can indicate a person's susceptibility to both acquiring and transmitting an infection. These networked models can demonstrate that infection is not always distributed by chance and that the venue where sex occurs may make a difference.

Network models can also help epidemiologists understand some of the dynamics and characteristics underlying HIV transmission. The applied epidemiological research in the field suggests that the flexibility of socio-technical networks and their temporal and spatial reconfigurations can help facilitate the efficient transmission of infection by increasing one's number of sexual partners (Wohlfeiler & Potterat, 2005)—a risk amplification model. In these scientific narratives, having more partners increases the risk of HIV transmission. Theoretically, this can happen with sexual networking platforms. Extending the reach of communication across time and space (timeless time and the space of flows), the Internet increases access to a larger group of people than might be accessible in a physical venue. For example, a user visiting a new city could log onto Grindr at 2 pm on a Tuesday, scan through a group of over 100 men, and coordinate a series of casual sexual encounters throughout his visit without even leaving his hotel room. He could arguably achieve the same outcome by visiting a local bathhouse or attending a sex party, but there is no question that finding partners online is considerably cheaper, more convenient, and more efficient.

These flows may have epidemiological consequences. Some epidemiologists have suggested that the Internet can increase the chance of transmission by facilitating what is known as concurrency (Wohlfeiler & Potterat, 2005). Concurrency corresponds to concepts like networked individualism (Rainie & Wellman, 2012; Wellman et al., 2003) and weak ties (Granovetter, 1973), where sexual networking platforms make it easier for
people to sustain concurrent (multiple, overlapping, simultaneous), non-monogamous partnerships. Concurrency can theoretically increase the size of one’s sexual networks at a faster pace than serial monogamy (Wohlfeiler & Potterat, 2005). This is most relevant in cases where an infection is actually present. If someone who has high-risk sex with multiple partners in a small and interconnected sexual network seroconverts (becomes HIV positive), the infection can travel much more quickly. Such a “network effect” can be particularly pronounced among already densely connected groups like gay men’s communities—where its “small village” feel and disproportionate burden of infection already exist. This networked model also attempts to account for gay men’s increased susceptibility to HIV infection vis-à-vis other groups, challenging the notion that individual behaviours are the single most important factor shaping HIV risk and transmission.

From an epidemiological standpoint, networked individualism may also increase individual vulnerability by promoting mixing among otherwise diffuse groups or sexual networks. Although network mixing is certainly a bonus for someone hoping to meet a partner outside of their immediate social circles, during an outbreak it can also have the effect of quickly introducing new infection into new communities (Choi et al. 2007; Simms et al., 2005; Wohlfeiler & Potterat, 2005). This can happen when members of what epidemiologists call the “core group”—a small percentage of a population that has an infection and engages in high-risk behaviour—“mixes” with people from different communities. The sexual contacts of members of the core group can, in turn, become “bridges” connecting different communities or sexual networks (Doherty et al., 2011; He et al., 2006; Smith et al., 2006; Wohlfeiler & Potterat, 2005). All that said, there are some caveats worth considering. Such explanations are mainly theoretical, can be difficult to prove empirically, and are informed by studies of outbreaks that may not be representative of general populations of gay men who seek sex online (Liau et al., 2006; Rietmeijer, 2010). Furthermore, the core group theory can be controversial in that it may be quickly mobilized in the service of scapegoating or blaming groups of people for sustained HIV transmission (Rofes, 1998; Rotello, 1998). It is therefore important to consider the limits of network science in fully explaining complex socio-technical phenomena, even as we can also consider how networks can offer alternative ways of accounting for HIV risk and transmission.
Health communication

HIV risk and transmission are not the only issues that the network society thesis can help explain. It can also help elucidate how the flexibility of networked communication technologies renders them equally able to serve as infrastructure to support HIV prevention efforts. Consider how the Internet has reshaped the field of health communication. Initially developed by medical experts and practitioners in the 1970s, health communication had humble beginnings as a field concerned with enhancing patient-provider communication (Thompson, 2003; see also Stoeckle, 1987). During its institutionalization within U.S. communication departments throughout the mid-1980s, health communication broadened its focus to include issues such as health message design, the communication needs of various groups, and strategies to determine the most effective and appropriate uses of communication technologies in public campaigns (Edgar & Freimuth, 2006). Its growth as a field within the U.S. means that it largely follows the administrative model of communication that focuses on using communication technologies as tools to enhance and evaluate information dissemination among audiences and publics. This means that critical questions about media and communication frequently go unaddressed.

Today, digital technologies have altered the production and distribution of health communication messages. Prior to the Internet’s widespread diffusion in the mid-1990s, gaining media visibility required extensive liaising with media professionals, as well as allocating budgets for print materials and advertising space that could take months to appear. Today, researchers and practitioners have taken advantage of the comparably cheaper and decentralized nature of online communication to purchase online advertising and design web campaigns to raise awareness and promote HIV/STI testing (McFarlane et al., 2005). The Internet’s status as an anonymous, affordable, and accessible medium (Cooper, 1998) has also been helpful in supporting sexual health information-seeking among gay men online—something particularly important for youth who might not be able to access it elsewhere (Elford et al., 2001; Gilbert et al., 2013; Kubicek et al., 2011; Magee et al., 2012; Malu et al., 2004; Muessig et al., 2013; Mustanski et al., 2011; Rietmeijer et al., 2003). Because the Internet is where many young gay men first learn about gay sexuality, experiment with their identities before coming out, and meet their first sexual partners (Bolding et al., 2007; Buhi et al., 2013;
Franssens et al., 2010; Kubicek et al., 2011; Lelutiu-Weinberger et al., 2015; Magee et al., 2012; Pingel et al., 2013), this creates a greater incentive for HIV prevention to ensure that information is easily accessible, reliable, culturally-relevant, and comprehensive (LeGrand et al., 2014).

Partner notification

Networked communication technologies have also played an instrumental role in modernizing partner notification efforts. A practice developed during the postwar period, partner notification occurs when someone from the health department contacts a patient’s former and current sex partners to inform them of a possible exposure and encourage them to seek testing. For partner notification to be successful, the patient must provide their partners’ contact information—something not always readily available within the context of an anonymous, casual sexual encounter arranged online. Although anonymity has historically been a persistent challenge for partner notification efforts, the AOL-related outbreak described at the beginning of this chapter illustrated the problem of networked anonymity and subsequent virtual friction that can erupt (Klausner, 2010). Finding that many of the newly diagnosed patients had only been able to supply usernames of their partners, the San Francisco Department of Public Health addressed this challenge by partnering with a local sexual health non-profit (YTH, formerly Internet Sexuality Information Services) to develop an online partner notification tool (McFarlane et al., 2005). In 2004, they developed InSPOT, which allowed users to anonymously send e-cards to their partners with a personalized message (Levine et al., 2008). Although subsequent evaluations of inSPOT among clinic patients have suggested low uptake and use (Plant et al., 2012; Rietmeijer et al., 2011), reports of partner notification efforts using social media and mobile devices suggest the potential remains (Ehlman et al., 2010; Hightow-Weidman et al., 2014; Hochberg et al., 2015; Hunter et al., 2014; Menza et al., 2008; Pennise et al., 2015; Tomnay et al., 2006). In these cases, virtual friction pushed public health actors to develop alternative solutions when traditional approaches no longer appeared to work.
Behavioural interventions

Many researchers and practitioners working on behavioural interventions—formalized strategies to encourage publics to modify their personal habits and practices—have also integrated the Internet as part of their efforts. Informed by behavioural and social psychological approaches (see Rietmeijer & McFarlane, 2009) such as social cognitive theory (Bandura, 1977), the theory of planned behaviour (Montano & Kasprzyk, 2008), and the stages of change model (Prochaska & DiClemente, 1983), these interventions focus on modifying people’s attitudes, values, and beliefs vis-à-vis condom use, testing, and partner communication. Where behavioural interventions have traditionally taken place in-person, online interventions have appeared in the form of peer educators in chat-rooms (Rhodes et al., 2011), web videos about sexual decision-making and status disclosure (Chiasson et al., 2009; Horvath et al., 2006), and persuasive games promoting condom use and HIV testing, enhancing safer sex knowledge, and reducing the perceived shame associated with homosexuality (Christensen et al., 2013; Kok et al., 2006; Mikolajczak et al., 2008; Rosser et al., 2010). Others have used the Internet as a mode of content delivery. Examples include standalone websites (Bauermeister et al., 2015; Carpenter et al., 2010; Hightow-Weidman et al., 2012) or tailored online modules for subgroups such as young men (Mustanski et al., 2013), rural men (Bowen et al., 2008), and men in relationships (Davidovich, 2006). Such interventions do two things: 1) they expand the range of targeted behaviours to move beyond condom use, and 2) they take into account how the diversity behind the category of “gay men” or “men who have sex with men” can shape people’s HIV prevention needs.

Such interventions are promising but mainly target gay men at the individual level. Researchers have been slower to implement interventions for online environments that effectively mobilize social networks. There is good reason to do so, given that historically, community-level interventions around HIV/AIDS have been tremendously helpful in reducing the number of infections. Jeff Kelly’s community popular opinion leader (C-POL) model is one such example (Kelly et al., 1992). An adaptation of communication scholar Everett Rogers’ diffusion theory (1962), the C-POL model suggests that certain members of social networks can influence their peers’ behaviours more effectively through interpersonal communication—the medium of talk—than
through mass media efforts alone. This model hypothesizes that such people, known as opinion leaders (Katz & Lazarsfeld, 1955) or early adopters (Rogers, 1962), can influence their peers because they possess greater social and cultural capital. Using ethnographic techniques to identify and recruit community leaders, practitioners have trained these community leaders to share risk-reduction information with their peers in order to sustain prevention activities over the long-term (for examples, see Bertrand, 2004; Dearing, 1996; Kelly, 1994; Singhal & Rogers, 2003; Svenkerud & Singhal, 1998; Wohlfeiler, 1997). Such interventions are arguably more effective than individual ones because they tailor their values to those of the community’s. We can consider early prevention efforts that advocated safe sex as form of altruism, eroticism (Crimp, 1987), or political solidarity as examples of community-level interventions that appealed to some core values.

The extent to which such interventions effectively compute in online environments remains unknown. In Taiwan, researchers recruited 369 gay male opinion leaders to post HIV prevention messages on a Facebook page. 6 months later, they found that although the 552 intervention participants reported increased condom use with online partners, there was little effect on reducing their overall number of partners, episodes of condomless sex, or condom use with partners more generally (Ko et al., 2013; see also Lau et al., 2008). Researchers concluded that perhaps the limited efficacy of the intervention was due to the fact that they did not offer the interpersonal skills training that traditional C-POL efforts have emphasized. In Los Angeles, researchers used the traditional skills training model in their online intervention designed for African-American and Latino gay men. Although the design was promising and participants deemed the intervention acceptable, researchers did not measure outcomes (Jaganath et al., 2012). These two studies, while not able to answer conclusively whether online community-level interventions can replicate the success of their analogue partners, demonstrate the importance of using the Internet to augment rather than replace conventional face-to-face efforts. Yet they also illustrate some of the challenges with behavioural interventions and Internet-based efforts.

Reporting promising initial findings whose ultimate implications are unknown is a persistent challenge in behavioural interventions. By design, most behavioural interventions have either a three- or six-month follow-up period that makes it difficult to
ascertain their long-term efficacy. Their reliance on self-reported behaviours as opposed to biological outcomes has also made it challenging to determine their effectiveness at a population level (Wohlfeiler & Ellen, 2007). It is also no secret that many online interventions in particular involve high levels of attrition (participant dropout) that make it difficult to generalize findings or gauge their efficacy. Some have attributed the higher attrition rates to the lack of face-to-face interaction that normally promotes rapport-building and participant retention (Bowen et al., 2008; Hightow-Weidman et al., 2012; Horvath et al., 2012), while others have suggested that the large sample sizes Internet-based recruitment often yields naturally attracts people who are more likely to drop out in the first place (Bull et al., 2004). From a network society perspective, we could also identify this as a virtual friction between the rhythms of digital culture that emphasize short, intensive bursts of interaction and the long, sustained, and contemplative rhythms associated with traditional social science research.31

**Structural interventions**

For these reasons, some in the field have proposed that public health should consider structural/ecological interventions as an alternative (Stokols, 1996; Sumartojo, 2000). Structural interventions posit that focusing on changing laws, rules, norms, codes, and policies by modifying the environments where people “work, play, and have sex” (Wohlfeiler, 2000) will have a greater impact on health than focusing on individual behaviours alone. Notable historical examples relevant to this situation are bathhouse interventions, where measures such as removing locked doors, having safe sex only policies, distributing condom packets, and maintaining prohibitions against onsite substance use exist. Online, interventions in this arena typically focus on modifying user policies on sexual networking sites to prohibit the explicit promotion of illicit substance use and bareback sex, or by including profile options (i.e. HIV status fields) and sexual health information to promote informed decision-making online. The rationale behind

31 Although completing the follow-up tasks of an Internet-based research study may be less onerous than returning to a study site for a follow-up visit, researchers at a follow-up site are less likely to be competing for attention with the din and buzz of social media across participants’ various devices.
such interventions is that they represent cost-effective and scalable solutions that promote risk-reduction while respecting user privacy and choice.

Such interventions appear relatively simple and benign at first glance, yet they too face challenges. For one, much like bathhouse interventions, measuring their effectiveness is difficult because there are simply too many factors involved. Measuring the effectiveness of an HIV status field, for example, would be very difficult. It is also the case that any potential benefits of structural interventions might not be observable for another generation (Wohlfeiler, 2000). This makes it challenging to create an evidence base that would convince funders and actors from the private sector that such actions are warranted. Second, the top-down nature of structural interventions, where state actors propose and implement changes within the market and people’s private lives, are fundamentally at odds with the libertarian ethos of the Internet and sexual cultures. This tension is particularly pronounced when it involves sexual minority groups like gay men, who have historically fought hard for sexual freedom. Thus, friction emerges when public actors assigned the responsibility of protecting the health of communities attempt to intervene in the private lives of citizens. And third, critics of structural interventions in this tradition may point out that the emphasis on networked behaviours and environments presents a one-dimensional, flattened view of the dynamics involved in HIV risk and transmission online. Networked models cannot adequately take into account how factors like mental health, poverty, or racism shape health outcomes—even though we know they play a tremendous role. This binary opposition between behaviours and environments—essentially pitting agency against structure—also neglects the fact that the Internet is not simply a communication tool or an environment but a hybrid—a highly dynamic techno-culture that mediates and co-produces sexuality and HIV prevention.

**HIV prevention as techno-culture**

A techno-cultural perspective of the Internet and HIV prevention allows us to critically examine the frictions that emerge in the gay culture of real virtuality. Taking a constructivist position that we create reality through social interaction (Berger & Luckmann, 1966), it considers the possibility that technologies can co-create new realities with humans without resorting to technological determinism. Technologies have
material consequences. In this sense, a techno-cultural perspective adds a corrective to the network society thesis’ blind spot with regard to design and experience (Van Dijk, 1999) by borrowing from the social shaping of technology’s (SST) emphasis on the role of wider social relations and transformations that occur through design and use (MacKenzie & Wajcman, 1999). Politics are not divorced from technology; rather, they are “built in” (Feenberg, 2010; Winner, 1980) and take form in hybridized networked environments that make it difficult to identify precisely where “the technical” and “the social” begin and end.

**Barebacking as hacking**

One example of a techno-cultural phenomenon that has generated friction within HIV prevention has been the emergence and popularization of barebacking. Known in scientific or research circles as intentional unprotected or condomless anal intercourse, barebacking is a neologism that debuted around the same time as the Internet’s popularization. The practice first gained attention within the popular gay press of the late 1990s after a number of gay men living with HIV “came out” by publicly announcing their decision to eschew condom use with their sex partners (Dean, 2009; Gauthier & Forsyth, 1999; Gendin, 1997; O’Hara, 1997; Shernoff, 2006). This reignited community debates regarding so-called gay male promiscuity, pitting characterizations of barebacking as a “reckless”, “selfish”, and “irresponsible” act against counter-narratives of barebacking as reclaiming the joy of uninhibited gay sex stolen from gay men by the AIDS epidemic and so-called public health “condom nazis”. Supported by two socio-technical developments—the advent of effective therapies that changed the social meaning of HIV from a death sentence to a chronic, manageable condition and the popularization of the Internet as a way for people to rapidly converge around shared interests and values—barebacking challenged the “condom code” (Mowlabocus, 2010) of HIV prevention. It is worth pointing out that although condomless sex is not a new invention and the Internet did not “create” barebacking, it provided a space for barebacking to flourish as a practice, community and identity (Mowlabocus, 2010). From the perspective of science and technology studies, we can also consider barebacking as representing a type of “democratic intervention” or “subversive rationalization” (Feenberg & Friesen, 2012),

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where gay men used their knowledge about HIV transmission to “hack” into the codes of safe sex and develop risk-reduction practices inclusive of their needs.32

This mode of sexual hacking—a form of virtual friction—has challenged researchers and practitioners to revisit some of their assumptions surrounding HIV prevention and risk. The first concerns the motivations of barebackers. In qualitative studies of barebackers and online barebacking cultures, researchers have found that barebacking is connected to themes such as gay men’s affective responses to the HIV epidemic, the eroticization of risk within gay male cultures, feelings of loneliness and yearning for group solidarity (especially among men living with HIV), and neoliberal values such as autonomy, choice, and individual responsibility (Adam, 2005; Carballo-Diéguez et al., 2006; Gauthier & Forsyth, 1999; Grov et al., 2007; Leobon et al., 2011). Such findings have encouraged researchers and community practitioners to examine the sociological, emotional, and political context in which barebacking occurs, rather than simply consider it a problem to be remedied by more information. It also challenged the perception that barebackers were necessarily vectors of transmission, as researchers found that barebackers generally did not have an active interest in transmitting HIV to others—despite extensive media coverage of subgroups like “gift-givers” and “bug-chasers” who fantasized about the practice online (Grov & Parsons, 2006).33 Rather, barebackers have more commonly expressed a sense of ambivalence regarding HIV or a specific interest in having condomless sex with a person of the same serostatus—a practice which researchers would later digitally re-signify as serosorting (Shernoff, 2006). By emphasizing the rationality and calculated risk behind this so-called “reckless” act (Adam, 2005), such findings challenged the assumption that barebacking was something public health needed to eliminate rather than incorporate into their understanding of risk-reduction. Calling for more nuance and specificity with regard to risk practices, these findings began to situate the Internet as an important information

32 Indeed, hacking and barebacking cultures share values such as the celebration of masculinity through rugged individualism, risk-taking, and transgression (Adam, 2005).

33 “Gift-giving” is a ritual where people fetishize transmitting HIV to others, while “bug-chasing” involves people fantasizing about having someone deliberately transmit the virus to them. Although it is relatively easy to find this discourse online, its stigmatized and underground nature makes it difficult to accurately assess how much of it is online fantasy and how much of it actually occurs offline.
and communication medium that could potentially facilitate what we now refer to as “harm reduction”.

**Serosorting and the great sero-divide**

The Internet has begun to play an increasingly important role in our understanding of gay men’s risk-reduction practices. Consider the practice of serosorting. Where barebacking is a techno-cultural phenomenon that gay men developed in opposition to HIV prevention discourse, serosorting is one that attempts to reintegrate it (Race, 2010)—to smooth out and manage the friction users introduce. For serosorting to work effectively as a risk-reduction strategy, involved parties must be certain of their serostatus, disclose their status to each other, and limit condomless intercourse to those whose status is the same. In theory, the information exchange capacities of the Internet could facilitate many of these strategies in indirect and non-intrusive ways (see Davis et al., 2006; Horvath et al., 2010; Rietmeijer et al., 2007; Wagner et al., 2012). The interfaces on many sexual networking platforms have fields for users to disclose their status and safer sex preferences. And research suggests that a number of gay men already use sexual networking platforms as a tool to disclose their status and select partners according to the information supplied online (Bolding et al., 2005; Carpenter et al., 2010; Grov et al., 2013; Horvath et al., 2010; Horvath et al., 2008; Jenness et al., 2010; Lewnard & Berrang-Ford, 2014; St De Lore et al., 2012; White et al., 2014). This makes a case for ensuring that online sex-seeking platforms contain information about HIV status and other risk-reduction practices.

Yet the technical challenges or frictions associated with online serosorting suggest there are some important socio-cultural issues worth considering. The first is the issue of privacy and whether it is reasonable to expect users to disclose their HIV status and sexual practices on publicly-available platforms viewable by third-parties. Seropositive people who do not disclose online may not necessarily be hiding or feel

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34 Harm reduction is a paradigm in public health that aims to reduce the overall risk of a practice rather than eliminating it altogether. Needle exchange programs and safe injection sites are common examples of harm reduction in HIV prevention.

35 I am indebted to Canadian HIV/AIDS researcher Len Tooley for introducing me to the term “serodivide” during his workshop at the CBRC’s Gay Men’s Health Summit in October 2014.
ashamed of their status, but may prefer to disclose such information privately, one-on-one, to a trusted person at a moment when they feel safe to do so. As I will show in chapter 5, the binary logic of data and code (see Chow-White, 2008) struggles accommodate such nuances and complexities. The second concerns the veracity and accuracy of online information. The stigmatized nature of HIV can promote a sense of fear and shame among gay men that makes all parties reluctant to discuss it openly and honestly. Further, its latent nature (many people with HIV infection are initially asymptomatic) can mean that many people may mistakenly believe they are seronegative and assume that others are based on their physical appearance. HIV stigma and ignorance can thus fuel some of the silences, assumptions, omissions, and even misrepresentations of serostatus that can occur online and off (Fernandez-Davila et al., 2011), leading to the miscommunications and “accidents” that likely play a significant role in HIV transmission (017, interview; Rebchook et al., 2003; Rebchook & Curotto, 2007). So while interfaces and online environments can provide new opportunities to revitalize HIV prevention efforts, these new “investments in status disclosure” may also perpetuate a “disabling affective climate” of frustration and avoidance among gay men that can ultimately compromise their success (Race, 2010). This reveals some of the tensions that exist between discourses of HIV prevention and the needs and interests of people living with HIV.

Sexual racism 2.0: A different kind of digital divide

A techno-cultural perspective on HIV prevention and the Internet also considers how dynamics of inclusion/exclusion shape experience and subjectivity online. This diverges from Castells’ definition of inclusion/exclusion in the network society, which focuses mainly on empirically measuring the digital divide among groups (Nakamura & Chow-White, 2012). Although access to technology is certainly an important issue, it is also worth considering the hierarchies that exist among those with access. The phenomenon of sexual racism online is one example. Briefly, sexual racism—the discrimination, exclusion, and objectification gay men of colour experience from within the gay community—serves as a “racialized hierarchy of erotic desirability” where whiteness becomes the default setting for attractiveness (Paul et al., 2010; Robinson, 2015; Woo, 2013). Sexual racism can be both overt and subtle, often intersecting with
other issues related to gender expectations, embodiment and body validation, and sexual positioning (Wilson et al., 2009). Stereotypes that Latino gay men are more sensual, Black men are more aggressive, and Asian men are more feminine than other races/ethnicities are everyday examples of sexual racism that users articulate online regularly. Frequently, it appears in the language of user profiles that casually discriminate against specific races/ethnicities in their profiles (i.e. stating ‘no [insert social group]’ or ‘[insert social group] only’). Although there is no question that sexual racism has analogue origins (see Bérubé, 2011), it is also clear that such ideas take on new life online. For example, subtle acts of exclusion become codified through user interfaces on sexual networking platforms that allow people to filter prospective partners based on criteria such as race/ethnicity, age, and weight. Posing a challenge to colour-blind narratives about the Internet in the 1990s that positioned it as a “post-racial” space (Nakamura, 2002; Nakamura & Chow-White, 2012), these examples suggest that the Internet has not eliminated but intensified the frictions of ongoing racial hierarchies and divisions.

Understanding how the dynamics of sexual racism online affect HIV risk and acquisition among gay men of colour remains an important area of inquiry. While critics may point out that the effects of sexual racism pale in comparison to the material effects of racial inequities related to income and access to health care (Reynolds, 2015), this does not mean that sexual racism has no consequences. The individual-level effects of perceived and enacted racism may negatively affect gay men’s self-esteem, shaping their partner decisions and potentially affecting their ability to negotiate safer sex with partners. At the network level, sexual racism may also shape risk by encouraging racial segregation between communities. This may keep HIV infection contained to specific sexual networks, increasing the likelihood of exposure and transmission (Paul et al., 2010; Wilson et al., 2009). While some qualitative research has examined how gay men’s interpretations, experiences, and reactions to sexual racism online may vary (Callander et al., 2016) and how socio-technical affordances such as anonymity, social distance, and lack of physical co-presence shape racist discourse in gay online spaces (Paul et al., 2010), further research is required to contextualize this within gay men’s risk-taking behaviours and the structure of sexual network formation.
It is important to acknowledge that while digital environments can become sites of vulnerability, they can also become sites of resilience for marginalized groups. Let us consider how gay men of colour develop strategies to not only cope with but also confront the racism they encounter online. The uncensored nature of the Internet means that it is equally capable of serving as a venue for groups to “talk balk” and challenge problematic discourses they see online (Nakamura, 2008). Friction becomes useful in such cases. At the individual level, users can challenge people who write offensive content in their profiles by messaging them, a practice one of my informants told me he did regularly. “More often than not, I get blocked. But I think of it as a teaching moment into letting those individuals know that what they are doing is offensive, even if they think that it is just a preference”, he said (020, interview). Even if the offending user responds by ignoring or blocking them, they still have the ability to actively respond to racist discourse in a relatively low-stakes way. At the collective level, websites like *Douchebags of Grindr* (2016) are an example of how the Internet can support networked modes of confrontation and community accountability that might not otherwise be possible (Nakamura, 2011). Allowing people to post screenshots of offending users and post comments, the website serves as a community reminder that prejudice and discrimination are far from over online. Researchers and practitioners in this field may wish to examine how such practices of cultural production might be implemented within current HIV prevention programming as a way to better understand how racialization shapes HIV risk vulnerabilities and resiliencies in the network society.

**Conclusion**

When Manuel Castells first proposed his network society thesis, its implications for sexuality and HIV prevention were probably not the first thing on his mind. However, in this chapter I have demonstrated how the network society thesis and the issues it raises are applicable to both domains as well as our understanding of virtual friction. Castells’ network society thesis puts social networks and networked information technologies at the centre of social change, suggesting that the non-hierarchical nature of the former and the time- and space-shifting properties of the latter have ushered us into a new technological age. Such a framework has undoubtedly reinvigorated scholarly debates about causality and consequence in relation to new technologies, interrogating
the extent to which technology produces social change and whether contemporary phenomena truly represent radical breaks from the past. Ultimately, we see that the pace and direction of socio-technical change most often occurs in terms of ebbs and flows (Boczkowski & Lievrouw, 2008; Wasén, 2015). How can we characterize the changes to sexuality and HIV prevention in the digital age? That is the central question this study addresses.

We see that the emergence of networked information technologies has profoundly shaped the erotic worlds of gay men, privatizing cruising by decoupling it from physical spaces. Castells’ conceptualization of timeless time and a space of flows is relevant here, as sexual networking platforms create individual and highly personalized environments organized around immediacy, simultaneity, and timelessness. Aesthetically speaking, such spaces share some of the look and feel of traditional social venues like bathhouses or bars while the asynchronous and decentralized nature of networked technologies give users a heightened sense of control over communicative situations. Sexual networking platforms and other gay virtual spaces also facilitate a type of networked individualism that supports people’s abilities to sustain fleeting, multiple, and overlapping types of connections varying in intensity and duration. This is ideal for meeting users’ intimate needs, even as it may also generate friction among users who have different desires, interests, and expectations. The promises and pitfalls associated with sexual networking platforms encourage us to ask whether or not such technologies are truly “new” and how they affect sociability among users. What are the experiences gay men have in these cultures of real virtuality, and what does it tell us about gay life in the network society more broadly?

For actors in the world of HIV prevention, the network society is equally ambivalent but for different reasons. Networked changes in technology leave HIV prevention actors grappling with questions of causality as questions emerge over the Internet’s role in relation to HIV risk and transmission. When is the Internet a neutral tool people use to seek sex, and when is it as a unique environment that can actively amplify risk and transmission? These are questions researchers engage with on an ongoing basis, as are questions over whether or not the Internet can help reinvigorate HIV prevention for gay men. In epidemiology, social networks and networked information technologies are playing an increasingly important role in helping public health actors
track HIV/STI outbreaks and perform disease control practices like partner notification. For nearly two decades, behavioural scientists and community practitioners have been designing digital tools and interventions to help facilitate information-seeking and risk-reduction practices specifically for users who seek sex online. HIV prevention groups have also leveraged networked communication technologies to raise awareness about specific issues in the community, promote testing and treatment, and reach out to publics who might otherwise be difficult to access. While such innovative uses of technology have potential, researchers and practitioners in the field continue to struggle to find digital strategies that satisfy institutional demands for empirical evidence, efficiency, and scalability. The difficulty of meeting some of these criteria means that they must, in some sense, trust that their efforts will be effective in the face of scientific uncertainty.

The Internet may not independently cause change, but the networked subjectivities, practices, and experiences that have emerged are worth examining. Taking a techno-cultural perspective to phenomena like barebacking, serosorting, and sexual racism, I have demonstrated how the Internet’s decentralized and privatized structure make them possible. The Internet renders visible some of the tensions and contradictions embedded in the discourse of HIV prevention, while also bringing attention to the hierarchies and divisions that exist among gay men. At the same time, networked decentralization and privatization can also be assets when they support strategies people use to bring attention and community accountability to issues that matter to them online. Virtual friction therefore reminds us that struggles over community and identity do not disappear as soon as we log on. How the Internet can shape HIV vulnerabilities and resiliencies among the diversity of gay men remains an important issue in digital prevention efforts. What other subjectivities, discourses, and practices have emerged alongside the Internet, and what are the implications for gay men’s lives and HIV prevention?

In this study, I will examine the implications of the network society in greater depth by considering the perspectives of gay male users, HIV prevention actors, and Internet entrepreneurs. If sexuality is becoming a networked phenomenon, then what does that look like? In chapter 4, I will begin at the micro-level by examining these changes in terms of the culture of real virtuality that gay men have created—digital sites
of identity formation, desire, and interaction. While a great deal of the scholarly literature investigating gay men’s use of the Internet takes a descriptive approach that treats it as separate from the so-called “real world”, the culture of real virtuality demands we examine the convergence and frictions between digital and material aspects of contemporary life. Such a perspective paints a picture of life online as one where gay culture digitally reconfigures itself and where coding, connecting, and browsing become the primary activities. Gay cultural politics also play out online, as users navigate competing notions of belonging, attractiveness, and norms of acceptable behaviour. Such practices and community tensions are not “new”, but take on new life through interfaces. Gay men’s culture of real virtuality is therefore one that contains elements of the physical world while digitally infusing its real world politics.

In chapter 5, I move to discourse by examining how informationalization has reshaped HIV prevention (see Castells, 2009; Chow-White, 2008). Powered by digital databases and algorithms, the informationalization of HIV prevention emerges as HIV prevention actors and Internet entrepreneurs work together to codify practices such as testing and serostatus disclosure through interfaces. The digital logic of HIV prevention becomes apparent when classifying, sorting, and filtering become modes of risk-reduction online and off. The informationalization of HIV prevention also converges with promotional culture, as it becomes a branding activity for scientists, activists, and educators. Engendering the production of novel subjectivities and practices, the informationalization of HIV prevention represents a logical approach to modernizing public health in the digital age. And yet we must also consider how the binary logic of data and code (see Chow-White, 2008) creates tensions when its alignment with other systems—legal, media, and scientific—can perpetuate the very hierarchies and inequities that exacerbate risk and transmission. User friction becomes important in this case to slow down the process of technological development, ensuring that modernizing HIV prevention occurs in a more community-minded and sustainable manner.

In chapter 6, I move to the level of institutions to examine this situation from the vantage point of HIV prevention actors and Internet entrepreneurs. Here, we see that networked information technologies are only part of the problem and solution. They do not “cause” phenomena to occur but certainly expose, amplify, and intensify pre-existing frictions in ways that require different kinds of problem solving. They also require actors
to grapple with the fact that the decentralized, privatized nature of the Internet as well as its libertarian ethos poses challenges for a traditional public health system grounded in administrative, scientific authority and control. The social dimension of friction becomes clear as HIV prevention actors must learn to reconcile competing perspectives, negotiate conflicting interests, navigate bureaucracy, and make do with resource constraints while engaging in the difficult task of attempting to keep up with the highly dynamic character of new media. The virtual friction created through the networking of HIV prevention has therefore transformed public health practice by requiring actors to adopt a more collaborative approach that goes beyond the domain of techno-science. I suggest that we consider the networking of HIV prevention as a type of “wicked problem” (Rittel & Webber, 1973) within the network society, where the lag between technological innovation and social change requires new literacies, skill-sets, and multisectoral collaborations. At the very least, this alternative way of understanding the networking of HIV prevention might explain why some online HIV prevention interventions do not succeed even though they technically “work”.

But before delving into this analysis, I will devote the next chapter to explaining this study’s methodology. This study used situational analysis, a qualitative methodology frequently used in feminist studies of techno-science and health. A flexible framework designed to accommodate complexity, its inventor Adele Clarke has described situational analysis as “grounded theory around the postmodern turn” (2005). Combining the Chicago School tradition of symbolic interactionism, pragmatism, and social constructionism that informed Barney Glaser and Anselm Strauss’ development of grounded theory (1967) with feminist, postcolonial, and postmodern epistemologies that emerged in the 1980s and 1990s (Foucault, 1978; Haraway, 1988; Harding, 1986), situational analysis is a mode of inquiry that engages with discourse—historical, narrative, and visual—in a systematic and methodologically-rigorous way. In this chapter, I explain situational analysis in greater depth, describing how it informed data-collection and analysis. I also situate myself as a feminist researcher in relation to my topic, outlining some of the frictions that follow women who study gay men’s health. And

36 For excellent discussions of the “postmodern turn”, see Best and Kellner (1997) and Susen (2015).
finally, I discuss some of the ways that my approach diverges from situational analysis, as well as the overall limitations of my study and this methodology.
Chapter 3. Methodology: Situating Virtual Friction

Introduction

Understanding the virtual friction that mediates the networking of sexuality and HIV prevention calls for methodologies sufficiently flexible to accommodate the various actors, institutions, social processes, discourses, politics, and controversies involved. In this chapter, I explain how situational analysis helped me make sense of this multi-layered socio-technical situation. I begin by providing a basic overview of situational analysis, focusing on its origins, theoretical influences, uniqueness, and analytic methods. In part two, I situate myself as a feminist researcher in relation to my study, discussing how my own subjectivity and lived experience both inform and complicate my analysis. Following this, I explain my process and how situational analysis allowed me to move between recruitment, data collection, and analysis in ways that might not have been possible with more “linear” methodologies. In part three, I present a set of situational, social/worlds/arenas, and positional maps of the key actors, institutions, social processes, discourses, politics, and controversies involved. I end with a brief discussion of some of the limitations and challenges associated with both situational analysis and my own methodological choices as a researcher.

Methodological overview

What is situational analysis?

Situational analysis is a qualitative research methodology designed to handle complexity in qualitative research. Frequently used in feminist studies of techno-science and health (see Moore, 1997; Clarke, 2005), situational analysis relies on interviews and personal observations, as well as historic, visual and other discursive materials. Developed by feminist science and technology scholar Adele Clarke (2005), situational
analysis draws from grounded theory (Glaser & Strauss, 1967) and postmodern approaches influenced by ethnography, phenomenology, documentary, and discourse analysis. This means that it focuses on people’s subjective experiences while also interpreting them through broader social structures. Like grounded theory, situational analysis is a theory/methods package where sampling, data collection, and analysis occur simultaneously—a departure from conventional social scientific approaches that emphasize inquiry as a linear and sequential process.

Separating situational analysis from grounded theory is its engagement with the postmodern turn in social science research. Situational analysis is a postmodern mode of inquiry that attempts to de-centre the analyst as an objective, disinterested observer by taking into account the role of reflexivity, agency, and discourse. It turns the analytic gaze to non-human actors (Callon, 1986; Latour, 2005), and pays critical attention to the role of discourse in constructing reality (Foucault, 1978). Its unit of analysis is another distinctive feature. Rather than focus on specific individuals, institutions, or discourses, situational analysis “[draws] together studies of discourse and agency, action and structure, image, text and context, history and the present moment— to analyze complex situations of inquiry broadly conceived” (Clarke, 2005, p. xxii). Treating the situation itself as the focus of investigation, situational analysis is a theoretically informed and empirically based methodology used to make sense out of the messiness of contemporary social life.

Let us consider the networking of HIV prevention. Here is an issue that involves multiple actors (i.e. gay men, HIV prevention actors, Internet entrepreneurs) who come from different social worlds and play different roles in the situation. There are many issues involved. The first involves causality, which asks about the extent to which the Internet shapes the dynamics of HIV risk and transmission. When is the Internet a unique risk environment, and when is it a neutral terrain where risk plays out? The second concerns power and responsibility: Who has the power to define the Internet as risky or not? Who has the power to make changes? And when it comes to gay men, public health, and Internet start-ups, whose responsibility is it? Third, we see the issue of civil liberties pitted against public health, with digital interventions generating concerns regarding sexual autonomy and freedom. Are HIV prevention actors who put pressure on owners of sexual networking platforms to change their practices violating users’ civil
liberties, or protecting public health? What do civil liberties look like in this context, and how do we protect them while also protecting the health of communities—if we believe that the state should play a role at all? Such tensions set the stage for a “messy” socio-technical situation that involves actors from multiple worlds, layers of discourses, and a range of institutional interests. Situational analysis allows us to approach the situation with an open mind and allow the data to guide the process of inquiry, helping the researcher adopt a more multi-dimensional perspective of the situation before them.

**Epistemic origins**

*Connections to grounded theory*

Situational analysis shares many of grounded theory’s theoretical and methodological underpinnings. Like grounded theory, situational analysis draws heavily upon symbolic interactionism, pragmatism, and social constructionism. Emerging from the Chicago School of Sociology, symbolic interactionism arose as a response to the dominant intellectual trend of behaviourism. Rather than suggesting that we could understand people’s behaviours in relation to an external object or *stimulus*, symbolic interactionists like George Herbert Mead, Harold Blumer, and Erving Goffman argued for a focus on the meaning people attach to specific situations. For them, action emerged from people’s interpretations of interpersonal interaction. Goffman’s *The Presentation of the Self in Everyday Life* (1959) is an example of this, where his close observation of human behaviour stressed that people shaped their modes of self-presentation based on their understanding of the situation before them. As such, both grounded theory and situational analysis emphasize interpretation as part of inquiry. Both methodologies also draw inspiration from the pragmatist philosophical approaches of people like Charles Sanders Peirce, John Dewey, and George Herbert Mead, who assigned value to inquiry based on its practical application. Suggesting that language should not simply describe reality but actively shape it, pragmatists believe that good theory should be testable in the “real world”. This is evident in how grounded theory emphasizes studying “real world” settings like schools or healthcare institutions and contributing to theory from the “ground up”.

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Situational analysis also shares grounded theory’s affinity for pushing the limits of what “counts” in social science research and inquiry—in other words, using epistemic friction as a catalyst for change. This is clear in their use of social constructionism as a guiding epistemological framework. Emphasizing that reality is not an objective “out there” phenomena but something people construct through social interaction, both methodologies share similar epistemic assumptions to hallmark texts such as Peter Berger and Thomas Luckmann’s text *The Social Construction of Reality* (1966). *The Social Construction of Reality* advanced a phenomenological approach that re-affirmed human experience and observation as legitimate modes of inquiry, contributing to scholarly responses to the paradigm of haute positivism that dominated academic inquiry before the rise of postmodernism in the 1980s. This is clear in both grounded theory and situational analysis’ resistance to the positivist assumption that quantitative, measurable data should be the high-mark of social inquiry and reliable knowledge.

Grounded theory’s subjectivist orientation is also clear in its approach to theory. Challenging the modernist assumption that every phenomenon can and should be explained with a unifying, a-priori “grand theory” (Clarke, 2005), grounded theory does not reject theory *per se* but rather emphasizes the value of remaining theoretically agnostic until the story or “big picture” (Park, 1952) emerges from the data. This means that both grounded theorists and situational analysts learn to look for the theory that emerges from the ground up, rather than imposing it in a top-down manner. This was perhaps the most appealing aspect of the methodology for me as a researcher. As an outsider new to the field of HIV research, this methodology gave me the freedom to examine the phenomenon before me and spend time reflecting instead of deciding on an overarching theoretical framework at the outset.

It is important to note, however, that neither methodology outright rejects empiricism altogether. They simply have looser parameters on what “counts” as knowledge. Grounded theorists believe that “all is data” (Glaser & Strauss, 1967)—interviews, observations, notes, documents—while situational analysis takes the postmodern approach that what is invisible, silent, and tacit (i.e. gender) may be just as important as what is visible, spoken, and explicit (Clarke, 2005). Although this may lead more conventional social scientists to interpret this to mean that such approaches lack rigour, both methodologies attempt to compensate for this through their systematic
approach to data analysis. Both grounded theory and situational analysis emphasize constant, almost obsessive coding of data and memoing, encouraging researchers to do so as they collect it rather than waiting until after collection is complete. This allows researchers to constantly contextualize their findings by oscillating between data and analysis (to ensure that the theory fits the data rather than vice-versa), refining existing codes continuously (to identify larger patterns), and seeking representativeness of concepts or ideas rather than actors (what they call theoretical coding and sampling). In short, both grounded theory and situational analysis attempt to retain some elements of rigour in qualitative inquiry while dispensing with rigidity that stifles rather than promotes knowledge production.

**Connections with postmodernism**

We can think of situational analysis as the by-product of postmodern friction rubbing against the practical and epistemic limitations of grounded theory. Grounded theory may have challenged the dominant assumptions of its era, but it became very apparent to Clarke that many of its tenets appeared dated in light of the changes in the academy. For example, grounded theory’s insistence that the researcher approach the data without conducting a literature review beforehand (in the name of “purity”) was at odds with the expectation from funding and dissertation committees that proposals be submitted before fieldwork (Clarke, 2005, p. 12). It is also not a stretch to infer that grounded theory’s emphasis on researcher “purity” follows the positivistic assumption that “good” research is bias-free.

Grounded theory’s lack of reflexivity and its inattention to the politicized nature of knowledge is another blind spot that situational analysis addresses. Unable to reconcile grounded theory with postmodern and feminist approaches (Foucault, 1978; Haraway, 1988), Clarke developed situational analysis to re-situate both the inquirer and the inquiry itself (2005, p. xxi). Who we are clearly shapes the work that we do and what we see/do not see; situational analysis affirms this. Moving the researcher from all-knowing analyst to acknowledged participant in the intellectual production of knowledge, situational analysis helps accommodate the unseen and unheard in qualitative inquiry. Researchers do not attempt to remove bias from their data but rather reflect on how their subject positions, experiences, and perspectives shape their interpretation.
Situational analysis also goes further than grounded theory by addressing the indeterminacy, contingency, and situatedness of knowledge production and meaning making. This is clear in its emphasis on multi-site research. In situational analysis, multi-site research is not only about “triangulating” the data—it is also about honouring its postmodern commitment to acknowledge partial, multiple, and even contradictory perspectives. This also explains why situational analysis tends to distance itself from grounded theory's emphasis on a single process or substantive theory generation as a sign of “good” research. Understanding these as part of a high modernist project grounded in positivist assumptions about generalizability, Clarke suggests “the era of grand or formal theory is long over” (2005, p. 293). Instead, she proposes the use of sensitizing concepts (i.e. social worlds, social processes), aligning herself with symbolic interactionist Harold Blumer's suggestion that although “definitive concepts provide prescriptions of what to see, sensitizing concepts merely suggest directions along which to look” (2005, p. 293). Promoting the use of sensitizing concepts and theorizing as more important, productive, modest, and humble modes of inquiry, Clarke's emphasis on vision and the partial, provisional nature of knowledge is at the core of situational analysis’ approach.

**Thick description vs. thick analysis: Distinguishing situational analysis**

At first glance, situational analysis may appear identical to contemporary ethnography. That is to be expected, given that both are postmodern modes of inquiry requiring researchers to be reflexive, establish rapport, and build relationships of trust with the communities or institutions they study. Enlisting gatekeepers, member-checking, and conducting artefact analysis are key activities that analysts and ethnographers perform. Both methodologies also distinguish themselves from other kinds of social science research where researchers attempt to maintain distance from those studied (in the name of objectivity), where meaning can be disinterestedly extrapolated from the data in a systematic and standardized way (to satisfy demands for replicability), and where “bias” can be meaningfully eliminated in the name of creating “pure” knowledge. Ethnographers and situational analysts may belong to the communities they study or have a close relationship to them, and there is an acknowledgement that knowledge does not exist outside of inquiry but rather emerges through it. Sharing the postmodernist view of knowledge as co-produced, situated, shifting, and contingent,
both situational analysis and ethnography instead generate research that tells a story from a particular vantage point. They make no claims to tell the truth, as they are skeptical of knowledge claims that purport to be the absolute, final, or foundational Truth—what Adele Clarke refers to as the Enlightenment sense of things being true at all times and all places (2012, pp. 397–398). Rather, they strive to represent what they witness in ways that are truthful.

Truthfulness is about producing the most fair, honest, and productive account of the situation under investigation. Truthfulness requires a great deal of reflexivity, with qualitative researcher Kerry Daly suggesting that researchers must frame their knowledge claims as being part of a located and limited story that is transparent about their identity as storytellers and how they come to know and present it as such (1997, p. 359). To be truthful in this sense demands that we understand the changing complexity of human reality, demystify objectivity in favour of greater awareness of our own values and interpretations, and question what it means to be a researcher (1997, p. 345). Truthfulness also involves acknowledging that truth can be specific to local, personal, and community forms (Kvale, 1995, p. 21), where we can assess claims according to their coherence and correspondence with a community’s narratives rather than with objective “facts” (Frus, 1994, p. xiv). Truthfulness therefore strives to represent knowledge in ways that are at least theoretically plausible if not “unassailably accurate” (Charmaz & Belgrave, 2012). Organizational ethnographer Tony Watson (2011) goes one step further, suggesting that truthfulness should also convey realities to the reader about how the world “works”. In this pragmatist approach to knowledge production, truthfulness tests intuitive understandings about social life, challenges conventional wisdom, and continually questions taken-for-granted or ideologically-grounded assumptions about the world (2011, p. 216) so that readers “would, in principle, be informed to cope in settings like the one described and analyzed” (2011, p. 209). Watson cites Howard Becker’s Boys in White (1977), a classic Chicago School study of medical school culture, as an example of this truthfulness, suggesting that such grounded texts can theoretically teach prospective medical students more about the realities of practicing medicine than textbooks or more “official” materials (Watson, 2011, p. 209). In this sense, truthfulness is about conveying tacit knowledge—what might be known as the “unseen” or “unheard” in situational analysis.
That said, there are a few processes separating situational analysis from its ethnographic counterpart. The first is semantic. In ethnography (influenced by anthropology), the ethnographer studies local cultures, sites, and fields, while borders are of utmost analytic importance. Using “thick description” (Geertz, 1973), ethnographers often narrate themselves entering and exiting these zones, while also contextualizing their own membership status as insiders/outside. The analyst, on the other hand, is more like a sociologist who studies social worlds and situations. In situational analysis, borders are heuristics: The analyst uses binaries between the human/nonhuman, the material/immaterial, and the individual/collective to organize data, using these frames to illustrate how the situation assembles them.

Another difference between the two appears in how they rank and assess specific data. Although both modes of inquiry emphasize the importance of the material and nonhuman, ethnography tends to privilege individual voices and experiences while treating artefacts as cultural symbols that mediate them. Situational analysis also considers voice and experience important, but does so in relation to the artefacts, discourses, and institutions that co-produce them. This is evident in the role each methodology assigns to researchers. Although both the ethnographer and analyst are bricoleurs (Lévi-Strauss, 1962) who collect and assemble data, the former uses “thick description” (Geertz, 1973) to become a culture or community’s narrator while the analyst uses “thick analysis” to inform their role as cartographer (Clarke, 2005, p. xxiii). The implications of these different roles position the ethnographer as someone who tells a story of a community while the situational analyst becomes a guide who leads the reader on a journey through mapping.

**Postmodern cartography: Mapping as an analytic tool**

Maps and mapping are crucial to situational analysis, helping it maintain the spirit of grounded theory while retaining its postmodern sensibilities. Clarke suggests that maps are postmodern artefacts in that they help “rupture” conventional ways of thinking while rendering visible and explicit the (sometimes invisible and tacit) relationships between actors (Clarke, 2005, p. 30). They are also boundary objects (Star & Griesemer, 1989) able to accommodate multiplicity, heterogeneity, and messiness in ways that “can travel” (Clarke, 2005, p. 30). Clarke suggests that their deeply political
nature also helps situational analysts identify the dominant interests, individuals, and discourses that comprise them. In situational analysis, locating who has the power to name a space, draw up the borders, and lay claim to that space becomes no less important than identifying who can/not change that name, where and how those borders move, and whom such claims-making includes/excludes. By helping to unravel a situation’s complexity, ambiguity, and indeterminacy, maps can help the analyst (and the reader) find her or his way.

**Situational maps**

Situational analysis involves the production and analysis of three distinct maps, and draws inspiration from the social worlds/arenas (1978, 1982) work of Clarke’s mentor (and co-founder of grounded theory) Anselm Strauss. The first type of map is situational and lays out the major human, nonhuman, discursive, and ideological elements as well as their respective relationships (see Appendix C). These situational maps help establish order and assist the analyst in drawing connections. In the case of this study, it enabled me to distinguish between collective human actors like public health departments and non-human actors like sexual networking platforms as crucial components of the situation. It also allowed me to consider how a social world’s constructions of these groups might shape informants’ positions and findings. Clearly, public health narratives of the Internet as a unique risk environment shapes both how actors design online interventions as well as how they interact with owners of sexual networking platforms. Mapping also allowed me to examine some of the political and economic elements shaping this situation, with neoliberalism playing an important role in shaping public opinion and even approaches to HIV prevention. This simple map helps the analyst make sense of the situation while making visible to the reader the layers of action and meaning that comprise this situation of networking sexuality and HIV prevention.

**Social worlds/arenas maps**

The second type of map involves the social worlds/arenas involved (see Appendix C). Diagramming the collective actors, key nonhuman elements, arenas of commitments, and discourses, this map helps the analyst identify common areas of concern, the social processes involved, and the material, discursive, and institutional
arrangements at play. For this study, it allowed me to group seemingly unrelated actors and social worlds together into new domains for analytic purposes. It helps illustrate how the process of networking HIV prevention is not only a technical issue, but also something that requires the participation of government and regulatory actors, input from the medical/public health arena, support from the media/communication arena, and expertise from the sexuality arena. Offering a meso-level analysis of the situation, social worlds/arenas maps are also how Clarke addresses concerns regarding grounded theory’s insufficient attention to power (2005, p. 27). On the arenas map (see Appendix C), we see that those who we might otherwise consider to have the most power over health—Health Canada, the Food and Drug Administration, and policymakers—are only peripherally involved. We also see that the more centrally located groups are closely bound to each other, suggesting the need for co-operation and co-ordination. These maps also demonstrate how actors create these worlds through interaction. The networking of sexuality enables the formation of a gay culture of real virtuality actors sustain through social processes like cruising, chatting, and flirting (Chapter 4). The networking of HIV prevention facilitates the informationalization of HIV prevention through sub-processes like classifying, filtering, sorting, and matching (Chapter 5). Actors from the social worlds of HIV prevention and Internet start-ups also facilitate the networking of HIV prevention through processes such as dialoguing, negotiating, co-operating, and collaborating (Chapter 6). Illustrating how structure/process are co-constitutive rather than pre-determined, these maps bring to light how we cannot understand the specificities and dynamics of power outside of the situation itself.

Positional maps

The third map is positional. Charting the perspectives of different actors from various social worlds, positional maps help the analyst trace the major axes of co-operation, conflict, and controversy. This is especially important for teasing out all of the intersecting issues that construct the situation. When it comes to the networking of HIV prevention, for example, we must consider how debates over issues such as causality, responsibility, and leadership shape people’s conception of the situation before them. The degree of influence people ascribe to technology can inform their perceptions of who should be responsible for HIV prevention. If someone believes that the Internet is directly shaping HIV risk and transmission, then they may assign greater responsibility to
business owners than someone who might believe that the Internet plays a marginal role. Consequently, those who believe that the Internet's role is inconsequential may believe that interventions would be more effective if they focused on individual behaviours or systemic change. By mapping these positions, both the analyst and the reader can better understand where people are coming from. This helps keep track of the multiple discourses and dialogues in the situation that structure individual action. This concludes my discussion of situational analysis where I described its epistemological stance, scholarly origins, continuities/discontinuities with grounded theory, and commitment to postmodern modes of inquiry. In the next section, I will situate myself in relation to my study and describe how I gathered and analyzed my data.

**Situating my study**

**Girls who like boys who like boys**

Perhaps one of the most common questions people ask me about my research is why and how I began studying gay men’s sexual health online. Admittedly, it is a challenging one to answer, namely because I am never certain what answer will suffice. The feminist in me will say that it is because I want to disrupt the hetero-normativity of technology research that emphasizes the experience of straight people, while the health researcher in me will say it is because HIV is an important health issue and gay men remain a disproportionately affected group. The technology researcher in me says it is because the situation revives traditional debates about technology and social change in rather compelling ways. All of these reasons are true, but in the spirit of truthfulness I sometimes want to answer, “why not? It’s so interesting” or “what else would I study?”.

Here, I must look to the writings of other women who write about their relationship with gay men to explain what is difficult to articulate on my own. So difficult that even one of the founding scholars of queer theory, Eve Kosofsky Sedgwick—a heterosexual woman who knew only one gay man while she was writing her famous book *Epistemology of the Closet*—once remarked that her own relationship to her subject was “so exotically coarse and demeaning as to challenge recognition, never
mind acknowledgment; leaving, in the stigma-impregnated space of refused recognition, sometimes also a stimulating of the unnamed, the lived experiment” (1990, p. 63). By this, Sedgwick was harkening back to the pre-Stonewall days of gay identity, which was not always uttered but experienced. And while Sedgwick personally distanced herself from the term “fag hag” on the basis that it conjured up too many negative connotations (1998, p. 625), I will use it as a placeholder because I believe the term and the tensions surrounding it have analytic value for this situation.

What is wrong with using the term “fag hag”? Well, everything and nothing at the same time. The reason why many women reject the term is obvious. “Fag hag” is an inflammatory term that has both homophobic and misogynistic connotations.37 It is worth pointing out that although some gay people proudly re-appropriate the homophobic slur of “fag”, it is problematic for heterosexual people to use this term when they have no lived experience of homophobia. And the term “hag” typically conjures the image of an unattractive and overweight woman who befriends gay men because she “can’t get a man” or because she has a pathological desire for men who do not want her (Robertson, 1996, p. 8). This is, as scholar Debby Thompson observes, part of a heterosexist discourse that “substitutes” women’s non-erotic relations with gay men for “real” sexual relationships with heterosexual men (2004, p. 41). In my opinion, it is also related to misogynistic and fatphobic discourses that weaponize beauty to divide and conquer women. In that sense, “fag hag” can mischaracterize and cheapen the real and powerful friendships among women and gay men in society. On the other hand, I appreciate the transgressive and political value in proudly wearing a label that signifies love for and solidarity with some of mainstream culture’s most popular objects of scorn—both gay/queer people and women (Cho, 2002, pp. 37–38). As someone who grew up in the postmodern era of reclamation and re-signification, I see value in that political tactic even though I am ambivalent about uttering the term myself. In a world where people use slurs to bully and silence cultural minorities, sometimes we need loud women willing to shout back and say, “is that the best you’ve got?”.

37 So much so that once when I was at a gay bar with a friend, some gay men casually asked me if I was one. Before I could even answer, my friend hissed back at them, ”No! I’m her hag!”.
The lack of a better and more nuanced term for fag hag is telling. Scholar Pamela Robertson suggests that its absence reflects broader academic divisions between gay and feminist theory as well as between lesbian/gay and heterosexual/lesbian feminist theory, where the politics of difference leaves little room for a discussion of commonalities (1996, p. 8). Deborah Thompson echoes this point, suggesting that the paucity of discussion mirrors the silence around issues such as cross-identification and political alliances. Although Thompson is quick to admit that not all of women’s friendships with gay men are inherently political or progressive, she nevertheless sees the liberatory possibilities of understanding the fag hag as a political figure who identifies as a woman and with the liberation of sexual minorities. This point in particular resonates with me, as does her later point that a fag hag is not simply a woman who has gay male friends but someone who considers gay men as part of her family. “She does not just go [to the queer community] to visit”, says Thompson “she lives there” (2004, p. 42). As a woman who has had gay male friends throughout most of my life and who has often found more acceptance in gay and queer spaces than in heterosexual ones, this describes my experience well. I have a biological family, but I also have what writer Armistead Maupin has termed a “logical family” of people I identify with, who share my views on gender and sexuality. I have gay men in my life who are my husbands/wives, siblings, and children, and the gay/queer community is a group I feel politically attached and accountable to. The reason it has and remains so hard to articulate this is because, as Thompson notes, fag hag identity is primarily a question of affect: “I did not choose fag hag identity; it chose me” (2004, p. 45).

And how fortunate I am that it did. As a straight woman, I do not have the lived experience of being gay, of being made to feel that my sexuality was a shameful secret to hide, and have not experienced homophobia, but I can relate to the oppressive nature of patriarchy and heterosexism. As a woman who grew up with a troubled family life, I knew all too well from an early age that the traditional nuclear family and its attendant values were not for me. I have never been all that interested in deferring to a patriarchal

38 Thompson points out that even more politically-correct terms like “fruit fly” or “swish dish” are also inadequate and offensive, as these infantilizing rhymes and alliterations imply that the notion of women preferring the company of gay men is inherently childish and funny (2004, p. 42).
figure or behaving like a “good”, “respectable” woman should. As an adolescent growing up in a mid-size city that often felt like living in a small town, I rebelled against its conservatism by being outspoken and sexually adventurous—something that provoked intense disapproval from my family, the administrators at my school, and especially my peers. My peers consistently bullied and shamed me for my sexuality, even though in all honesty I never really felt bad about it at all. And I think that nurtured my belief, despite my social environment, that sexuality was an important part of life that people should respect rather than condemn. This likely explains some of my interest in gay culture, since I admire people who regularly defy gendered and sexual norms. Even in 2017 where it has become much more socially acceptable to be gay than it has been in the past, we should not underestimate how difficult it can be to come out and live otherwise. I feel less alone and more comfortable to be who I am when there are other gay people around. Understanding their lives somehow helps me understand my own a bit more.

My lifelong interest in sexuality likely shapes my interests in sexual health, but I also believe that my interest in HIV comes from my experience with anorexia throughout adolescence and young adulthood. While this partly had to do with the ridiculous body standards society imposes on women, I believe that it was more related to how I processed the stress and trauma of coping with a difficult home life. Being the subject of the medical gaze made me intimately familiar with how dominant medical discourses pathologize people and silo health issues. In my experience, doctors diagnosed me as anorexic. The scientific “problem” was that I did not eat “enough” food, and I could cure myself by somehow eating more. Truthfully I began to eat more so that people would stop treating me like an outcast. And it worked, to some extent. Everyone considered me “cured” when I no longer looked “sick”, although it wasn’t until years later that I was able to finally come to terms with it. I believe that my experience with the medical system is connected to the position that some well-meaning people take, where there is the assumption that all gay men need to mitigate HIV risk is “education” and safe sex. Technically speaking, yes, food will help the anorexic stay alive and safe sex will help gay men reduce their risk. But the gap between scientific and social realities can be quite pronounced. For the acquisition of “good health” to be a social reality in both contexts we need to do more.
Examining the causes of health conditions is one important part of the picture, but it is also important to understand the stigma associated with illness. It has been nearly two decades since I was an anorexic teenager, but I have never forgotten the ostracization, monitoring, and public-humiliation I experienced from peers, teachers, and strangers in public spaces trying to “help” me. In the Goffman sense of stigma, my “spoiled identity” of the anorectic reduced me from a “whole and usual person to a tainted, discounted one” (1963, p. 3). While I acknowledge that not everyone who othered me did so intentionally or maliciously, it nevertheless had the effect of making recovery challenging because it intensified my feelings of shame and denial and made me distrust the medical system entirely. Throughout that experience, I often felt like a social deviant who was completely misunderstood and isolated, and sometimes interpreted the poor social treatment I received as a just punishment for the “bad” behaviour of which I was both perpetrator and victim. I recovered, eventually, clumsily, on my own, and have the privilege of now being considered “normal” and “healthy”, but one never forgets the affective experience of being an abject body—the feeling of being gawked at and whispered about stays with you forever. For me at least, this experience made it very easy for me to empathize with the perspectives of people labeled as “at risk” by the medical system. Although as a seronegative person I want to make clear that I do not pretend to know what it is like to be someone living with HIV, my personal experience with illness, stigma, and abjection means that I have a great deal invested in the socio-political dimensions of health and illness.

**Troubling the insider/outsider binary**

So far I have discussed my commonalities and points of overlap with the subject of this study. But I think it is also important to discuss differences and how my difference with respect to gay men shapes my subject position as a researcher. While some of my friends may read me as a distant relative of the proverbial “family” in the everyday world, that identity shifts through the research process. I become an outsider. Outsider research has been extensively discussed within qualitative research literature and common themes that emerge concern issues of access, trust/harm, and knowledge/authority.
Being an outsider certainly made recruitment challenging. As a woman, I did not have the same level of access to gay men’s spaces that a gay man would. Navigating male-dominated spaces can also be challenging for young female researchers like myself. I can comfortably approach gay men in social situations, but the research context makes it different. For all of these reasons, I was very concerned with how others would perceive me entering gay men’s spaces to gather data. This explains, for example, why I examined sexual networking platforms at the level of design and discourse rather than doing online participant-observation, or why I did not directly recruit people from these spaces. Aside from the fact that directly recruiting research subjects on most sexual networking platforms often violates their terms of service policies, I also felt that my presence as a straight woman would be unwelcome and intrusive. I would never, for example, walk into a bathhouse and expect access by virtue of the fact that I am a researcher, and so I reasoned that the same would apply here. I imagine this might be different if I were a gay man, as I might also be a user and therefore have a different relationship to the space and to its members.

For those reasons, I relied a great deal on snowball sampling and interviewed a number of acquaintances throughout the research process. This meant that like me, the majority of my gay male informants were white, young, and seronegative. Although this affects the generalizability of my findings, I tried to mitigate this by ensuring that my informants were at least theoretically representative of the actors involved in the situation. I made some efforts to interview gay men of colour, older men, and men living with HIV, recognizing that categories like race/ethnicity, age, and serostatus are important in shaping gay men’s experiences with HIV and the Internet. Knowing that not all actors involved in the situation are gay men (i.e. people who work in the world of HIV prevention), I also interviewed a number of women and presumably heterosexual men. To answer the question of whether outsider researchers can carry on this type of research, I would say that while it is challenging and requires a great deal of reflexivity, it is certainly possible with sufficient support from the community. I would not have been able to do this work without their kind help.

The issue of outsider access is secondary to concerns regarding trust and harm. Typically when we think about the ethics of recruiting marginalized populations for research studies, we think about the legacy of Tuskegee experiment (1932-1973), where
state actors deliberately deceived poor and uneducated African-American study participants who had syphilis in the name of scientific purity. And we typically think of harm as something that only occurs in a physical sense. But, as Kong et al. (2001) remind us, sexual minorities have also been harmed through the seemingly benign process of the interview. We must recall that historically, heterosexual researchers who studied “the homosexual” as a pathological and deviant figure were the ones studying the lives of sexual minorities. Laud Humphreys’ controversial Tearoom Trade (1970), a study of men cruising for sex in public washrooms, is often cited as an example of how basic ethical standards of informed consent become sidelined when heterosexual researchers become academic Peeping Toms. From early on, this made me acutely aware of the need to establish myself as an ethical, trustworthy person who was not “out” to trick or misrepresent my subjects (Kong et al., 2001). I assumed very quickly the role of what qualitative researcher Norman Denzin has referred to as the feminist communitarian researcher, where building collaborative, trusting, and friendly relations with those I studied was a guiding framework throughout the process (1997, p. 275). It was here that my lived experience as a woman with many gay male friends helped me.

To build trust with my informants and the larger research community, I took an empathic and friendly position. That meant that I tried to make clear to the gay men I interviewed that I was genuinely curious about their experiences with HIV prevention and the Internet, and that I cared about their community and concerns as gay men. I was very careful to draw upon my cultural knowledge to not annoy them with pedestrian questions. Many of my interviews felt more like friendly conversations, and this likely allowed both my informants and myself to feel more comfortable in what is often an artificial and awkward situation. Although taking a friendly stance can sometimes make it difficult for researchers to ask more challenging or critical questions of informants, I believe it was appropriate for this situation. Building rapport with strangers across sexed and gendered lines over such sensitive issues requires that one create a comfortable communicative situation. It would have been difficult to do otherwise.

39 Humphreys was once married to a woman but later came out as gay.
As far as issues around minimizing harm, I did my best by remaining accountable to gay men’s communities in ways that are careful, compassionate, and committed. To protect individual privacy, I have assigned codes to some of my informants. Emotional harm was something else that concerned me a great deal when I began this project. Initially, I was very concerned that some of my subject matter might provoke intense emotional reactions among some informants (Lillrank, 2012). I imagine that it can be very difficult for gay men to talk about HIV or what it is like to experience homophobia and/or racism. I prepared myself for the worst but found that in most cases, people were willing to talk about difficult experiences in a matter of fact way. I thought very carefully about the more emotionally difficult narratives people shared with me and have done my best to do some of those stories justice in this report.

The third major issue surrounding outsider research concerns knowledge/authority. Can and should someone adequately report on the lives of people who have a different lived experience (see Biddulph, 1999; Loxley & Seery, 2008)? Certainly the knowledge I create through this study would differ in some way from that of a gay researcher. Gay researchers possess special knowledge and understanding about what it is like to live as a gay person that I can only learn about second-hand (LaSala, 2003). In his article, “Maximizing the Insider Advantage”, Michael LaSala suggests that lived experience can help researchers develop more appropriate interview questions and help them more easily see nuanced or layered meanings in the data. I recognize this issue when young male students of mine propose class projects on women’s lives. The questions they pose sometimes seem awkward or out of touch compared to situations where young women students study themselves, although I am happy that they are asking them nonetheless. There is no question that being an insider is advantageous in many ways. Common experience can help the researcher build rapport with informants, and it can also help offset the tendency for informants to (generously) spend time explaining tacit knowledge to outsider researchers.

Does that mean that the knowledge I produce as a straight, seronegative woman is automatically inferior? I am not so sure. In the interesting book Improvising Theory (Cerwonka & Malkki, 2007), Allaine Cerwonka reflects on her previous assumption that her mostly-male police officer informants would be more likely to open up to her had she been a man. Concluding that this was incorrect in her case, she notes the shortcomings
of assuming that the most natural or true habitat of informants are those who are exactly like them (2007, p. 29). If we assume that there are so-called “fag hags” in the world that prefer the company of gay men to others, it is not such a stretch to assume that there are gay men who feel perfectly comfortable being in the company of women. I found that many of my informants seemed perfectly comfortable sharing intimate details with me, with one even suggesting that my outsider status meant that I would be less likely to know the specific people he was talking about or even relay gossip in the community. Now, I imagine that is more a matter of perception than reality, but I use this example to challenge the assumption that people will necessarily trust outsiders less.

Being an outsider may even have some advantages. For one, it may benefit the research process. By this, I do not mean to say that it somehow makes an outsider a more “objective” researcher who produces knowledge free of bias. I do not agree with that. My view is that all researchers bring their respective experiences and perspectives to knowledge production, and the notion that outsiders are somehow better equipped for this kind of research than people with lived experience is a strange proposition indeed. Rather than distance bringing objectivity, in my opinion it brings a different perspective. As LaSala suggests (2003), outsider researchers may be uniquely positioned to notice things that may be too familiar or obvious to insiders. The outsider researcher may make explicit some forms of tacit knowledge that insiders may consider common sense. It is important to acknowledge this difference. As qualitative researchers Claire Tinker and Natalie Armstrong suggest, being an “outsider” may not be preferable to being an “insider” but “acknowledging one’s outsider status can help the researcher elicit a different kind of story” (2008, p. 53; see also Bridges, 2001, 2009). To be honest, I wish I had done this more but my own initial anxieties about being an outsider researcher made this challenging. Many of my informants acknowledged it, however, either directly or indirectly (“with all due respect to you young, I’m guessing straight people”, one informant started a sentence). In a number of my interviews, I noticed that my gay male informants frequently compared their experiences to those of women and heterosexuals more broadly. This helped me make connections during my analysis, and I am less certain those kinds of conversations would have come up had I not been a heterosexual woman. For those of us who research the lives of others because we are reluctant to
study “ourselves”, this experience demonstrates how that is perhaps impossible. One learns a lot about oneself through the process.

Let us also consider that being an insider studying one’s community can also be challenging for researchers. Lasala (2003) notes that insiders may become more susceptible to transference when their informants’ difficult stories mirror theirs. I can also imagine it might be difficult, for example, to hear someone discussing a positive coming out story if mine was more fraught, and recall a conversation with one HIV researcher discussing how the boundaries between work and play became uncomfortably blurred every time he visited gay spaces. This had caused him “quite a bit of anxiety” and gave him a sense of being “trapped in [his] own head too much”. He recalls that at one point:

I hated going [out] at night and thinking constantly about how—what are the implications from a research perspective? Who are all these guys? Where are they coming from? Who are they having sex with? When was the last time they had sex, was it here? Are there here frequently? Do they wear a condom all the time? What drugs are happening? Who is doing what drugs? Like, these were all mindfucks the whole time I was there. These are the things that I’m asking. And like all I wanted to do is just get laid.

Comparing himself to colleagues whom he described as being “in the scene but not totally in the scene…[O]ne foot in the door. But also not in that door”, he admired them for living a life he perceived as being “distant enough [from one’s research subject] that it felt comfortable”. From this interview, I learned that while my distance as an outsider researcher generated obstacles and anxieties on my part, it was incorrect to presume that insider research is necessarily an easygoing process.

Another important consideration concerns the extent to which an outsider can help a community (Minkler, 2004). Certainly I am limited with respect to the level of change I can provoke or pursue in gay men’s communities on my own. But I have tried to contribute in small ways, either through volunteering for community organizations or supporting community researchers and projects. I also find that I use my research and findings in my teaching continuously. I explicitly challenge the hetero-normative assumptions underpinning much research about online dating that excludes sexual minorities on the basis that they are somehow much different than heterosexuals. I am not saying that significant differences do not exist among groups of users based on
sexuality (or race/ethnicity), but in my opinion, gay and straight people are not nearly so different that we cannot discuss them together. I also find that my research helps me challenge my own internalized homophobic/heterosexist assumptions as well as the casual and explicit homophobia I observe among heterosexuals. As an outsider, I am very careful to not presume to speak “for” communities, but as a researcher and friend I feel an ethical obligation to speak up when homophobia is in front of me. I acknowledge that many gay men are able to respond to these kinds of provocations, just as much as I reject the notion that marginalized groups should have to fight every battle on their own. There is strength in numbers.

The versatility of situational analysis

Promiscuous data collection

Now that I have situated myself in relation to my study, it is important to discuss how situational analysis informed my data collection. Its flexible and iterative nature allowed me to travel between my primary research sites (San Francisco and Vancouver) several times between February 2013-September 2014, using the data I had already analyzed to inform subsequent collection. This allowed me to be more tentative and provisional about my findings than if I had only one opportunity to enter and exit the field prior to analysis.

Situational analysis also provided me with a framework to collect, interpret, and analyze the diverse data gathered. My primary mode of data collection consisted of semi-structured interviews with 31 people who came from the diverse social worlds of HIV prevention, Internet start-ups, and gay men’s communities. As I mentioned earlier, I recruited mainly through my personal networks and professional contacts, although snowball sampling helped me meet people I would have otherwise never been able to access. I cannot thank my informants enough for their generosity and assistance with this process. Interviews took place mostly in person, although some occurred via telephone or Skype. Informants provided written or verbal consent, and when granted permission I recorded and transcribed interviews for accuracy. I supplemented these interviews with visual and textual materials I gathered from archives (i.e. San Francisco’s
GLBT society, UCSF’s AIDS Research Collection, and the Center for Sex and Culture), libraries, and online ephemera. This helped me both triangulate the data and situate informants’ experiences within broader historical, institutional, and cultural discourses.

Can we talk? Interviewing as method

Given that much of this report is based on interviews, it is worth reflecting on interviewing as method. Interviews are typically “guided conversations” (Schatzman & Strauss, 1973) where researchers draw on the everyday practice of asking questions to direct the conversation toward the specific goal of inquiry (Holstein & Gubrium, 1995; Lofland & Lofland, 1995). Qualitative researcher Steinar Kvale (2007) characterizes the interview as a sensitive and powerful method for capturing people’s experiences and interpretations of the world. By allowing people to share perspectives in their own words, interviews effectively help us translate the lives of others to others (Riessman, 2002). Interviews also help the interviewer achieve a similar depth of knowledge and understanding as members or participants. Going beyond commonsense explanations, exploring contextual boundaries, and grasping or articulating multiple views, perspectives, and meanings, the interview is designed to uncover what is normally hidden from ordinary view (Johnson & Rowlands, 2012). Qualitative researchers Paul Atkinson and David Silverman (1997) locate this mode of knowledge seeking as part of an “interview society” where the interview format across media has become a common trope that frames the cultural production of knowledge and experience. They suggest that we commonly think of interviews as enabling “special insight” into the subjectivity, voice, and lived experience of interview subjects. In the process, the interview becomes a site where interviewer and interviewee create a contextually-bound story (Fontana & Frey, 2005).

These definitions tell us that interviews are about much more than asking questions and getting answers. Mats Alvesson (2011) suggests that interviews also involve creating an order, drawing upon cultural knowledge to structure a situation, minimizing embarrassments or frustrations, managing feelings of asymmetrical relations of status and power, making the other person comfortable, saving face, and getting people to open up and engage in relevant productive talk. It takes a significant amount of
preparation and experience to be able to manage these aspects of the interview. I found that although doing background research and designing interesting questions was vital, I also had to be able to manage social situations and handle interruptions or urgent concerns. Some of my informants, for example, were very busy and I had to be mindful of their time. I also found that despite my proficiency with technology, I had to improvise in situations where my Skype video did not work, the interview space was too noisy to allow for a clear recording, or the batteries on my voice recorder died mid-interview. Improvisational skills are crucial—whether that involves managing technical difficulties or even finding ways to ask questions differently if informants have little to say or seem annoyed/bored. This echoes Steiner Kvale’s claim that interviews seem “deceptively simple” (1996, p. 12) or easy. Although anyone can technically do an interview, it takes a lot of preparation, practice, and failure to do it well.

Interviewing can also be a political act. In their interesting chapter on the politics of the interview, Fontana and Frey argue that interviews are not neutral but always take place in a field of power relations between interviewer, interviewee, and society. They are critical of approaches that treat interviewing as a clockwork orange designed to squeeze the metaphoric juice of data (2005, p. 697). This corresponds to the characterization of an interviewer as an epistemic miner and the conversation as a resource to be extracted (Kvale, 2007). Instead, Fontana and Frey (2005) suggest that politically-engaged researchers ought to see the interview as a moment to advocate and partner for the interest of the group, corresponding to Kvale Steinar’s (2007) characterization of the interviewer as a traveller who follows the interview subject(s) on a journey. Interviewing can also be political when it attempts to give voice and access to people who are otherwise denied them (Atkinson & Silverman, 1997). This can become part of the mission of qualitative research to redress the positivism and prejudice that can accompany quantitative modes of knowledge production. Yet Atkinson and Silverman warn that this romanticized view of the interview as somehow producing more authentic and superior modes of knowledge risks reproducing the modernist logic that a particular mode of inquiry yields stable and “true” facts. Instead of viewing qualitative research as competing for legitimacy with quantitative modes of inquiry, we might be wise to see how each reproduces and challenges old ways of thinking. It is therefore
important to acknowledge the emancipatory possibilities associated with interviews while not over-stating their benefits.

Interviews are well suited for open and exploratory research. Allowing interviewees to express their thoughts freely, the interview does not constrain subjects in the same ways that surveys do. Interviews also provide researchers with more control over data interpretation, since we acknowledge the interviewer as an active co-producer of meaning (Johnson & Rowlands, 2012). Interviews are also ideal for situations where researchers seek to examine knowledge that insiders often take for granted, where there are highly conflicted emotions, and where different people or groups have complicated, multiple perspectives. In other words, where there is friction. Interviews help researchers elucidate the what and how of a given situation. In this study, interviews allowed me to use the knowledge I already possessed through life experience and scholarly research to gain insight into the perspectives of a number of groups. For example, I learned about gay men’s complicated relationship to HIV, and how having high-risk sex does not necessarily mean they do not think or care about it. On the contrary, the lingering association between HIV and gay sex means that, as one informant put it, “there is no gay man that has not considered it”. HIV uniquely mediates gay men’s experience of both sexuality and the Internet. I also learned that the social world of public health and HIV prevention is not a monolith, and that framing public health workers as people who are out of touch with the needs of gay men is not always fair or accurate. Many of the people I interviewed who worked in these areas were gay men themselves, and were much more attuned to their community’s needs than we perhaps give them credit for. It is also worth acknowledging that owners of sexual networking platforms and other Internet entrepreneurs are not uniformly motivated by commercial imperatives alone. Owners and founders have a range of motivations, some of which include creating alternative platforms for people dissatisfied with mainstream spaces/services and using their influence to advocate for the needs of their users. Gay platform owners have been light years ahead of “straight” platforms in considering sexual health matters, something worth acknowledging given that they have no legal responsibility to do so. Given that I was studying how the Internet was shaping sexuality and HIV prevention in terms of subjectivities, practices, challenges, and opportunities, interviews allowed me to examine these issues by asking the people most involved.
That said, there are challenges associated with the interview that can frustrate the process of knowledge production. Interviews can be time-consuming, hard to obtain, and can produce idiosyncratic data (Babbie & Benaquisto, 2009). This was especially true for me, as I conducted my research independently and took a semi-structured approach to my questions. Being an independent researcher also made it sometimes difficult to access people, particularly higher-ups who had busy schedules or did not respond to requests for interviews. The social context of the interview can also compromise the credibility of the data. It is important to acknowledge that informants may withhold or embellish details if the truth is inconsistent with how they would like to be perceived or if they wish to impress the interviewer (Fielding, 1994). This is also known as social desirability bias. Although I imagine this happened in my research, I found there were many times when informants were willing to disclose intimate details about sex and drug use or even share controversial opinions with me. I was also careful not to take every statement at face value (Sandelowski, 2002). This was not necessarily because I disbelieved informants but because I was aware that even when people are being truthful in their responses, the interview asks people to give retrospective accounts where they must actively reconstruct their past in the present moment (Kong et al., 2001). Memories and people’s views change as time goes on.

Another challenge of interviewing is striking a balance between guiding the story and its interpretation. The interviewer must always manage the tension between flexibility and consistency in interviews (May, 1990). Flexibility allows the interviewer to elicit individual stories and the interviewee to tell the story in the manner desired. However, to be able to compare answers between subjects, the interviewer must guide the conversation in a way to produce comparative data. I found this was a challenge, particularly early on during the research process when I was still learning about my subject. To build rapport and share control over the conversation with informants, I often allowed people to “just talk”. This often led to some very interesting stories that ultimately had little to do with the research task at hand. And this can be a problem not only because the conversation may go off-topic, but also because it can unnecessarily prolong an interview and lead to interviewee fatigue. I can almost always tell when people are tired of talking, and try to wrap the conversation up by this point. This, like many things about interviewing, is about trial-and-error.
It is important to note that the interviewer can also compromise the interview process. As grounded theorists Kathy Charmaz and Linda Belgrave (2012) note, it is challenging to ask questions without forcing responses or “leading” informants. This can be particularly troublesome when trying to guide a conversation toward the research objectives. I tried to mitigate this by asking more open-ended questions and giving informants room to disagree with points I made during conversations, but it remains a struggle. I also made significant effort not to dominate the conversation. This is one area where being an outsider perhaps helped. Assuming the role of the “socially-acceptable incompetent” (Lofland & Lofland, 1995, pp. 56–57), I was open and prepared to have my assumptions challenged, and my informants did so regularly.

Another challenge with the interview method occurs when interviewers only hear what they want to (Johnson & Rowlands, 2012). In trying to “get the story”, the interviewer might miss other points that might ultimately be valuable to the analysis and miss shifts, gaps, or contradictions (Lillrank, 2012). Qualitative researcher Annika Lillrank suggests that we can overcome this by actively listening to what others have to say, suspending our perspective to try and understand the situation from the interviewee’s point of view. I think in my situation it was a bit easier to actively listen and take in other perspectives as I knew coming in that people would have multiple and conflicting viewpoints worth considering. When I observed differences of opinion and contradictions, I noted them on my situational maps (see Appendix C) as well as in my analysis.

I will also briefly describe the process of transcription, which I did myself. I transcribed my own interviews, in part due to the cost but also because the process of writing and reading is a crucial part of my thought process. As Steiner Kvale (2007) suggests, transcribing one’s interviews can reveal a great deal about a person’s interview style, recreate some of the social and emotional aspects of the interview, and jumpstart the process of meaning-making. I transcribed some of my interviews throughout the research process, which is a great way to identify one’s strengths and weaknesses when it comes to interviewing techniques. Certainly some ideas came alive throughout the transcription process, making it a worthwhile endeavor. On the other hand, it was very time-consuming. At my fastest, it took me roughly four times the length of the interview to transcribe. This meant that sometimes I spent an entire day
transcribing two 60-minute interviews. A few I did not transcribe because I either had not recorded them or because there was some technological or situational mishap (e.g. background noise drowned out the interview). In short, much like the interview process, transcription is something that can be extremely time-intensive but can also support analysis.

(De)coding the data

I coded and analyzed all data—images, texts, and notes—using NVivo software. Although I was initially reluctant to use it and remain skeptical that such software can truly automate analysis, I agree that it can help us organize and retrieve our thoughts in a much more efficient manner (Charmaz & Belgrave, 2012; Weitzman & Miles, 1995). I coded my data according to the grounded theory tradition, beginning by classifying it according to source: verbal interviews, images, and textual materials. Following that, I classified the data in terms of topical characteristics (i.e. institutions, places, medicines, communication technologies, etc.). The flexibility of the research software allowed me to create as many categories as I saw fit and code data according to more than one category, which would have been significantly more difficult without software. This also allowed me to create more meso-level “action” and thematic categories (i.e. “hooking up” and “experiences with HIV prevention”). During this time, I considered how well these codes “fit” into my interpretation of the situation (theoretical coding), and adjusted some of them around the theory of the network society I explained in chapter 2. I also classified data according to broader historical and political issues within gay men’s communities, coding around categories such as civil liberties, race and racism, and the notion of “gay community”. This helped illuminate how relevant the categories were to the core issues I observed (selective coding).

That said, I did not code absolutely everything and likely could have spent more time refining the categories (axial coding) before I began the analysis process. My decision to stop coding was mainly practical: Like many researchers, I collected more data than I could possibly use and had to be mindful of completing the dissertation in a timely manner. I also found that using research software made it seem less necessary to refine categories continuously. Although the process of coding is certainly a vital analytic
activity (as is transcribing), the fact that platforms such as NVivo allow researchers to collapse categories and retrieve data in many ways (i.e. using basic search, querying specific codes, and juxtaposing codes against each other) made ongoing refining feel redundant. Although Clarke states that coding is imperative in situational analysis, she also recognizes that one need not be dogmatic—she rejects the notion, for example, that there is a right and wrong way to “do” this work (2005, p. 17).

Coding was useful for my analysis, and so was mapping. I am a visually oriented person, and drawing out ideas often helps me make connections in ways that text does not. Clarke states that one does not need fancy software for mapping, and that a pencil and paper will do just fine (2005, p. 303). I personally found using a whiteboard most helpful to start. From a software perspective, one can technically create these maps using Microsoft Word. But I found the program rather slow and prone to crashing. I could not locate mapping software suitable for my needs, and so I created many of my maps using Adobe InDesign.

Although coding and mapping helped me make sense of the data, my analysis was largely interpretive and informed by memos I wrote to myself throughout the process. Memos—“sites of conversation with ourselves about our data” (Clarke, 2005, p. 202)—were crucial for my analysis as I assiduously recorded my impressions throughout the research process, wrestled with discursive conflicts and contradictions (p. 161), and explored new ideas and concepts I encountered in the literature. For instance, I noticed a number of my informants speaking about marketing and brands during my interviews, but it was texts like Geoffrey Bowker and Leigh Star’s Sorting things out (1999), Lisa Nakamura’s Cybertypes (2002), Kane Race’s “Click here for HIV status” (2010), and Sarah Banet-Weiser’s Ambivalence (2012) that helped me make the connections between classification, interfaces, and consumer culture that informed Chapter 5. George Rittel and Melvin Webber’s “wicked problems” (1973) article provided a necessary intervention to structure my ideas when it became clear that I needed to articulate the sometimes messy and complex work of HIV prevention in the digital age. My discussion about the gay culture of real virtuality came partly from discussions with informants about gay life online but also from my observations that the distinctions between online/offline and analogue/digital are perhaps not as clear cut as we imagine.
Likewise, “virtual friction” did not directly emerge from any particular code in my interviews and was not a concept I had in mind as I began this study. Rather, virtual friction corresponded to memos where I observed that the Internet emerged as safe sex norms had already been “eroding” (through, for example, diminished urgency); that it had ignited “tension” among various social worlds’ competing accounts of its role in community and health; and that it was involved in various moments of “inertia” (i.e. bureaucracy) and “transformation” (i.e. collaboration). Scanning through my interview data and the scholarly literature to find an explicit framework to structure these observations proved challenging, which prompted more memoing as a form of conceptual problem-solving. Through memoing, for example, I had identified some of the processes explaining why the Internet had become a site of interest and concern—mainly due to decentralization and privatization. Thinking about these processes in light of the interactions of different social worlds led to my realization that “erosion”, “tension”, “inertia”, and “transformation” were not problems I had to necessarily resolve but were in fact part of a highly complex and messy socio-technical situation I had to explain. Virtual friction became my answer to the underlying question of “what’s the story?”, allowing me to tease out the paradoxes, contradictions, and conflicts I encountered throughout my research. This concludes the second section of this chapter, where I discussed my relationship to my subject as a woman and described my methods of data collection and analysis. In the final section, I will discuss the implications of my study in terms of generalizability, reliability, and validity and end with a discussion of some limitations.

Measuring up and falling short: Generalizability, reliability and validity

Situational analysis was perhaps the most fruitful approach for me and my project, but that does not make it ideal for everyone and everything. Its flexibility comes at the expense of expediency, as moving back and forth between steps requires a great deal of time. This can be economically prohibitive and stressful, especially for graduate students and researchers with limited funding. This methodology would also not be suitable for the researcher who requires everything to be planned in advance. It is intimidating to enter “the field” with a tentative and provisional mindset—even more so when informants (quite rightly) probe you about your project. One also needs to be
certain that they will be able to translate their findings into a cogent analysis—something that concerned me a great deal in the early stages of writing. This also makes dissertation proposal writing challenging—I spent far too long writing and revising the proposal before and during data collection, only to find that my thinking changed the more I read and wrote.

Another limitation or criticism of the methodology is that it produces “shallow” or superficial findings. This often comes from those who understand the goal of research to be theory testing or generation. Even though I had collected a great deal of data and felt confident in my knowledge, I struggled for a long time with finding a central element or theme for my study. True to my postmodern sensibilities, I saw this situation as complex, messy, and demanding more than one way of seeing—because the actors, institutions and discourses involved are so diverse. And although I was drawn to science and technology studies, I found that its focus on physical and life sciences did not account for what I saw in the applied science of public health. In these situations to “convert” people to one’s perspective is less about presenting “evidence” or “facts” than it is about appealing to ideology or even ethical sensibilities. Frustrated by the lack of scholarly frameworks immediately available to me, I instead borrowed sensitizing concepts from other disciplines as points of departure: the culture of real virtuality and informationization (Castells, 2009; Chow-White, 2008) from communication/internet studies, and wicked problems (Rittel & Webber, 1974) from public policy. While not explicit, I have also informed my analysis from modernity theory, particularly Anthony Giddens’ emphasis on its chaotic implications for the intimate sphere (2000) and Zygmunt Bauman’s work on its disruptive liquid state (2000). Together, these concepts helped me identify the friction that exists between “incommensurable paradigms” (Kuhn, 1962), bodies, data, identity, discourses, and practices in the digital age. I have labelled this friction virtual to account for how networked information technologies like the Internet play a uniquely mediating and constructing role in the networking of sexuality and HIV prevention.

And finally, I must acknowledge that situational analysis is probably not the best methodology for getting at the “solid” evidence that my more positivistic colleagues in HIV prevention value. This speaks to issues of generalizability, reliability, and validity regarding qualitative research as a whole rather than situational analysis specifically.
qualitative modes of inquiry, traditionally quantitative measures like generalizability, reliability, and validity are less helpful in assessing the truthfulness of knowledge claims. This is due mainly to the methods qualitative researchers use. Consider a measure like generalizability, which asks to what extent findings would be transferable to other subjects and situations (Sandelowski, 2002). Interviews, particularly those involving a relatively small sample size, tend to be less helpful for producing generalizable results than something like a large scale survey sampling hundreds or even thousands of people (Johnson & Rowlands, 2012). Questions of reliability tend to ask whether a study’s findings would be reproducible at other times and by others (Kvale, 2007). This is also difficult to guarantee with qualitative research, which acknowledges that the knowledge interviewer and interviewee(s) create is contextually-bound (Fontana & Frey, 2005) and subject to researcher interpretation. And finally, we tend to think of validity as corresponding to the truth, correctness, and strength of a statement. Given that qualitative research (especially that with a postmodernist orientation) tends to be suspicious of universalist claims to Truth with a capital T (Clarke, 2012), such measures seem inadequate for assessing the relative trustworthiness, strength, and transferability of claims (Kvale, 2007).

But does that mean we should throw out the baby with the bathwater? Not necessarily. All it means is that we must revisit and readapt such standards for qualitative research. I agree that it would be difficult to generalize from a study like mine, as people’s experiences are so subjective and specific. Time and economic constraints made it difficult for me as an independent researcher to do the kind of deep, extensive fieldwork that an outsider researcher would have to do to generate a larger qualitative sample. But does this mean that my findings are not at all applicable or relevant outside my study? I am less sure I agree with that. From a theoretical perspective, I maintain that we could use aspects of virtual friction to discuss other situations; certainly, the study of friction is as relevant to physics as it is to political conflict, war, and environmental politics (see Åkerman, 1993; Tsing, 2005). The gay culture of real virtuality I discuss in chapter 4 could definitely apply to the formation of a more general erotic culture of real virtuality to explain the contradictions and tensions of sexual life in the digital age. My discussion on the informationalization of HIV prevention in chapter 5 is certainly relevant for the general population public health serves, as I argue that it
represents a new paradigm in public health outreach. From a practical perspective, I am also certain that my findings from chapter 6 with respect to the networking of HIV prevention being a *wicked problem* would be relevant to other networked “problems” like distracted driving (due to text messaging) or revenge porn. They are examples of virtual friction as they are novel, networked articulations of ongoing social issues (i.e. car crashes, blackmail) that seem to require co-operation between actors from the public and private sectors rather than the more seductive quick technical fix. In short, my findings may not be standardized according to traditional demands for generalizability, but I maintain that it would have some transferability and relevance outside of this single study.

As far as the questions of reliability and validity, it would be more appropriate to assess the credibility and trustworthiness of my findings. I have kept this issue in mind as I engaged in the process of constant comparison, asking myself whether my data and observations were credible or plausible among insiders as well as with academic research (Charmaz & Belgrave, 2012; Glaser & Strauss, 1967; Kvale, 2007). I did this through member-checking, which involved sending transcripts of interviews to some of my informants and conducting some follow-up interviews. I also found myself “testing” some of my initial observations by integrating them into interview questions with later informants (Rapley, 2007). As someone who was also actively attending gay men’s health reading groups and conferences throughout my research, I also had the opportunity to gain feedback on my findings from academics and community members. According to qualitative interview research scholar Steinar Kvale (2007), this also constitutes a form of member-checking. And finally, I also checked some of my claims by consulting various comments sections and online forums where gay men were discussing the issues I was writing about. Although this was not the primary way I verified my findings, doing so helped me decide whether my findings corresponded to the reality of gay men’s everyday lives outside my study or whether they were idiosyncratic. So, I would say that although some of my findings are situated and context-dependent, my consultation with the scholarly literature and with other informants suggests that they would not be so out of the ordinary that they would not appear in other studies.
There are also limitations associated with the particularities of this study. Many of my findings are limited to the geographic region I studied. San Francisco and Vancouver are some of the most socially liberal cities in North America and have extensive infrastructure to support HIV prevention and care. They are also cities with strong community-based services that aim to serve the needs of gay men as constituents rather than as abstract populations. My findings are less applicable outside of western liberal-democratic contexts where sexual minorities have legal protections and where there is adequate public infrastructure to support both information technology and sexual health promotion online. Legal frameworks and economic resources profoundly shape the dynamics of HIV/AIDS, as well as what is possible to do online. Culture also matters. For example, in many non-western contexts, terms like “gay” or “queer” do not exist to describe same-sex desire. In places where same-sex identities remain deeply stigmatized or even criminalized, the barriers associated with HIV prevention messaging and outreach efforts become even more daunting. It would be difficult to insert gay-specific sexual health messaging in public media and conduct outreach if gay men are more reluctant to engage for fear of being outed. Finally, in public health settings where online access to sexually-explicit content is tightly-restricted or banned, research and outreach may be even more challenging. In many ways, San Francisco and Vancouver represent “ideal” settings for HIV prevention, although my findings suggest that homophobia and other structural determinants of health simply find other ways to re-articulate themselves.

My study is also limited in its diversity of gay men and other men who have sex with men (MSM). My focus on the experiences of urban gay men overlooks other groups comprised of rural gay men, bisexual men, transgender people, male sex workers, and (presumed) heterosexual men who have sex with men. Homophobia affects all of these groups, but there are other aspects such as geography, gender performance, socio-economic status, and degree of public disclosure that mediates their HIV prevention needs. My project is also limited in terms of racial diversity. My understanding of gay men’s sexual worlds and their HIV prevention needs comes mainly from a position of whiteness, as I am a white woman and the majority of my gay male informants were white. Although I did interview some men of colour who shared insights with me about their experiences and used that knowledge to inform my analysis, I would not presume
that it has anywhere near the depth nor analytic level of sophistication as studies where people of colour are the researchers. Race and racism are crucial drivers of the epidemic and their analysis deserves further development with respect to gay men and online HIV prevention efforts. For the work of scholars who have conducted research on sexual racism online in gay men’s communities, see the work of Paul et al., (2010), Ro et al., (2013), Callander et al., (2016), and Robinson (2015).

Another limitation that became apparent to me was how limited my study of gay men, HIV prevention, and the Internet was without focusing on other media forms with respect to the gay culture of real virtuality. During my research, it became clear how influential pornography is within gay men’s sexual cultures. In some of my interviews, some informants seemed to reject the notion that sexual networking platforms shaped HIV risk behaviours while expressing greater concern over the role of pornography. I excluded pornography from this analysis to keep the parameters of the study manageable and because I am primarily interested in the sexual connections people form rather than their interactions with sexual content online. However, that limits a meaningful exploration of the gay culture of real virtuality with respect to HIV prevention. Pornography has always been an important part of gay men’s visual cultures, and its consumption often coincides with one’s first experience or affirmation of same-sex desire. Pornography shapes everything from people’s definitions of sexual desirability to sexual norms and expectations. And with the rise of user-generated content and participatory media, it is no longer limited to the commercial, mainstream realm. The prevalence of amateur online pornography in both video form and through the regular exchange of sexually explicit selfies or sexts (self-taken nude photos) shapes gay men’s (and indeed everyone’s) erotic cultures of real virtuality in profound ways. Some notable scholars who have studied the role of online pornography in shaping health and desire include Sharif Mowlabocus (2010; Mowlabocus et al., 2013) and Christian Phillips (2015), who persuasively argues that the exchange of sexually-explicit images is what drives gay men to use sexual networking platforms rather than the possibility of meeting up per se.
Conclusion

In this chapter, I have explained situational analysis as a methodology and how it informed my research process. I suggested that the networking of sexuality and HIV prevention are complex phenomena composed of multiple, conflicting, and overlapping discourses regarding desire, identity, science, morality, responsibility, and community. As an unconventional topic of study in my field, it makes sense to me that it requires a methodology able to handle its complexity. Situational analysis appeared to fit that mould. A feminist methodology that borrows from grounded theory’s qualitative research tradition while pushing it “around the postmodern turn” (Clarke, 2005), situational analysis provided the flexibility and openness necessary for studying an emergent socio-technical phenomenon. It required reflexivity regarding how my subjectivity shaped everything from my questions to my findings. This process taught me that the insider/outsider distinction is a complicated one, and that it is not necessarily the case that when we study others we are not learning about ourselves. Outsider research is difficult and has shortcomings, but there are also important scholarly and political implications that emerge when we ask people to lead us into what qualitative researcher Norman Denzin has called “the troubling spaces occupied by others”. “In that [ethical] moment of co-performance,” he writes, “lives are joined and struggle begins anew” (1997, p. 122). Bearing witness to the struggles of others is an important way to challenge one’s assumptions about the world and expand one’s perspective.

Situational analysis also suited the way I think and work as a researcher—with a commitment to those studied, an acknowledgement that knowledge is co-produced, and attention to the silences, omissions, and exclusions in everyday life and research. Situational analysis’ cartographic techniques also suited the creative side of me who thinks in a visual way, helping me use images to communicate my ideas more clearly. I ended this chapter by discussing a few of situational analysis’ limitations. Because situational analysis rejects the notion of a “grand theory”, some might easily accuse it of enabling shallow theoretical formulations. I hope I have mitigated that concern with my own theoretical analysis, and demonstrated how method can be a valuable way to imagine, work with, and build upon pre-existing theory. Methodology matters—it not only helps shape one’s findings and provides a guideline for researchers asking similar
questions, but it also requires researchers to question their assumptions and ask how they know what they do.

In the next chapter, I construct gay sexual networking sites as forming a specific kind of culture of real virtuality for gay men. Building on the work of communication scholar Manuel Castells (2001, 2009), I label this the gay culture of real virtuality and explore it from the vantage point of my informants. What does the gay culture of real virtuality mean to them, and how have the affordances of networked information technologies shaped their experiences? Throughout this chapter, I examine how networked individualism (Wellman et al., 2003), the space of flows, and timeless time (Castells, 2001) can enhance gay men’s experience of physical space while affording them a greater sense of control. At the same time, I examine the contradictory and ambivalent aspects of gay virtual culture, paying attention to how its decentralized and pseudonymous nature coincides with the weakening of some of the positive social norms that encourage more community-minded behaviours. This virtual friction occurs as the Internet destabilizes the social infrastructure, expectations, and norms that gay men have developed in physical spaces, subsequently reshaping their experiences within the erotic social world. For us to meaningfully network HIV prevention for the digital age, we must first understand the digital worlds from the perspectives of those who virtually inhabit them.
Chapter 4. Paradoxes of Connectivity: Cruising The Gay Culture of Real Virtuality

Introduction

In an episode from the first season of the popular American version of the television series Queer as Folk, Emmett Honeycutt, a Southern belle type man who “lets [his] flame burn brightly” (Millman, 2000), finds himself in a conundrum: His cyber-lover, Usemyhole27, proposes that they meet face-to-face. Emmett describes his online experience with Usemyhole27 as the “best imaginary sex [he's] ever had”, yet admits that he is nervous about the meeting because he has not been entirely honest. Telling his friend Ted that he—a self-described “big, nelly [feminine] bottom”—is nothing like the “beefy brutal top” he portrays online under the screen name Pitts9x6, Emmett fears that he will be rejected and feel humiliated over his deceit. Initially, Emmett/Pitts9x6 decides to avoid Usemyhole27 and delete his online account—that is, until Pitts9x6 appears in the flesh and begs him to reconsider. “But I'm a hottie! Everybody on-line wants me,” Pitts9x6 pleads, to which Emmett replies that this is precisely the problem. “They want you, the fantasy,” he laments. “Not me, the real person. It's pathetic; my screen name has more fun than I do!”. Desperate to stay alive in cyberspace, Pitts9x6 proposes a deal: In exchange for keeping him alive, Pitts9x6 will teach Emmett the tricks of the trade and help him transform “from a candy-ass into a stud”. In this cyber-queer homage to Cyrano de Bergerac, Pitts9x6 teaches Emmett how to cruise with confidence and even ends up arranging a face-to-face meeting with Usemyhole27—whom Emmett fears will “open that door, take one look at [him], and laugh, right in [his] face” (Greyson, 2001).

The above example should resonate with gay men who meet others online for a number of reasons. Whether out of nostalgia for the series, the familiar anxiety that accompanies meeting someone face-to-face for the first time, concerns over deception with online encounters, issues surrounding gender performance and acceptance, or
negotiating the multiple versions of ourselves that we all craft online, many gay men can relate to this scenario in some way. Sexual networking platforms give users a sense of freedom to move through the virtual world and behave in ways that might be otherwise difficult to do in physical spaces. Online, users can exist in many places at once and interact with many people simultaneously. Introducing oneself to a stranger also seems less daunting online, as it only takes a click to start a conversation and nothing feels ventured or lost in the process. The lack of face-to-face contact also gives users the opportunity to control their modes of self-presentation, disclosing as much or as little about themselves as they wish. This facilitates virtually uncensored communication where users can share fantasies and desires in worlds they co-create through technological platforms like sexual networking sites. And, as the above example illustrates, such spheres can induce virtual friction when they become just as liberating as they can be restricting. People may be online, but they soon find that the cultural politics of the so-called "real world" do not vanish as soon as they log on. Rather, they virtually re-articulate themselves in a world that exists as a "real virtuality integrated with other forms of interaction in an increasingly hybridized everyday life" (Castells, 2009, p. xxix).

This hybridized everyday life is part of what I term the gay culture of real virtuality that gay men inhabit through their technologically-mediated and produced interactions with one another. Emerging from Castells’ concept of the culture of real virtuality (2009), the gay culture of real virtuality is a hybridized social world fundamentally concerned with gay identity, community, and desire. I will also suggest that the culture of real virtuality (gay or otherwise) is socio-technical space organized around networked individualism, a process describing how digital technologies mediate and support our relationships in the network society (Castells, 2009; Rainie & Wellman, 2012). Made possible by the network society’s reconfiguration of social space and time, networked individualism supports people’s traditional relationships in addition to new ones they form online. Under networked individualism, people become the nodes that comprise sexual networks. These networked represent “communities of choice” (Rainie & Wellman, 2012, p. 125) that coalesce around common identities, interests, issues, and desires. Gay men and other sexual minorities have perhaps always lived in communities of choice, but now these communities also exist online. Whether gay men are looking for
comradeship, romance, or sex, the Internet provides the infrastructure to support loosely bound, far-flung relationships premised on horizontal modes of interaction (see Wellman et al., 2003). Connecting gay men with others near and far through a single click or tap, networked individualism satisfies people’s needs for human connection. Likewise, its ability to sustain multiple, fluid and overlapping types of relationships varying in intensity and duration meets their social needs. The gay culture of real virtuality is equally capable of supporting relationships that are ephemeral as those that are more long-term, just as easily romantic as they are casual or platonic. This ability to connect in diverse ways is important for gay men throughout their lives, with networked individualism offering the benefits of community—namely in terms of socialisation, sex, support, information, advice, and a sense of identity (see Wellman et al., 2003)—in a hyper-individualized manner.

The gay culture of real virtuality also transforms gay men's experience of space and time. Gay sexual networking platforms do not eliminate gay men's physical spaces but rather retain traces of their structures and conventions. In the same ways that bathhouses consolidated the aesthetics of public sex spaces such as parks, restrooms, gyms, and alleys (Bérubé, 2003), the grid-like display of many sexual networking platforms mimics the private rooms of the baths. Such platforms also attempt to reproduce the sociability of the bar scene, with their interfaces displaying a sizeable number of people (usually at least 100) for users to view before clicking on a single profile. Perhaps most importantly, sexual networking platforms also give users an element of perceived safety and privacy in similar ways to those of bathhouses and bars. As an anonymous (or at the very least, pseudonymous) space, the gay culture of real virtuality acts as an enclosure to protect users from the scrutiny (and potential violence) of onlookers in physical spaces. Semi-public platforms require users to sign up in order to see other members, creating a disincentive for malicious people to access these spaces and “expose” others (although it of course happens). Online, users may make assumptions about each other based on their user profiles, but they have no way of knowing what exactly else they are up to online. The gay culture of real virtuality therefore allows people to maintain strategic modes of visibility that permit them to participate in many aspects of gay life while at the same time protecting their sexual privacy. This is as true for gay men in liberal settings who wish to avoid making
themselves the centre of attention as it is for those in more conservative places where being publicly-gay comes at the expense of physical safety and political freedom.

What does the gay culture of real virtuality mean to gay men, and how have the affordances of networked information technologies shaped their experiences? These are the questions I examine in this chapter. I begin by exploring the role of networked individualism (Wellman et al., 2003) in the lives of my informants, demonstrating how the gay culture of real virtuality allows gay men to explore their identities, find support during and after the coming-out process, and mitigate the loneliness and isolation they may experience as sexual minorities. Next, I consider how the network society's reconfiguration of space and time alters interaction within this gay culture of real virtuality. Sexual networking platforms transform users' experience of space by permitting them to separate the act of cruising from traditional socio-sexual spaces like bars or bathhouses. Unencumbered by operating hours and line-ups (“it’s an unbound space,” informant 020 told me), sexual networking becomes a more efficient process that enhances users' sense of control over social situations. Anonymous, asynchronous modes of online communication offer privacy while supporting digital modes of impression management (Goffman, 1959). Users report that such affordances help them put their best foot forward while allowing them to save face in awkward social situations like introductions and rejections. They also give users the impression that they can compartmentalize their worlds, separating their sexual personae from their social ones. “I think it's really hard,” one informant told me, “because people wanna have separate lives, they want to have their place in the community, but they also want to have this sex life and you don't want it to get around and have everyone know” (007, interview). With all of these aspects, the gay culture of real virtuality is clearly an important space that fulfills many of gay men's social and sexual needs.

That said, many of informants were acutely aware of some of the contradictions and ambivalent aspects of the networking of erotic life—particularly when it comes to interpersonal interaction. Networked individualism satisfies their individual needs, but may do so as the social norms that encourage them to treat each other as members of the same community become weakened. Gay men valued the personalized and convenient nature of virtual culture, discussing meaningful connections formed online even as they also expressed concerns about how their participation on sexual
networking platforms contributed to the depersonalization of sex and objectification. Informants enjoyed the immediate, ephemeral, and distributed nature of sexual connection that promoted vulnerability and self-disclosure, even as they also observed how the lack of face-to-face connectivity sometimes facilitated anti-social behaviour. This became apparent when the topic of anonymity came up. The perceived level of protection and privacy informants associated with anonymity shaped their perspective regarding how it enabled others to “hide behind the screen” (023, interview) and engage in cruel or otherwise toxic behaviours that left people feeling cynical and demoralized. By destabilizing the social infrastructure, expectations, and norms that gay men have developed in physical spaces, the gay culture of real virtuality reshapes their experiences within the erotic social world. Without a “map or blueprint for interaction” (027, interview), gay men create their own in ways that facilitate both collaboration and conflict. To borrow from Castells, the gay culture of real virtuality is where men become “entirely captured, fully immersed”, where “appearances are not just on the screen through which experience is communicated, but they become the experience” (2009, p. 404). For us to meaningfully network HIV prevention for the digital age, we must first understand the digital worlds from the perspectives of those who virtually inhabit them.

**Networked individualism**

Networked individualism allows the Internet to act as a vital agent of gay socialization. Performing a similar function to print media and community venues like bars and bathhouses, the Internet is one of the first places where many gay men learn about gay life, experiment with their identities before coming out to their families and peers, and meet their first sex partners (Bolding et al., 2007; Buhi et al., 2013; Franssens et al., 2010; Kubicek et al., 2011; Lelutiu-Weinberger et al., 2015; Magee et al., 2012; Pingel et al., 2013). Online pornography is obviously one way that many gay men begin the process of self-discovery (i.e. where they realize that they are sexually attracted to men), but anonymous chat- and discussion-based forums also play an important role. Such forums allow men to participate in gay culture remotely while also providing an opportunity for community interaction and support. This distinguishes generations of gay men who “came out” with the Internet from those whose first contact
with gay life likely occurred through print media or community venues such as bars and bathhouses (Hammack & Cohler, 2009).

Identity formation

Let us consider the role of the Internet for people still in the process of identity formation and/or who do not identify with mainstream images of gay life. Networked individualism allows people to access more diverse representations of what it means to be gay by connecting with like-minded people. Sharing with me that “trying to find out it what it is to be a gay man with just television was a bit difficult”

Finding out that there are chat rooms is really cool. Or things like LiveJournal and more recently Tumblr, you get this dialogue with other people. It's not just like a top-down version of Looking [a popular gay HBO show]: ‘This is the representation of what a gay person wants. And that's all you're going to see’. Whereas Tumblr is really cool because there is a really strong like people of color or queer men of color or queer women of color group on that website (020, interview).

This was particularly important for him as a young gay man of colour, as both race/ethnicity and sexuality mediate his identity and experiences. For young gay men of colour (and gay men of colour more generally), mainstream representations of homosexuality that do not reflect their identities and experiences feel exclusionary. Meanwhile, the homophobia they experience from the rest of society can intensify this sense of otherness. This makes the ability to access identity-affirming content doubly important. In contrast to popular gay television shows like HBO's Looking, NBC's Will and Grace, and Showtime's Queer as Folk (which feature primarily white, urban, upwardly mobile gay men), the above informant felt that gay online forums typically offered a greater diversity of voices and identities not typically included in mass media. And although the promotional materials of many gay commercial platforms continue to cater to hegemonic models of homomasculinity where whiteness is the “default” setting (Campbell, 2005; Ward & Arsenault, 2012), even they feature a greater variety of representations of gay life than what publics consume in legacy media like film and television. By increasing gay men's access to different kinds of ideas and images related to gay life, networked individualism can help widen the possibilities for representation, interaction, and experience.
Coming out

Networked individualism also gives some gay men the opportunity to control and tier the process of self-disclosure while they are in the process of “coming out”\(^\text{40}\). In the words of my informants, the Internet allows gay men to define themselves and “create how [they] want to be perceived”\(^\text{(020, interview)}\). This networked mode of control is very important for gay men who are still integrating their sexual identities into their everyday lives, giving them an opportunity to do so in a different setting. The Internet also challenges the notion that coming out is necessarily a verbally-based process, as young people in particular may be coming out first online rather than face-to-face (Alexander & Losh, 2010; Bond et al., 2009; Pascoe, 2011). It also calls into question the “public” nature of coming out, as some may come out to their online friends before coming out to their peers and family members (GLSEN et al., 2013). This was the case for one informant, whose connection with other young gay men online gave him the opportunity to “come out” while not forcing him to disclose to his high-school classmates prematurely:

There was that transition period where I could easily meet girls and I was dating really pretty girls and that part came really easy but it also felt really unnatural as I started maturing. It started becoming a little more awkward for me because my maturing self told me, ‘this is not what you actually want’…I came out at a very young age with young being 15, which is pretty young for a gay dude to come out to his family and all that...I was still not completely out to everyone in high school and a lot of people weren’t themselves so I didn’t really have a selection of guys to get to know...Then it went from [dating girls] to online, to online meeting guys who were finally coming out and I was starting to get to know them. And by senior year, I was completely out (003, interview).

Recalling a very formative relationship he formed with another young gay man from another state on MySpace, this informant’s story describes how the Internet can support people as they gradually come out. Adolescence can be a difficult process for many people as they gradually come out. Adolescence can be a difficult process for many

\(^{40}\) “Coming out”, or publicly articulating one’s sexuality, is not a linear event but a complex process that involves acknowledging one’s same-sex attraction, disclosing to a trusted person, exploring one’s sexuality by socializing with other gay or queer people, forming romantic or sexual relationships, and fully integrating oneself into gay life (Coleman, 1983). It is different for every person, but factors such as family dynamics, race/ethnicity, nationality, religion, geography, and socio-economic status can shape this process tremendously (see Mercer, 1993; Weston, 1991; Valentine et al., 2003).
people, but for adolescents trying to figure out their sexual identities, it can become even more complicated. And in gay culture, this not only applies to people who are chronologically young, but people at any age who are coming to terms with their new identities as gay men (016, interview). By giving people the time they need to explore their sexuality, networked individualism allows people to virtually come out in a public manner that afforded them an enhanced sense of privacy and control.

Networked individualism also supports those for whom “coming out” is not an option. For gay men who may not have supportive social networks or who live in communities where being publicly gay is too much of a risk, gay digital spaces permit remote participation in the virtual gay community. Reflecting on the value of social media platforms like the micro-blogging site Tumblr, one informant observed that “even if you’re closeted or whatever, you can go on it for the anonymity or whatever and feel safe...but still get to participate in gay things...So [people] feel safe and included but they don’t have to be out. And I think that’s really important” (020, interview). Online, those who are not publicly gay can anonymously talk with others about their experiences as gay or queer men without worrying about being “outed”. The anonymity of sexual networking sites provides a similar mode of protection. Extending the kinds of safety and privacy mechanisms gay men achieved through bars and bathhouses, sexual networking platforms can offer users a sense of protection from the potential violence, discrimination, and harassment that can accompany being publicly and visibly gay. Admittedly, networked individualism is unable to tackle the structural issues that make disclosure difficult, as its scope is person-centred. However, it is capable of meeting gay men’s more immediate needs for connection, intimacy, and support in a safe and self-directed manner.

Connectivity

Mitigating isolation and loneliness is another important aspect of networked individualism. “Real human connections are hard,” one informant told me (014, interview). For one HIV testing counsellor, “A lot of guys get on there and just chat, you know? Maybe to talk about meeting up, but ultimately like it just ends up in chatting. And so I think it serves a function of social connectedness as well. And kind of reducing
loneliness” (023, interview). In this case, knowing that one can log on and find another gay person to talk to whenever he wants or needs to can be very important at various points in one’s life. Even for those who have positive experiences coming out, some may still feel a sense of isolation—particularly if they live, work, or socialize in venues where there may be few other gay people around: “A lot of people meet their spouse at work. But this isn’t always true for a lot of gay men because there’s not that many going around” (003, interview). This was the case for some of my informants, whose virtual access to the “imagined community” (cf. Anderson, 1991) of gay life helped them during the transition from coming out as gay to living as a gay man:

Oh I mean for me, I was like a teenager and so...And I was living in a smaller town that was pretty conservative. So for me, it was like a total outlet, you know? It was a total connection to the gay community and so it really meant a lot to me” (023, interview).

[It gave me the impression that] it’s normal to be like me...[That] there is life, [a] community for you to join once leaving home” (022, interview).

Maintaining supportive online connections and having access to affirming gay content before, during, and after coming out can help reassure people that it is not only acceptable but good to be gay. This is especially important for gay men who come out and find that their relationships with family members or friends change after the fact (029, interview; GLSEN et al., 2013) Networked individualism thus plays a vital role in helping gay men integrate their sexuality into their everyday lives and develop their own networks of support.

The Internet can also provide opportunities for intimacy and vulnerability that might not be otherwise possible. “Every guy knows the stigma attached to it of how it’s just like a place to go and hook-up”, one informant observed. “So nobody’s going to talk about it like it’s a genuine place to meet people” (003, interview). He is correct. During my interviews and in everyday conversations with gay men, I have heard many people sheepishly admit to meeting a boyfriend on Grindr—even after they know that is my area of study. But genuine relationships do not always need a face-to-face component, and the gay culture of real virtuality allows for intimate connections to form in their absence. One informant spoke with me at length about a man he had been corresponding with on
a sexual networking platform, citing it as an example of how meaningful connections can be forged:

We have been chatting with each other [for awhile] and we've never had sex and we've never met in person. And it's actually kind of unlikely that we will. He is mostly there as a voyeur, mostly bi, doesn't do things much stuff with guys. But there is something profoundly real about him. When we chat, he's a real person. And we tease each other all the time about hooking up. But there's value in that interaction, even beyond that.

And he asked me once, 'if we aren't going to fuck, why are we talking?' and I said, 'because you are real'. And I may have seen a face picture of him, and so, so much of the trappings of it are very traditional, like because of his junk, his body, and not a lot in his profile. But we've been able to interact as subjects.

I think part of it too is that he has a couple of stories he has written that is linked to his profile. But like he was sharing what he was interested in. He was sharing his desires. And that is a vulnerable thing. Not like a 'I'm-into this-checkbox-thing'. But sharing what it would be like (001, interview).

This is an example of the diversity of connections that can happen online. Although sexual communication and the possibility of meeting up face-to-face are common activities on sexual networking platforms, this does not mean that other activities are not possible. Networked individualism not only enables remote participation that would otherwise be challenging, but it also allows people to form intimate connections in ways that are very real.

New beginnings

For other major life events, such as moving away from home for the first time to a big urban centre for school or work, networked individualism can help people build new social networks and learn about the local culture of their new environment:

The sheer size of the gay community might be alienating in some ways just because when you go into a huge new community, its like where do you start, who do you talk to?...When you're in a smaller city, there's one bar, you go to one bar and you meet people. It's more—natural...Being in a large city can be isolating. And being in a large city, having just come out and having moved there, you don't necessarily know where to go (029, interview).
For most newcomers—regardless of their sexual identities—moving to a new city is always a challenge. But for gay men and other sexual minorities, knowing things like which neighbourhoods are gay hubs, which bars and other community spaces exist, and which health clinics have gay-friendly service providers are important parts of integrating oneself into a new city. And although print media like gay guidebooks and community newspapers have historically performed that function (Meeker, 2006), networked information technologies have allowed this to become a more personalized and interactive experience. By enabling gay men to reap the benefits of community at a distance, networked information technologies can help meet their individual needs by providing information, social support, and a sense of connection for them at various points in their lives.

The friction of role-to-role connectivity: A double-edged sword

All of these aspects demonstrate how networked individualism can promote a sense of connectedness, but is it always a seamless process? Let us consider networked individualism and the social implications of role-to-role connectivity. Internet sociologist Barry Wellman suggests that role-to-role connectivity is destabilizing traditional modes of place-based (landline to landline) and person-bound (mobile device to mobile device) communication, transforming people into portals (Wellman, 2001, p. 238). In the gay culture of real virtuality, however, people are not portals but profiles. As a part of networked individualism, role-to-role connectivity allows people to fragment themselves and exist in many places simultaneously. This explains what happens on sexual networking platforms, where people can have multiple user profiles interacting with other user profiles. Role-to-role connectivity also decontextualizes the person. On sexual networking platforms, users are not necessarily presenting themselves or interacting as full, complex people. Instead, user profiles depict a role (see Goffman, 1959) people play that emphasizes aspects of themselves—typically their sexual personae.

In many cases, role-to-role connectivity is a desirable part of the interaction. Informants made this clear to me when I asked them to explain some of the qualitative
differences between meeting someone online and meeting them offline. One informant described this to me in terms of conversational norms:

You could pick someone up at a bar and you're not going to be like,

'hey you're cute'

'Ok I think you're cute too'

'OK so I'm a bottom and don't like oral sex and like unprotected'

But that is the way you start conversations [online] in a lot of cases. So you can tailor your sexual experience without getting locked into it first (014, interview).

For this informant, role-to-role communication allowed him to be more clear and explicit about his desires and establish sexual compatibility before beginning a lengthy conversation with a person. Where this direct style of communication might seem strange in a face-to-face setting, the role-based aspect of networked individualism helps make this a norm.

Role-to-role communication also allows people to bypass some of the social scripts and obligations that accompany approaching someone new in a physical space:

I think guys are online to get their fix. And it just happens to be the most accessible and easy way to do it. And it's kind of straightforward. Whereas if you're an outsider in a bar, you're expected to like buy them a drink, or go talk to them. You have to follow certain social cues in person. Whereas if you're online, and you are on a hook-up app...you know, people are there for one thing. Which is to get some nasty at the end of the day. It's a real big draw. Because there is that potential of hooking up but it's one less barrier than having to buy someone a drink (020, interview).

For this informant, role-to-role connectivity allowed him to focus solely on sex without having to concern himself with niceties and social protocol. When it comes to gay sexual culture, this can be particularly helpful in situations where people designate themselves according to their sexual roles and want to establish compatibility, as the previous informant suggested. For both informants, role-to-role communication helped make sexual communication more efficient.
But did informants always view this in positive terms? My sense was that many of them were ambivalent. One informant shared with me that while he enjoyed the benefits of role-to-role connectivity (“it’s like ordering takeout instead of going to a restaurant”), he also had concerns about why he enjoyed them:

It’s much nicer to be able to just stay home and watch TV and be like, ’you know what? I feel like getting laid’. I can go online and have someone come over and then leave. And then I can get back to watching TV (laughs)! That’s great. And I love that. And it’s a much different thing to prepare yourself to go out and interact with people and talk. It takes a lot of energy. And it’s unfortunate because I think that is kind of lazy (014, interview).

For this informant, role-to-role communication was useful in helping people meet their sexual needs without excessive interruption or social exertion. As a self-described introvert, he valued this while also expressing concern about the social motivations behind his desire to “order in”, so to speak.

Other informants shared with me a similar sense of ambivalence as they valued the ability to connect quickly while wondering about whether it promoted sexual objectification and dehumanization (031, interview). Observed one informant, who told me that he almost exclusively met men online:

You really can remove the human element [when you] just knock on someone’s door, go right to it, don’t say anything. [And] when you’re done, you put your clothes on and leave. And so it is a little different if you picked someone up and there’s a conversation. And there’s some level of recognition that there’s a person (004, interview).

Like others, this informant seemed ambivalent about this process. He valued the convenience and efficiency of hooking up online while he also acknowledged how it can sometimes promote an impersonal mode of connection.

For many of my informants, role-to-role communication was simply part of the unspoken rules that structure the gay culture of real virtuality. “Hook-up apps are made for a reason,” one informant told me:

For people to hook up. There is an understanding or at least an implied understanding that nothing serious is really going to come out of it. Like,
yeah it happens, but it's just mainly people are there to have sex and find someone or some people to have sex with and leave and that's it (020, interview).

When I asked him if he believed that this was the social norm, he agreed. “I mean if its isn't”, he continued, “then you really need to be more fluent in the signs or symbols that you're reading...If someone is going to look for something serious in a hook-up app, I think it's misguided. I don’t want to decry anyone for that” (020, interview).

And while this strategic detachment appeared to be the general sentiment among my informants, this does not mean that confusion, disappointment, and hurt feelings never occurred. “Like I can get someone to come over to my house and there will be hundreds of choices [nearby] and so I don't have to go out and pay cover,” one informant told me:

Like, if my goal is just to fuck I don't have to do all of that socially prescribed stuff before getting to that conversation. I can just start from there. Which is nice because that's what I want sometimes. I think the issue is when that's not what I'm looking for. One thing I noticed a lot, is that it’s a lot harder to see online...And every once in while I come across it where like during or after a hook-up, it’s like ‘oh you didn’t want to just get fucked. You wanted a hug or you wanted to talk to someone’ (001, interview).

For this informant, the casual nature of an online encounter was a satisfying experience if it genuinely met the needs of parties involved. The social distance of the Internet, however, can sometimes make it difficult to gauge and project one’s intentions clearly. This can result in an awkward situation for all parties involved, as it may make one party feel awkward or guilty if another feels embarrassed or upset. It also demonstrates the unpleasant frictions that role-to-role communication introduces when the roles we play online clash with the roles we play offline.

In all of these scenarios, role-to-role communication called for people to decontextualize themselves from their everyday lives and enact their respective sexual personae. Some benefits are that it removes some of the protocol and social obligations associated with in-person meet-ups at bars or parties. And again, while many enjoy pursuing such specialized and fragmented modes of networked connection, this can sometimes make it difficult for people to see each other beyond their sexual roles. The
unintended consequences of role-to-role communication can play a role in sexual objectification, hurt feelings, or a type of cynicism toward the romantic sphere more broadly. This is not to paint online connections with a broad brushstroke one way or the other. Rather, it illustrates one of the paradoxes of networked individualism within the erotic culture of real virtuality: It can connect people and alleviate loneliness by providing important forms of social support, even as the weakening of traditional bonds can sometimes facilitate the opposite.

#ZeroFeetAway: Time and space in the gay culture of real virtuality

In the gay culture of real virtuality, networked reconfigurations of time and space shape interpersonal interaction in important ways. We can see this at the level of the interface, where distinctions between space and time become blurred. On geolocation-based sexual networking platforms, proximity is prioritized (Crooks, 2013). Interfaces display a user’s potential matches according to relative geographic proximity rather than exact location. This happens even when they take advantage of features that allow them to filter matches according to specific criteria like race/ethnicity, age, body type, and so on. Space continues to structure interaction, albeit in a networked way.

This is clear on apps like Grindr, which allow users to articulate what they are looking for in temporal terms. In Grindr’s “Looking For” profile feature, standard categories like “chat”, “dates”, “friends”, and “relationship” are included, while the most striking option is “right now”. A user who selects “right now” is of course looking for an immediate connection with someone nearby.
Here, networked proximity and immediacy go hand in hand. Time also structures user profiles by indicating whether other users are currently online, or how long it has been since they last logged on. Displaying users to others up to an hour after they have logged off, many platforms effectively allow people to virtually inhabit these places even while they are not in front of the screen. The user interface thus re-articulates the dimensions of space and time in the gay culture of real virtuality, structuring it in terms of the here and now.

Timeless time

With physical time loosened, interactions become more flexible and fluid. Supporting both synchronous and asynchronous modes of communication, networked information technologies help users break with the sequential order of practices and make them simultaneous (Castells, 2009, p. 497). In a short timeframe, users can meet online, gauge sexuality compatibility, and exchange details to facilitate a quick encounter. And although this also happens in physical spaces, the gay culture of real
virtuality allows people to converse with multiple people simultaneously. This temporal restructuring introduces what Manuel Castells labels as *timeless time*, a virtual mode of time where immediacy, simultaneity, and timelessness structure human experience. This happens on sexual networking platforms as chat features allow users to send and receive messages instantly, helping them establish connections quickly. Timelessness structures the virtual experience, as these are spaces where opening and closing hours do not exist. People may experience the start and end of this virtual time as they log on and off, but the reality is that this culture of real virtuality operates constantly through user participation. There is no such thing as a slow day or night in the gay culture of real virtuality. These spaces are therefore both eternal and ephemeral, technically existing independently of their users while socially gaining life through their interactions with one another. This translates to the nature of connections the gay culture of real virtuality supports. Online, chat platforms that archive user communication make sexual networking platforms just as capable of supporting quick and ephemeral connections as more long-term and durable ones. The Internet therefore gives users a sense of control over time that is both compressed and elastic.

**The space of flows**

As people’s activities move out of sync in the gay culture of real virtuality, their experience of space also changes. Users, regardless of their geographic locations, become virtually connected to each other by logging onto the interfaces of electronic platforms (see Castells, 2009, p. xxxi). This introduces friction between what Castells labels the *space of places*—physical space—and the *space of flows*. A social space users create through their networked interactions with technology, the space of flows disrupts the physical world’s dominance in structuring sexual experience. This is evident in the fact that sexual networking platforms allow users to seek sex from virtually anywhere and at anytime. What might be difficult to achieve in the physical world—say, gathering 100 gay men across the city at exactly 2 pm on a weekday—is a regular occurrence online. “It's an unbound space,” one informant told me when I asked him to compare sexual networking online to cruising in physical spaces. “Like, the bar is a closed space. You can only go at that time and that date. But here you get access to a whole range of people” (020, interview). With no room capacities, line-ups, or limits on
how many people one can contact in a given moment, the gay culture of real virtuality presents users with the possibility of unlimited opportunities for connection. Users may later find that many offline barriers still crop up during online interactions, but the promise and possibility of limitless communication remain.

Users' experience of physical place also changes. With sexual networking platforms, any space—the workplace, the seat on the bus, the aisle of the grocery store, and even a waiting room—can become a user's own private cruising zone. Smartphones and mobile devices aid this process, serving as what one informant labelled a “tricorder” for other gay men (018, interview).41 Allowing gay men to discretely find out whether other men around them are gay and available, the gay culture of real virtuality does so by layering itself between physical space (Blackwell et al., 2014; Bumgarner, 2013). The space of flows makes it possible for users to find each other and connect no matter where their physical bodies are, transforming gay men's experience of social space both online and off.

How do such affordances shape interaction? For one, these network-enabled configurations of space give users a sense of control over social environments and situations. Many of the informants I interviewed discussed how gay apps allowed users to keep their sexual and their social lives separate:

If you are in a club setting, you are concentrating on that club setting. And sometimes you go with your friends. Your friends might get a little bit out of control, so you have to take care of that person. You kind of miss out on like hooking up or meeting other people. Whereas [with apps], you're in it and you're really like not distracted (020, interview)

[With] that culture of going out with your friends, it's hard to break away from [them] at a bar. I feel that with apps people are trying to break off from their friends and are trying to meet other people. I think we get attached to our cliques (026, interview).

Bars are more social spaces where people are there to see and be seen, and drink and meet their friends. You go with your friends. Sometimes it's hard to meet people because they're with their group. You're with your

41 The tricorder is a device from the Star Trek television show. It is a multi-purpose, hand-held device used for scanning, data analysis, and recording.
clique...So I would imagine that if you are lounging around and not dressed up and maybe you make a connection, maybe not that moment, but some point in the future, maybe that might mean, spend some time to have one-on-one conversation with people without interruption (018, interview).

As a highly individualized and personalized space, the gay culture of real virtuality allows users to remove themselves from their social contexts and interact with people on a one-on-one basis. This can sometimes be difficult in physical spaces where people feel attached to their social groups and cliques, as the excerpts I used above illustrate.

In my interviews with informants, some also shared how being under the influence of drugs or alcohol in bar or club settings also made it difficult for them to establish a connection with someone in these spaces:

I guess if you meet someone in a bar or a club, usually you're drunk or high or something. Like, your judgment or vision could be clouded. So sometimes it's 'I made out with someone last night but I don't know what he looks like'. You wake up the next day like all, 'this is what you really look like'. (026, interview)

So I met this guy at [venue]. He was cute but we were so fucked up. Unless I'm meeting someone through a [sexual networking site], the only times in my life that I've met people just like totally by random I've been not sober. Very rarely. Unless I'm meeting someone through an established connection, if I do meet someone I'm probably not sober. (004, interview)

Going online gave them the opportunity to have a full conversation with someone away from the noise and electric energy of the bar. Informants valued this aspect, as being able to connect in an alternative socio-sexual environment gave them a greater sense of control over interactions.

Informants also felt that sexual networking platforms afforded them a sense of control over time. They often expressed these sentiments in terms of efficiency, where using these platforms to find sex, romance, or something in between meant that they did not have to “waste time” going out to find someone unsuccessfully. Some also indicated that the asynchronous nature of computer-mediated communication culture worked to extend the duration of one-on-one conversations from minutes to hours, days, or weeks. Informants were ambivalent about this, as some preferred to meet up in person rather than “incessant chatting instead of meeting” (007, interview), while others perceived this
as an advantage. Slowing down communication can build intimacy and make the fantasy of a future meeting more exciting. Some informants also shared with me how the deceleration of communication allowed them a greater sense of control over self-presentation. Facilitating a digital version of impression management (Goffman, 1959)—that is, strategically modifying one’s behaviour to control people’s perceptions—asynchronous communication gives users time to craft witty responses, select flattering photos of themselves to share with others, and edit their thoughts before sending them. “That’s one of the luxuries about being online,” one informant told me. “You can wait five minutes to respond to something that’s witty and clever. You can talk about anything and throw whatever out there” (004, interview). Time delays can be advantageous in this situation. It not only helps people put their best digital foot forward, but also makes them feel less pressure to respond right away. This type of communicative control can alleviate some of the anxiety that can accompany striking up a conversation with someone for the first time, where pauses and awkward silences are common parts of the experience. Editing out these moments, timeless time in the gay culture of real virtuality allows many to interact at a speed and pace that meets their individual needs.

The social distance that this creates also helped many of my informants feel more confident in their interactions, as the lack of physical co-presence removed some of the barriers associated with approaching someone online. Approaching someone in a physical space can be a rather daunting prospect, especially for people who consider themselves shy or introverted:

[Meeting someone online is] definitely easier for sure. Because I’m someone who would never approach someone. I could never—it’s too nerve-racking I get nervous. So it’s definitely easier for me to break the ice online. I feel like in person it’s like one-on-one and better. Okay so I talked to you before so I can elaborate more. I think it’s easier (026, interview).

Like if you meet someone online, you can talk a lot before you meet them. Whereas at a bar it’s an awkward situation. Where how do you approach someone, what do you say? People hate feeling awkward… I think it just makes things easier in a way, for some people (029, interview).

One informant, who identified himself as someone unlikely to approach someone in a public venue like a bar (“even in a bar setting, I still just don’t know what to say. I just feel uncomfortable”, he said), told me that sexual networking platforms made him feel that he
had “nothing to lose” by messaging someone. “If there seems like there’s a chance this could be interesting, I’ll go for it because the risk is so low. What I’m losing from talking to you is literally 5 seconds that I would be spending lying in bed anyway”. This was especially the case with someone he might otherwise consider “out of [his] league” because “why not?” (004, interview). With this social distance making some people feel less guarded about starting a conversation with someone, it subsequently felt easier for them to be more open with each other.

This can have positive implications in the arena of HIV prevention, where the lack of face-to-face communication can facilitate more open and honest conversations about sex, HIV status, and HIV risk. Some suggested that online platforms provided a neutral space to have such discussions. They contrasted this against face-to-face situations, where the fear of “killing the mood” may delay or prevent such conversations:

Online, it's easier to ask someone's status or what their safer sex practices are. Versus the moment you're about to do it, it might kill the mood. So that's a good thing (026, interview).

You can ask about sexual practices, even if you might be timid. You can ask about whether people are on PrEP. There is a cultural shift in how people are hooking up (027, interview).

I think the existence of Grindr and stuff like that where people are openly talking about sex instead of meeting in a public toilet or park or whatever—it forces you to sort of articulate stuff in a way that is normalizing sex, I think. At least a little bit. And I think that’s important because it kind of breaks down the stigma around talking about it...It might make people a little bit more comfortable engaging with something like PrEP without feeling like they're going to be called a whore. If you're used to actually saying like, having these discussions through Grindr. I think you can actually articulate what you like sexually (014, interview).

In these scenarios, informants felt that the lack of face-to-face communication was helpful as it allowed them to openly discuss sex and HIV risk with people online. In face-to-face situations, one might be swept away by passion or simply be too shy to discuss such issues right away. Stigma can also play a role, as people may not want to bring up taboo issues for fear of being negatively judged or labelled promiscuous. “I think there’s a lot of shaming around having unprotected sex,” one informant told me. “Some people don’t wanna talk about it. And it’s embarrassing to talk about with a partner
because then you look like you're a risky person and then you feel stigmatized" (014, interview). The gay culture of real virtuality therefore creates opportunities for these conversations to occur, allowing people to practice these skills for face-to-face contexts. The responses of my informants not only demonstrate how much easier it can be to discuss sex online; they also indicate just how difficult they can be face-to-face.

The social distance between people in the gay culture of real virtuality makes it so that people can feel a greater sense of control in other potentially awkward or uncomfortable situations. Consider the process of rejection (“a jpeg is easier to dismiss,” one informant told me). “Online, you sort of get used to putting out a lot of feelers and getting some rejections, being ignored by others,” one researcher told me. “And then having a handful of positive responses. So I think that the notion of rejection or learning how to take a risk in the online environment is really different than it is personally” (021, interview). When it comes to rejecting someone, another informant told me that “the getaway is so easy. You don't like someone, you stop talking, stop responding in the middle of a conversation”. He shared with me how rejection was particularly obvious after rituals like exchanging photos. “After the [picture] exchange, some guys will just stop talking to you or they won't send theirs back. And that's an obvious sign. But you can't just do that in real life. You cant just take your clothes off and be like ‘naw’” (004, interview). The social distance between people in this case allows them to tacitly communicate by signalling. Whether that means suddenly logging off or failing to respond to subsequent messages, users can bypass some of the awkwardness associated with rejecting someone. Those who described the process of being rejected online also described it as feeling safer, with social distance allowing people to save face:

Even if they say no, they're not interested—well it's like, ok, I saved face. I haven't actually seen them in person and there's no way I'm actually showing that it's really disappointing to me. It's safer (023, interview).

I think you're hidden so it feels safer. You can just sort of, like, look at all of the different guys who are available. 'Oh this guy is cute. I'll send him a message'. If nobody responds, it's not like a public humiliation (014, interview).
Here, social distance offers people a type of protection through anonymity and invisibility. The perceived risk of rejection appears to be lower online, with informants suggesting that social distance helped them better manage their emotions in unpleasant or awkward social situations. Enhancing users’ sense of control is vital for promoting their participation on sexual networking sites, as people might otherwise feel vulnerable or exposed.

Spatial reconfigurations online also give people a greater level of individual privacy than they might enjoy in physical environments. This can be especially true for gay men who live in small, densely packed gay communities (i.e. San Francisco’s Castro or Vancouver’s Davie Village) that can sometimes feel like being part of a small town where everybody knows everybody. This “small village” feel can sometimes make it difficult for people to find partners outside of their immediate social circles. As one informant observed:

I think when the community is smaller it seems and feels more incestuous almost...It's just so easy for you to hook up with a friend who's hooked up with another friend. Me and my best friend had that a lot...It just turned out like, any gay friend that I had, I had at least made out with him before...It was kind of like a revolving cycle for awhile (003, interview).

For this informant, online platforms allowed him to branch out from his immediate social networks and avoid some of the awkwardness and tension that can follow when one discovers that a friend has already hooked up with the person they are interested in. Being part of a small community can also complicate casual sex and encourage “drama” or “gossip” among friends, something one informant suggested as another motivating factor for online sex-seeking (031, interview). A user can choose to post a picture of his face or body in his profile to control how recognizable he is to others online. And even if his friends can see his profile on a sexual networking platform, the one-on-one nature of online interactions generally prevents his activities from being completely transparent to them. Many of my informants cited the ability for users to separate their sexual selves from their social selves as a motivation for using the Internet to meet other men:

You can have a quick encounter and not have to have it bleed into your personal life. Whereas if you go to a bar, faces are recognized, it’s partly that (029, interview).
I do think it's nice to have the privacy of going to someone's home. And not have to worry about being seen. You know, if you're out at the clubs every time looking to get laid, people will recognize you and know what you're doing. And they'll really think you're a slut (014, interview).

In these situations, online anonymity allowed people to compartmentalize their social personae and alleviated concerns about being judged or condemned by others. I was surprised by how often this theme came up. As an outsider, I assumed that sexual shaming was a non-issue within gay communities. And although I still find that most gay people are less judgemental about sexuality than many heterosexual people, this finding alerted me to the fact that sexual networking is not simply about convenience; it is also about managing the impressions we give to others.

One thing that makes this management challenging is the fact that the gay culture of real virtuality is not always so easily separated from the “real world”; it is often a part of it. “One of my biggest problems living in the Castro,” one informant told me, “is that I don't know if I've seen [a guy] online or just walking around the neighbourhood. You see people around so much, and you're thinking, 'have I talked to you or do I just see you all of the time?'” (004, interview). Another informant spoke with me about a former boyfriend of his, whom he initially met on Grindr but kept running into on the street until both decided it was time for them to go on an actual date (003, interview). In both of these situations, the gay culture of real virtuality was embedded between layers of the physical world—making it difficult to discern where each one begins and ends. This phenomenon struck me as an inversion of what Internet researcher danah boyd has termed “context collapse”, a phenomenon where people find themselves in the sometimes awkward position of navigating multiple audiences on social media (boyd & Ellison, 2007). Where boyd's notion of context collapse among gay men might occur when a user encounters his employer or family member on a sexual networking platform, the examples my informants offered suggest that it can also happen in the transition from virtual to physical spaces. The networked reconfiguration of space therefore not only shapes how people interact online, but also how they interact in face-to-face contexts.

So far I have discussed the many benefits that the networked shift in time and space offers gay men in their cultures of real virtuality. Providing them with a convenient
and highly personalized way of meeting other men, the lack of face-to-face interaction removes some of the barriers associated with meeting people in physical spaces and provides a greater sense of perceived control over social situations. These were all important benefits even as people acknowledged some of the difficulties associated with online interaction. The lack of face-to-face communication just as easily supports vulnerability and self-disclosure as it can help erode some of the mechanisms that discourage people from behaving in cruel and otherwise anti-social ways. Psychologist John Suler (2004) refers to this phenomenon as the online disinhibition effect, suggesting that the affordances of online communication (namely, anonymity and a lack of face-to-face contact) can negatively influence our digital behaviours.

The freedom of relatively uncensored communication comes at cost when it allows people to broadcast their desires and partner preferences in ways that many deem offensive, mean-spirited and even oppressive. In these cases, the networked social distance between users can make it relatively easy for people to bully others and hurl insults while “hiding behind a computer screen”. “Especially with gay apps, you don't use your face, its just a torso pic,” one informant explained to me. “It gives you [the] freedom to say whatever you want in your profile. I feel like a lot of other people aren't educated [about the] things [that] might offend people [because they] don't affect them” (026, interview). This often occurs around the issue of race/ethnicity where users might employ inflammatory phrases like “whites only” or “no Asians” in their profiles. However, it can also include body type, gender expression, with phrases like “no fats, no fems” or “masc4masc” (conventionally masculine types) also appearing in user profiles (Purdie, 2016). Although users who post such content may argue that they are simply expressing a “preference”, this takes on a different meaning online through what one informant aptly described as a “transparency of opinions” (029, interview). “I don't understand why people are so they feel so compelled to write the description of their dream man in their profile,” another informant said:

Like, are you receiving so many messages from people you have no interest in that you're absolutely overwhelmed that you have to say it from the outset?...Yes there are certain types of people I’m more interested in than others. And races. But why would you feel so compelled to say it? Some people feel like they just can. ‘It’s just a personal thing, it’s just the Internet’ (004, interview).
Suler's theory of online disinhibition suggests that the lack of face-to-face communication prevents us from acknowledging how such comments can be alienating, upsetting, and even damaging for gay men who do not conform to the mainstream ideal—that is, a gay man who is white, young, fit, and hegemonically masculine. Many of my informants cited this aspect as a chief complaint about the gay culture of real virtuality, although it affected some more than others.

For gay men of color, the gay culture of real virtuality can amplify racialized people’s more general experiences with racism from within the gay community. Where racism in physical spaces can be more tacit and unspoken, it becomes more explicit and no less shocking online. This is particularly concerning from a community perspective, as online racism can be divisive and alienating. “When you get a majority of guys [online] saying that they don’t like Blacks, Asians, fems, or fatties,” one informant told me, “there are people who are Blacks, Asians, fems, or fatties that feel disenfranchised in an already fragmented community. Maybe that’s really doing nothing to help the broader gay community” (020, interview). Here, he is referring to the fact that such discourse tends to polarize communities and does little to create an accepting and supportive social environment online. This can put some people in the position of feeling like they do not belong anywhere: “if you see [hurtful comments] over and over again, if you’re part of a group that keeps seeing people like say bad things about them—like, internalizing it—you’re not going to want to be on that app and everything if everyone is saying that about the group you belong to” (026, interview). This can promote a sense of alienation and disconnection among groups seeking acceptance from other gay men. “I think a lot of it has to do with me finally recognizing my space within the gay community or how people see me finally,” said an informant as he reflected on his ambivalence over online cruising. “Once you realize that and you kind of see yourself as either like as fetishized object or just someone who is totally invisible, you just don’t feel good about it at all. Like, you feel really shady about the current state of men in general” (020, interview).

Such negative online experiences can contribute to a sense of exclusion and disillusionment within the gay culture of real virtuality. The Internet certainly has not independently created racist discourse and its subsequent effects, but it helps facilitate it through the lack of face-to-face communication. Without face-to-face communication,
people feel more empowered to share whatever inflammatory opinion they have. Allowing some to “hide behind the screen” (026, interview) while others feel exposed, online anonymity and the lack of face-to-face communication also privatizes the experience of racism so that purveyors of problematic discourse do not see how their speech affects others. This lack of face-to-face contact can make some people feel as if their comments are trivial and inconsequential, while those who feel targeted by them are left to deal with the consequences. Thus, a second paradox of the gay culture of real virtuality emerges: The same social distance and lack of face-to-face communication that promote cohesiveness by allowing people to interact in a more open and honest manner can also cause them to behave in ways that can ultimately be very divisive and alienating. The gay culture of real virtuality is no exception in this regard.

**Conclusion**

Near the end of the *Queer as Folk* episode that I mentioned at the beginning of this chapter, Emmett takes a deep breath as he approaches on Usemyhole27's apartment door. Fearing rejection and humiliation, Emmett is surprised when the door opens and before him stands a handsome, muscular man who does not laugh in his face but states, “I guess I'm not what you expected”. Emmett stutters, replying that he was about to say the same thing. Both men share a laugh and reminisce about their online adventures, with Usemyhole27 admitting to Emmett/Pitts9x6 that he's “the most ruthless pig master [he's] ever talked to”. This statement encourages Emmett to summon his inner “big, beefy top” and he begins issuing sexual commands to him before their in-person sexual tryst begins. In the following scene, we see an exuberant Emmett walking into a club to meet friends. Emmett's screen name, Pitts9x6, re-appears, asking him about his date. “This bottom's on top of the world,” Emmett tells him, “and I owe it all to you”. Although the scene ends with Emmett promising never to delete Pitts9x6 from cyberspace and honing his skills to help his friends succeed at sex and romance, the truth is that it would be impossible for Emmett to actually delete Pitts9x6; they are simply different versions of the same person (Greyson, 2001).

This media example succinctly frames my discussion of what I have termed the *gay culture of real virtuality* because it illustrates some of the themes that came up
during my interviews with informants: How online cultures become sites for people to manage and perform different versions of themselves for different audiences; the openness and candour that a lack of face-to-face communication can support; and the vulnerabilities people project and protect online. I also selected this example because it demonstrates how networked communication technologies have profoundly reshaped the erotic landscape gay men inhabit. Providing opportunities for men like Emmett to live out their wildest fantasies online with others seeking the same, such networked cultures expand the possibilities for interaction at a virtually unlimited scale. Users can log on and have access to a frequently larger and more diverse group of people than they might be able to encounter in physical spaces in a given moment. Privatizing the act of cruising by de-coupling it from physical spaces like bathhouses and bars, the gay culture of real virtuality helps users transform the most banal of places—the workplace, the bus, even the laundromat—into a potential cruising zone. It also helps people bypass some of the awkwardness and protocol associated with picking someone up in a public space, enabling people to put their best digital foot forward while being more direct with each other about their desires. And it does so in a self-directed manner that enables people to share as much or as little about themselves as they choose. The gay culture of real virtuality is not one that is completely separate from the physical worlds gay men inhabit, but rather exists as a site “integrated with other forms of interaction in an increasingly hybridized everyday life” (Castells, 2009, p. xxix) where “virtuality is a fundamental dimension of our reality” (2009, p. xxxi). We can see this in how specific techno-cultural elements shape people’s interactions and experiences, both online and off. They do so in ways that are complex, paradoxical, and ambivalent.

Networked individualism helps gay men reach out beyond their immediate social networks and form connections with people they might not otherwise encounter face-to-face. This can be a vital lifeline for people still trying to figure out their sexuality, for those living in more remote settings, or for those who feel generally lonely no matter where they are in life. Networked individualism reminds us that we are never alone online. It also allows people to reap the benefits of being part of a community in a personalized manner that meets their social needs. It is sufficiently flexible to support a variety of relationships, ranging from those that are long-term and based on shared values to shorter ones based on shared interests or desires. This does not mean, however, that
the experience is friction-free. Although many of my informants enjoyed how networked individualism allowed them to form temporary sexual connections easily, some also wondered whether this devalued the quality of their interactions or depersonalized sex. This suggested to me that although networked individualism has the potential to help people connect in various ways, some of these connections might not always leave them feeling fulfilled. We can easily serve our wants online, but our needs may be more complex.

Likewise, the reconfiguration of time and space in the gay culture of real virtuality also leads to a series of trade-offs. Virtual culture’s immediacy makes cruising a more convenient process while its asynchronous nature allows it to be more user-controlled. The gay culture of real virtuality disrupts the dominance of physical space in structuring interaction, offering people the benefits associated with a lack of face-to-face communication. Anonymity and social distance gave many of my informants a greater perceived sense of control over social situations and rituals. Decontextualizing people from their physical worlds, this facilitated impression management, self-disclosure, and helped people achieve a sense of privacy in a close-knit community. People reported feeling more comfortable connecting with “strangers” online, helping them make intimate connections with others at a rate and pace that worked for them. The same protection that informants valued, however, also served as a point of frustration for some. This became particularly clear when they discussed some of the less positive aspects of online anonymity and faceless communication. Believing that it sometimes reduced people’s accountability to one another or promoted anti-social behaviour, some observed how online anonymity allowed people to bully or say cruel things to others while “hiding behind the screen” (026, interview). With this giving license to some people to air offensive and mean-spirited comments, some informants shared with me the hurt and alienation they experienced as they felt inundated with such content. Online, micro-aggressions are literally in one’s face. This introduces a second point of tension or paradox in this gay culture of real virtuality: While removing the face-to-face element can give people a greater sense of confidence and control over social situations—reducing our sense of vulnerability and exposure—this can also reduce the modes of social control that discourage unkind behaviour, making some people feel more vulnerable and
exposed. The gay culture of real virtuality is therefore a highly ambivalent and contradictory space that tends to evade stabilization.

In this chapter I have examined how two specific aspects of this culture of real virtuality shape interaction among gay men, but we could also move this to other socio-technical aspects like user features and interface design. These socio-technical forms codify our values, attitudes, and beliefs about each other and the world. They allow people to control their own visibility—to be invisible and faceless—as well as others'.

Using the block or filter function available on most platforms, users can literally make certain people disappear and re-appear at their fingertips. How do such features shape subject interaction online when users can filter in and out others based on their race/ethnicity, body type, or age? How does it shape interaction offline when users are accustomed to this practice on sexual networking sites? And why should HIV prevention researchers care?

For HIV prevention researchers and practitioners, considering how the dynamics of power play out in the gay culture of real virtuality could shed light on how the Internet mediates HIV risk and vulnerability among disproportionately affected groups like gay men of colour. Some research suggests that at an individual level, perceived and enacted racism may negatively affect gay men’s self-esteem. Unequal power relationships can shape people’s partner decisions and potentially affect their ability to negotiate safer sex. Some gay men of colour may internalize sexual racism and be reluctant to discuss HIV or condom use with white partners for fear of being rejected, and it is not a stretch to see how such dynamics could also affect online partnerships (Ro et al., 2013). At a structural level, sexual racism can also shape HIV vulnerability by promoting racial segregation that can keep HIV infection contained to specific communities of colour (Paul et al., 2010; Wilson et al., 2009). When HIV becomes concentrated in specific sub-communities or sexual networks, the risk of HIV transmission associated with unprotected intercourse increases despite protective measures (Wohlfeiler, 2000). Further research is required to understand how this phenomenon of sexual racism intersects with other issues that affect the sexual and social health of gay men. While some of this research has taken place in the U.S. and Australia (Callander et al., 2016; Ro et al., 2013; Robinson, 2015), owners of sexual
networking platforms could also consider how the social implications of interface design affect their users.

In the next chapter, I will move from experience to discourse by examining how networked information technologies have reshaped the HIV prevention landscape for gay men who seek sex online. HIV prevention has, to use the language of Peter Chow-White (2008) become informationalized. The logic of computing and commerce intersects with the social world of HIV prevention. Websites, apps, and portals configure users as savvy sexual consumers in an erotic marketplace of choice. Processes of branding, filtering, and sorting emerge among those who seek sex online, and also appear in the discourse of HIV prevention. Here, the once-taboo practice of barebacking becomes serosorting (Race, 2010) while partners using pre-exposure prophylaxis and virological suppression engage in biomed-matching (Newcomb et al., 2015). Treatment activism undergoes a similar transformation, with treatment advocacy and awareness campaigns becoming virtually indistinguishable from viral marketing campaigns. As HIV prevention becomes informationalized and ushers in digitized discourses, subjectivities, and practices, what are the implications of these new socio-technical arrangements?
Chapter 5. Anti-Viral Marketing: The Informationalization of HIV Prevention

Introduction

As the saying goes, all publicity is good publicity. In September 2015, the Los Angeles-based AIDS Healthcare Foundation (AHF) attracted attention after releasing a billboard campaign across Los Angeles and South Florida. Depicting the silhouettes of two couples cameo style, the billboards implied a connection between the use of dating apps and the risk of sexually transmitted infections (STI). In a public statement following the campaign’s launch, AHF’s senior public health director Whitney Engen-Cordova called dating apps “a digital bathhouse for millennials” and claimed that they were making anonymous casual sex “as easily available as ordering a pizza” (Rocha, 2015).

Figure 7: AIDS Healthcare Foundation’s September 2015 Billboard Campaign
Courtesy AHF (2015a)

This was not the kind of viral marketing that Tinder and Grindr had in mind. While AHF stated that their objective was to raise awareness regarding STI and promote testing among young people, its decision to juxtapose the dating companies’ logos with words like chlamydia and gonorrhoea generated pushback from owners. Tinder’s legal
team sent a cease and desist letter, accusing AHF of making “unprovoked and wholly unsubstantiated accusations” intended to harm Tinder’s reputation. Grindr’s response was less dramatic but more direct: Grindr briefly suspended AHF’s paid HIV testing ads from their app and told a reporter it was re-evaluating its relationship with the non-profit (Rocha, 2015).

Tensions ensued, with the notoriously tenacious AHF refusing to back down. In a letter to Tinder’s lawyer, AHF denied making “false or disparaging” statements about the company and argued that public health messages are constitutionally protected as free speech (Boudreau, 2015). AHF justified its campaign by citing a widely circulated Vanity Fair exposé on the sexual habits of millennials online (Sales, 2015) as well as a press release from the Rhode Island Department of Health that documented significant increases in STI infections state- and nationwide. Rhode Island’s press release (2015) attributed the rise to better testing as well as an increase in high-risk behaviours such as “using social media to arrange casual and often anonymous sexual encounters, having sex without a condom, having multiple sex partners, and having sex while under the influence of drugs and alcohol”. Accusing Tinder of trying to “chill [their] public health message” with “frivolous lawsuits”, AHF indicated that Tinder’s popularity with the millennial crowd put them in a “unique position” of influence to promote testing and treatment. More specifically, they suggested that Tinder should embed sexual health promotion content on their already-existing “Safety” section—a practice they argued was “simple and, frankly, the right thing to do” (Boudreau, 2015).

Initially, it appeared as if the conversation between AHF and Tinder was going nowhere. Tinder explicitly denied that online sex-seeking—and its app in particular—had anything to do with rising rates of STI infection. They refused to allow AHF to interfere in their business, which led AHF to follow up with an even more provocative public campaign. In November 2015, after the release of a new CDC report indicated increasing rates of STI infection among youth—the demographic most intimately connected to apps—AHF released a set of billboards featuring “full body” silhouettes of couples. Like the first campaign, the billboards juxtaposed the app companies’ logos with the names of STIs. “Our new Tinder/Grindr STD billboards show that the gloves—and the clothes—are off in our battle for increased STD awareness and prevention,” AHF president Michael Weinstein announced in a press release (AHF, 2015b). The follow-up,
however, was much less exciting than perhaps journalists and audiences were hoping for.

Figure 8: AHF’s November 2015 Billboard Campaign

Instead of a no-holds barred match between public health and private companies, the outcome seemed much more of a public relations kiss and make up. After months of meetings with AHF, Tinder announced that it would add safer sex information to the “Safety” section of its platform—which effectively smoothed over the virtual friction between these groups. Tinder also stated that this section of the platform would provide a link to Healthvana, a Los Angeles-based sexual health app that allows patients to access and share verified STI/HIV test results with prospective partners. Tinder and the AHF followed by releasing a joint statement. “Tinder is proud to empower millions of users to create relationships,” the company’s lead sociologist Dr. Jessica Carbino said. “An important aspect of any healthy relationship—whether formed on Tinder or otherwise—is ensuring sexual health and safety. We’d be delighted to see other major social networks follow in our footsteps in educating the public” (AHF &
Tinder, 2016). Announcing that AHF would take down the billboards, AHF’s Engeran-Cordova “welcomed” the news and echoed Carbino’s statement hoping that other hook-up apps would follow. “They should be commended,” Healthvana CEO Ramin Bastani told the International Business Times,

To take a leadership position on educating their users on health and safety as one of the largest dating sites is huge...We’re empowering people to get access to health results at their fingertips and Tinder is inspiring connections...This is what healthcare should look like in the 21st century (quoted in Flynn, 2016).

For those outside the social world of public health, this may have seemed like a one-off event or turning point in how we approach the field of sexual health online. But for the epidemiologists and social psychologists who have been researching HIV/STI risk and the Internet, the physicians and community practitioners who treat and counsel patients in sexual health clinics, the owners of gay sexual networking platforms, and their gay male users, this was simply business as usual. Carl Sandler’s gay dating platform MR X had formed a relationship with Healthvana nearly two years earlier, while most major gay sexual networking platforms have had a dedicated space for sexual health information for years. AHF’s public scuffle with Tinder was merely the latest episode in a series of technological conflicts, debates, negotiations, and partnerships that have emerged between the social worlds of HIV prevention and Internet start-ups in the 21st century.

In this chapter, I examine some of the subjectivities, discourses, and practices that have accompanied what I am calling the informationalization of HIV prevention. Situating my work in the context of communication theorist Manuel Castells’ and others on identity and health in the network society (2009; see also Chow-White, 2008), I identify informationalization as a prominent sub-process within the networking of HIV prevention. Informationalization comes from Castells’ concept of informationalism, which he suggests has replaced industrialism as the dominant technological paradigm in the network society. Informationalism, according to Castells, is facilitated through the affordances of computing that: 1) enhance the speed, scale, and complexity of information involved; 2) are able to recombine data; and 3) support ubiquity through
decentralization. Informationalization is an intensive socio-technical process that occurs at the level of data, databases, interfaces, and code (Chow-White, 2008).

The informationalization of HIV prevention occurs through sexual health and sexual networking platforms that allow actors—users, public health groups, and Internet entrepreneurs—to input, upload, access, and share HIV-related content online. Examples include online partner notification tools like inSPOT, So They Can Know, Let Them Know, and Suggest-a-Test (Bilardi et al., 2010; Gotz et al., 2014; Ladd et al., 2013; Levine et al., 2008), which attempt to enhance clinical practice by allowing recently diagnosed patients to notify former and current partners anonymously. Data recombination occurs through platforms’ abilities to classify, sort, and filter data, with a common example being the HIV status field on the user profiles of most gay sexual networking platforms. Decentralized, portable, and ubiquitous, the informationalization of HIV prevention makes data and users accessible to anyone, anywhere, and at any time. Health information verification platforms like Healthvana and MedxSafe are an example of this. Made possible by legislative changes to policies like the U.S. Health Insurance Portability and Accountability Act (HIPAA) that allow patients to request their medical health records in whatever form they wish, health care providers can fax test results to the platform, which translates it into layman’s terms. Sexual health becomes an interactive process when users can “unzip” their profiles or “bump” phones to share their results with prospective partners (see special issue edited by Davis & Rasmussen, 2015). We can also see the informationalization of HIV prevention taking place on sexual networking platforms, where owners “build” HIV prevention into their services at the level of design, branding, and advertising. In addition to embedding menu options for users to passively disclose their serostatus, a number of platforms have developed their own sexual health promotion efforts by hiring dedicated staff and developing initiatives around issues like HIV advocacy and stigma.

In this chapter, I will argue that informationalization is not merely shaping HIV prevention in a neutral or socially inconsequential fashion; rather, it is actively involved in its cultural production. By this, I mean that informationalization imposes a structural logic (Castells, 2001, p. 167) where classification, sorting, and filtering become an integral part of HIV prevention research, and advocacy. Where Castells locates a connection between informationalism and computing culture, I extend this discussion to include how
the informationalization of HIV prevention also corresponds to the logic of consumer culture. This becomes evident when we consider the modernization of HIV prevention efforts for the digital age. Under the informationalization of HIV prevention, the discourse of technological empowerment interpellates patient-consumers and informed patients as smart shoppers in a health marketplace. Branding is a crucial activity for owners of sexual networking platforms, whose support of HIV prevention efforts become markers of corporate social responsibility as they codify prevention into their user interfaces. We also see the twin logics of computing and consumer cultures appear in the worlds of HIV research and advocacy. Scientists actively engage in branding practices to re-signify the meaning of once “risky” activities and encode meaning onto novel phenomena. The realm of social media blurs the line between advocacy and marketing as pharmaceutical companies also benefit from everyday conversations and activist efforts. These examples indicate that the informationalization of HIV prevention does more than simply digitize pre-existing efforts in a socially disinterested way.

The informationalization of HIV prevention clearly presents a number of important opportunities to revitalize efforts, but to what end? I conclude this chapter by considering some of the frictions that emerge, particularly when it comes to the codification of serostatus disclosure. As serostatus disclosure becomes a standardized feature on most gay sexual networking platforms, it becomes an expected and anticipated practice that shapes sexual decision-making. I draw parallels between this practice and the legal system, where HIV non-disclosure laws operate according to a binary logic of guilt/innocence, victim/perpetrator, and healthy/diseased. Exploring two contemporary examples of HIV non-disclosure cases where user data from sexual networking platforms became “evidence” to destroy the accused’s credibility, I identify a tension or friction that emerges between public health discourses and the interests of people living with HIV. As recognition over the role of HIV stigma in sustaining the epidemic grows, acknowledging this friction is a necessary aspect of modernizing HIV prevention for the digital age.
In the palm of your hand: Empowering the sexual subject

The informationalization of HIV prevention partly involves mobilizing the discourse of empowerment to encourage uptake of sexual health tools among users of sexual networking platforms. It is worth acknowledging that the notion of empowerment has multiple connotations in the social world of HIV prevention. One occurs at the grassroots level, following the pedagogical model developed by Brazilian educational theorist Paolo Freire (1983). Freire understood empowerment as a social process allowing people and communities to act collectively in order to gain control over their lives and effect change (Wallerstein & Bernstein, 1988). It relies on critical education frameworks, where knowledge comes not just from experts but also emerges organically through consciousness-raising and dialogue. This model involves affected groups at every step of the process—from problem-definition, to developing strategies, to overcoming obstacles. When it comes to HIV prevention, the Freireian model of empowerment is just as much about disease prevention as it is about values such as community connection, self-actualization, quality of life, and social justice. The objective of empowerment in this case is to help people transform their self-perception from helpless victims to engaged actors ready to organize for change.

An example of this model of empowerment emerged during mobilizations by people with AIDS (PWA) during the 1980s. Under this model, people with AIDS defined what empowerment meant for them and mobilized it in their interactions with medical and legal systems. Activists used the discourse of empowerment as a political tool to challenge the notion that people with AIDS were “passive patients” unable to make decisions for themselves. Drafting up documents like the 1984 Denver Principles, people with AIDS rejected the “sick role” (cf. Parsons, 1951) and its attendant discourses of victimization. Instead, they used empowerment to assert their expertise through lived experience and demand autonomy with respect to medical decision-making. Given the lack of legal frameworks to support people with AIDS at the time, self-empowerment movements helped generate a vital mode of political friction that remains an important cornerstone of activism and advocacy. We see this model of empowerment present within many group-level interventions developed for people living with HIV today. While reducing risk behaviour remains one goal, the overall aim is broader. Empowerment in a
group setting helps mitigate the isolation many people living with HIV experience while building a community of support that critically engages with dominant discourses about health and illness (006, interview).

A second mode of empowerment is connected to neoliberal ideology. Neoliberalism is a political, economic, and social philosophy that prioritizes individual liberty and freedom. Emphasizing economic efficiency and minimal state interference, neoliberalism is often attributed to the decline of the Keynesian welfare state and the concurrent rise of Reaganomics in the 1980s (Barry et al., 1996, p. 10; Galvin, 2002). Neoliberal modes of governance involve reductions in public spending, the privatization of public services, and an economically driven push to increase self-reliance and self-determination among people and their communities (Petersen, 2003). In terms of public health, this shifts the allocation of responsibility for health from the state to the individual. Framing health as a personal matter, neoliberal rationality positions people as autonomous actors able to make choices and be responsible for their outcomes (Galvin, 2002). The individual becomes the central agent in achieving change, with this message played out in HIV prevention discourse. “The best way to fight HIV”, the San Francisco AIDS Foundation’s homepage tells us, is by “[knowing] your status”. Gay sexual networking platforms offer gay men similar advice, with a Grindr representative telling a reporter that “the best thing the gay community can do to combat HIV/AIDS is to educate themselves, get tested and know their status” (Harrop, 2014). In this case, people become empowered by co-operating with expert systems and modelling their behaviours on the advice provided. Empowerment encourages people to keep themselves in good health, with the aim to ultimately reduce demand on the public health system (Harris, 1994). Assuming that “an ounce of prevention is worth a pound of cure”, the economic rationale behind HIV prevention is that investing in preventative efforts will ultimately decrease health care costs in the future. Empowerment becomes a means to an end, rather than a goal in and of itself. Under the informationalization of HIV prevention, however, the distinctions between grassroots and neoliberal models of empowerment become complicated.

Empowerment discourse plays out vis-à-vis the informationalization of HIV prevention by mobilizing two kinds of subjects. The first is the figure of the informed patient. Initially borne from patient groups and educational efforts established during the
women's health movement and mobilizations by persons with AIDS, the informed patient is a political figure who challenges the medical system's paternalistic control over knowledge and care through self-education (Feenberg, 2010; see also Epstein, 1998). States Lancet editor and author Dr. Richard Horton (2003):

The most fundamental change between past and present medicine is access to information. There used to be a steep inequality between doctor and patient. No longer. As people understand the risks as well as the benefits of modern medicine, we increasingly desire more information before we are willing to rely on trust to see us through. This need to be transparent about what doctors know (and what they do not), to engage in a consultation on closer to equal terms with patients, has changed the way medicine is practised (2003, p. 40).

Horton's statement reflects a general assumption about the democratizing role of technology in modern healthcare: that access to information will fundamentally reshape the world of medicine by empowering patients to participate in their care on a more equitable basis with care providers.

The discourse of the informed patient supports the spate of sexual health apps on the market. Consider the platform Healthvana. Telling a reporter that they want to “eradicate the idea that no news is good news” (Murray, 2014), founder Ramin Bastani created a sexual health app that returns laboratory test results to users no matter the outcome. Made possible by changes in HIPAA laws permitting users to sign and request medical documents electronically, the app initially began by requesting faxed results from clinics on their behalf and converting that information into encrypted user-friendly information (Truong, 2013). Healthvana takes into consideration the anxiety many experience while waiting for test results and satisfies their desire to access information as soon as it is available. It also allows people to verify a user’s status rather than rely on information that may be inaccurate or outdated. Combined with the ability to literally access one's medical records and share test results from the palm of one's hand, sexual health apps like Healthvana give patients a sense that they are in the driver's seat when navigating the healthcare system.

The second figure to emerge in this discourse is the patient-consumer. Like the citizen-consumer, the patient-consumer is a contemporary liberal figure whose access to and participation in the medical marketplace through consumption is politicized (Banet-
Weiser, 2012; Mold, 2010). Described as the “Yelp of HIV/STI testing”, Healthvana allows users to sort and filter testing venues according to specific criteria (i.e. clientele or location) and leave patient reviews. In the name of improving accountability and providing a voice to patients who have received poor treatment from health care providers (something which is unfortunately very common for gender and sexual minorities\(^{42}\), this feedback mechanism can serve an important incentive for clinics to improve their practices while expanding people’s options.\(^{43}\) As Bastani told one reporter, “Healthvana empowers you to make better health care decisions” (Gaitan, 2015).

The discourse of the patient-consumer is also intertwined with narratives of empowerment, choice, and convenience that offer patients a sense of control. Health apps that expand people’s access to their personal health data are an example. “[It’s] consumer empowerment. Once you have access to your data, you see your latest results. You Google it… I think you smarten up and gain control” (013, interview). Sharing with me some common scenarios where such access might be useful—such as when visiting multiple physicians or tracking one's fitness regime—the founder suggested that increasing accessibility could potentially enhance public health by helping providers make more specific recommendations to patients. This comment reminded me of how online retailers like Amazon track consumer activity as a way to understand how to better advertise goods and services to their customers. Under the informationalization of HIV prevention, empowering patient-consumers encourages them to become “smarter” shoppers when it comes to both their healthcare and their sex partners. “In the not too distant future you’ll be able to see a badge on someone’s dating profile showing [their] verified STD status,” Healthvana founder Ramin Bastani told Scientific American. “That can help you make better decisions about how you want to connect” (Maron, 2013).

\(^{42}\) “Discrimination is still a huge issue within healthcare”, one informant told me. “Like even within the public health setting. Doctors are, you know, we put them on this pedestal like they have all the answers but really sometimes the worst culprit” (006, interview).

\(^{43}\) Healthvana has since evolved from a direct-to-consumer platform to a B2B (business-to-business) model. In 2015, it partnered with the AIDS Healthcare Foundation and is now used in a range of sexual health clinics as a patient-provider communication tool (Flynn, 2015; Versel, 2015).
Empowering users through technology suggests a win for all parties involved—the state, care providers, and individuals. At a time when cuts to public health infrastructure means that there is “less to do more” (011, interview), technology can help streamline services. It can also help care providers communicate more efficiently with patients and can give people tools to support informed decision-making. But do all parties equally stand to benefit? The first thing to consider is whether using networked information technologies to navigate the healthcare system comes from the needs of patients or from the desires of institutional or industrial actors. Critical health scholars like Alan Petersen (2003) invoke the words of Foucault by suggesting that subjects do not always invent these self-management practices but that they are often “proposed, suggested and imposed” (Foucault, 1991, p. 1) by one’s culture, society and social group. This means that although giving patients greater access to information and data can be helpful (indeed, they may want and enjoy it), we may be underestimating the interests of public and private actors in doing so. Platforms that encourage people to share their personal health information online can create volumes of data that can shape public decision-making and generate revenues for tech companies that sell aggregated user information or targeted advertising to actors from the pharmaceutical and insurance industries (Albright, 2016; Klosowski, 2014).

This can also put sexual health platforms in a difficult position. One founder put it to me like this: In the absence of being investor-backed or generating revenues through public health contracts, selling data to third parties may be a platform’s only viable option for survival. One founder explained to me that a number of third parties from data, insurance, and pharmaceutical industries had contacted them, offering to buy their user data or asking them to share a list of service providers and make introductions on their behalf. When trying to get a sexual health enterprise running, such entanglements can present ethical dilemmas for founders: “Is this selling out or not?” the founder asked. “How do I do responsible corporate partnerships, given that’s where a lot of the money is? How do I position myself regarding another organization giving me money to give them good PR? How do I feel about giving that organization good PR? Is that a responsible thing to do?”. While the founder believed that “making a lot of data public” had a social benefit, they preferred that data be shared with members of the general public or researchers. “Not like, ‘hey, you guys deserve this because you’re paying for it’”
(012, interview). The informationalization of HIV prevention and sexual health can therefore be double-edged. Platforms and users may benefit by gaining access to important data, yet may also lose control over what happens to it afterward.

A second issue to consider is whether the benefits are equitably allocated among individuals. Petersen (2003) points out that the consumerist narrative of the patient positions people as abstract, rational decision-makers “unencumbered” by factors such as their social locations, skills, financial resources, and personal and family commitments. In the marketplace, markers such as sexuality, gender and race/ethnicity are points of difference marketers use to segment audiences for advertising purposes. In society, however, these factors can be markers of inequality and explain why people are not making decisions about their health on equal footing. The ascent of consumer ideology within the realm of health may therefore obfuscate the asymmetrical power relations—what public health calls social determinants—that ultimately shape outcomes. There is no question that patient-consumers have power and that having more choices can help enhance people’s experiences with healthcare. But when we distil the acquisition of “good health” into a series of consumer choices, what happens to the conversation about health inequities? Can the informationalization of HIV prevention help the most vulnerable members of society? What difference does the informationalization of HIV prevention make for the social worlds of users, public health, and Internet entrepreneurs?

Filter & sort: Branding HIV prevention

So far, I have discussed how the informationalization of HIV prevention mobilizes empowerment discourses to configure individuals as sexual health entrepreneurs in an erotic marketplace of choice (see Adam, 2006). But this is not the only site where HIV prevention borrows from the marketplace. Indeed, the logic of branding and advertising—of “borrowing from brands” (Banet-Weiser, 2012)—has long played a prominent role in the field. In the 1980s, the San Francisco AIDS Foundation hired gay advertising and marketing executives to develop their campaigns. Relying on market research techniques to inform their efforts, the San Francisco AIDS Foundation was an early adopter of social marketing (Brier, 2011, p. 56). Borrowing from social science
fields like anthropology, sociology, social psychology and communications, social marketing has a specific focus on group behaviour, individual motivations, target audiences, and media strategies (Manoff, 1985). It is also based on social exchange theory, as it encourages publics to substitute one behaviour for another (Cheng et al., 2011; Hastings, 2007). Over the past decade, the field of social marketing has shifted some of its initial emphasis from a focus on downstream (individual-level) interventions to also include upstream (structural/ecological) approaches (Cheng et al., 2011; Lefebvre, 2013; Vega & Ghanem, 2007). This means that governments and actors from the private sector are increasingly becoming involved in these efforts.

Social marketing uses the same techniques used to sell consumer products to "sell" behaviour change to publics. “It's like how Coca-Cola or Pepsi advertises their stuff,” one informant observed, as he explained to me the importance of using erotic images in gay men’s HIV prevention materials to elicit attention and promote memorability (018, interview). Another informant explained to me the rationale behind promoting HIV testing through social marketing campaigns, positioning it as an “easier message to sell” in comparison to promoting other HIV prevention practices. In a public health social marketing campaign, the target behaviour becomes the product, the barriers or objections to adoption its price, the mode of dissemination as the place, and publicity techniques as promotion. Promotion is a particularly important component of a social marketing campaign, with marketers attempting to generate buzz or discussion about the proposed “good” for sale among publics (for an example, see Lombardo & Léger, 2007). Social media plays a crucial aspect in promotion, as it allows organizations to leverage its two-way affordances and engage publics in conversation. It has an added benefit when users then share campaign content with their peer networks on platforms like Facebook, potentially helping messages “go viral”. Although social marketing campaign actors generally want publics to respond positively to their messages, messages that court controversy or backlash are not necessarily perceived as a negative outcome. On the contrary, being able to generate attention and stimulate conversation often become markers of a social marketing campaign’s success.

Advertising is another important strategy in online HIV prevention efforts. The highly competitive online attention economy is one reason for its prominence. For example, even though HIV prevention groups can technically communicate with publics
for free on social media platforms like Facebook, they still need to pay to promote their content. This is because platforms' algorithmic structures privilege paid content in users' content streams (030, interview). Maintaining visibility is vital in an information-rich mediascape when there are so many other competing demands for attention. “I think we process so much information on the Internet and our phones,” one informant told me. “A lot of this stuff gets lost. Like the signal is so temporal. So most everything you process is noise. So the signal might be like, ‘be safe, wear condoms, etc.’. But that might resonate with you, but just for a sheer second because you have 85 emails coming in and tweets” (007, interview). Being able to distinguish oneself from the visual “noise” is therefore a crucial aspect of online health promotion.

Another explanation for the use of advertising comes from the user policies of many sexual networking platforms. With most platforms’ terms and conditions prohibiting third parties like from initiating contact with users, these policies make it challenging for HIV prevention groups to communicate with them otherwise. Such policies are mainly designed to ward off spam and minimize user interruptions, as adding unnecessary friction to a user experience is bad for business. For HIV prevention actors, purchasing advertising space to promote a study or raise awareness about a specific issue becomes a less invasive way to reach out to people. We can compare this to receiving a direct message, where users do not always have control over who messages them. The message content could be virtually the same, and yet the latter feels more personalized. This perception may also be partly related to the different norms of online environments, where the ubiquity of advertising is a norm within the digital landscape. “I don't see the problem in having an ad,” one informant told me. “I think that's not a huge deal”. Users may sometimes be annoyed by advertisements, but have also become accustomed to ignoring them or paying for ad-free memberships.

Owners have also taken steps to support online efforts by enhancing access for prevention groups. Scruff's Benevolads program, for example, offers free or reduced-cost advertising for non-profits, which is an important service given that the public sector rarely has the level of funding necessary for large-scale promotion (Chan et al., 2016; 019, interview). In cases of serious outbreaks or other major community concerns, a number of platforms also augment the reach of public health groups by sending notifications to their members (019, interview). This becomes a standard part of
corporate social responsibility practices, which allow companies to “do well” by “doing good” (Banet-Weiser, 2012). “We have an ethical responsibility to make health-related information a part of the experience,” MR X CEO Carl Sandler told a reporter. “That includes testing and information and access to resources” (McGarry, 2013). In a Huffington Post Live webchat, Scruff’s Chief Product Officer Jason Marchant echoed this claim: “We at SCRUFF feel that we definitely have a social responsibility to do what we can to make our users informed not only of potential risks but also of the resources that are available to them, be it for testing, prevention, treatment or support—be it for HIV or any other STIs” (Edmunds, 2015). Discussing Grindr’s partnership with Gilead to promote PrEP awareness (Cheves, 2015; Merevick, 2014; see also fig. 9), Grindr CEO Joel Simkhai told a Vice reporter, “We have this opportunity to speak to our users, and we can do this and we should be doing this...Our guys are on the app all the time. We are probably one of their most-engaged mediums that they pay attention to. So why not promote sexually transmitted infection prevention?” (Jaafari, 2015). With the recognition that their platforms have a great deal more reach and influence than most HIV prevention organizations, owners who participate in efforts have the opportunity to both support the health of their communities and earn good publicity in the process.

Figure 9: Mockups of PrEP messages sent to Grindr users

Courtesy Grindr (Merevick, 2014)
The presence of HIV prevention messages on sexual networking sites was an issue I discussed with some of my informants. When I asked them about their opinions on the matter, responses were mixed. Some said it was important for sexual networking platforms to be supporting efforts:

I think it's really about basic corporate social responsibility of these companies...It's basic, the right thing to do. And I think it's an important start and, yes, I'm glad that that they're doing it (007, interview).

I think it would be good for Internet sex-seeking websites to incorporate public health issues that so not only to urge people to get tested but also to let them know they can get more information about HIV or different STIs. It would be really great because as much as people are there to seek out partners, it's really important to also tell us what the consequences of the risks or what the risks involved in the activities are that we're going to be partaking in. I know that with these websites their main concern is probably just driving ad revenues up, but they have to factor in consideration of the audience, the high-risk activities that these people are partaking in (020, interview).

Yet they also acknowledged some of the difficulties with inserting HIV prevention messages in these venues:

Like if [public health] messaged me, or had a profile, I think it would be good if I needed to ask questions I'd know where to go. But online, [people] might not be interested in getting it on Grindr...I feel like those people wouldn't be looking (026, interview).

As a community, we have had so many outside sources telling us, really like getting into our very private part of our lives. And its been necessary, don't get me wrong, but I think at least for myself and I think, I would say like a lot of gay men are kind of fatigued. You know, it's kind of like, 'ok, get out of my sex life' because now there are other HIV prevention tools and I'm empowered to use those, that no, I don't really don't want to see that kind of stuff on Grindr, you know what I mean? Like if I wanted to seek out that information, I would go somewhere else. So I think it would be fair to say probably I'm not the only one who feels that way (023, interview).

This is the thing—I think the disconnect between online dating and prevention is that when you're horny and trolling for dates or sex or whatever, the last thing on your mind is HIV prevention because it's the last thing you want to think about. It's kind of a mood-killer, you know? (007, interview).

One informant even shared with me his concern that as someone who had grown up extremely afraid of HIV, the messages might do little to resolve those fears (008,
interview). “I always wondered with HIV prevention, especially for communities that are really hard-hit, like if sometimes the message out there is creating a sense of helplessness,” another informant observed. “Of like, ‘well it’s going to happen anyway to me, because obviously so many other people are getting this and now they’re like posting on this site for me’. I just wonder if that perpetuates the disease in a way. Or the spreading of it in a way. Or risk-taking behaviours” (023, interview). These anecdotes illustrate some of the tension and ambivalence that follows the informationalization of HIV prevention.

The informationalization of HIV prevention also appears through branding. Branding is a familiar practice for tech companies, who regularly create brand identities for their platforms in order to segment audiences into niche publics for further marketing purposes (Campbell, 2005). For example, even though gay sexual networking platforms are technically accessible to anyone who has a device with Internet access, different platforms cater to different users/audiences: Platforms like MR X and Daddyhunt primarily serve gay men over 30 and the younger men who love them; SCRUFF and GROWLr are designed for the bearded and hirsute set (also known as bears, cubs, and otters); and Grindr and Hornet are marketed to the millennial crowd. Grindr and SCRUFF also allow users to brand themselves according to their gay subcultural affiliation, with options such as poz (HIV-positive) existing alongside other identity markers such as daddy, leather, jock, and twink.
Branding filters into HIV prevention when we consider how platforms use it to
deal with the issue of HIV disclosure. Platforms like Grindr, Hornet, and BBRT offer menu options for users to classify themselves according to traditional serologic categories like (HIV) Negative and Positive and even specify if they are using pre-exposure prophylaxis (“on PrEP”) or are virologically suppressed (“undetectable”).

An acronym for "bareback real time", BBRT is a website where users specifically seek partners for condomless or bareback sex. One informant described it as “one of the least discriminatory of sites. Everyone on there knows what they're getting. It's a site not necessarily for poz guys. But it's so broken down. Your status. My status. What I'm looking for. So on and so forth” (006, interview). The presumed audience for this site are seropositive men seeking other seropositive men, although there are certainly seronegative men who also seek sex in this venue.

A user who identifies oneself in this manner is someone who is using pre-exposure prophylaxis. Pre-exposure prophylaxis is a medication regime designed to prevent seroconversion. Currently, that regime involves Gilead’s Truvada, which is an anti-retroviral that is also used to treat and manage HIV. Media and popular discourses often compare it to the oral contraceptive (Race, 2016).
This comes from the recognition that serostatus and viral load have become important crucial objects within the context of online sexual negotiation for many gay men (023, interview), and that providing menu options for disclosure acts as prompts that can help support choice, informed decision-making, and risk-reduction. Both Grindr and Hornet also give users the option of adding the date of their last test to their profiles. This could be an important part of boosting gay men’s sexual health literacy, as focusing on serostatus alone can compromise the efficacy of risk-reduction practices—especially in scenarios where people presume their partners are seronegative:

You know, I’ve definitely hooked up with a lot of guys and a lot of the time I’ll ask them what their status is, and they’ll be like ‘oh I’m negative’, and I’ll ask, ‘oh when was your last test?’, which is a question that I think a lot of people don’t ask. And they’re like ‘2 years ago’. I mean if they say that, its like ‘ok, well your result is not valid’ (014, interview).

Often, I think a lot of people don’t know to ask those other questions. And they don’t know, ‘oh, there’s that window period’ or, as far as they’re concerned, they’re like ‘ok he’s negative; he’s tested recently so he must be negative’. But I think that’s what driving a lot of new infections (023, interview).

I think the idea or the problem is that a lot of the science gave kind of a false sense of security to negative guys saying ‘I don’t need to be protected because this guy is also negative’. Without really going through the discussion of ‘when was your last test?’, or ‘what did you do since then?’ (021, interview).

Presuming a partner’s serostatus without asking further questions can certainly compromise the efficacy of serosorting among HIV negative people, especially given that many researchers now believe that a number of infections happen at the early or acute stage of HIV infection. At this point, the virus is very contagious and may not yet be detected by standard HIV tests. Resembling the practice of stamping an expiry date onto a consumer good, digital timestamps on dating profiles become an educational

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46 In HIV treatment and care, undetectability refers to the viral load of a person living with HIV. A viral load is a measure of the amount of HIV in a person's blood, with the threshold set at anywhere from less than 50 to 200 copies of the virus' genetic material (RNA) per millilitre (Wilton, 2013). This does not mean that the virus has been eliminated but that it cannot be detected through conventional diagnostic testing. Undetectability both slows disease progression and significantly reduces the risk of HIV transmission (Canadian HIV/AIDS Legal Network, 2014, p. 5).
intervention tacitly reminding users that a declared HIV status is only as valid as the date of the result.

User features also play a role within the informationalization of HIV prevention. Consider the search filter. Although sexual networking platforms filters have long allowed users to select possible matches based on criteria such as age, height, weight, body type, and even race/ethnicity (Strudwick, 2016), serostatus is beginning to emerge as a filterable option as well. On Hornet, for example, users who disclose that they are living with HIV are able to filter their results according to people of the same status (Robbins, 2014). This affordance incentivizes online serostatus disclosure and potentially enhances the user experience for people living with HIV by facilitating serosorting. Yet when applied across an entire population of users, it takes on a different meaning. Although platforms like Adam4Adam and Manhunt presently allow users to search by serostatus (Reeders, 2016), Grindr generated controversy when it surveyed users about adding a serostatus filter to its interface. Much of the gay blogosphere responded with concern over how this feature could exacerbate and normalize HIV stigma by creating a digital serodivide where users living with HIV might be rendered invisible to others (Reeders, 2016; Robbins, 2016; Rodriguez, 2016). Some also expressed concern that such a feature might give seronegative men a false sense of security, as serosorting is less error-prone among partners who have already been diagnosed as seropositive.

Grindr’s response to the controversy was interesting. Feeling the heat from this virtual friction, a spokesperson explained to Mic.com that Grindr developed this survey to assess user attitudes toward online disclosure as a way to inform future efforts involving stigma reduction and support. “Sometimes,” the spokesperson said, “this involves asking uncomfortable questions” (Rodriguez, 2016). As a result, Grindr ultimately opted not to add this feature. Instead, it implemented changes providing more options for users to disclose their HIV status and their “default” sexual position (i.e. top or bottom). This scenario illustrated two themes relevant for the networking of HIV prevention: 1) how easily interface design decisions can shape and even inflame the sexual politics of a community online, and 2), how friction can help generate meaningful resistance and intervention into technological development. Although Grindr often receives a great deal of criticism in the gay press, it is commendable that they both consulted with users and incorporated their feedback into their redesign.
It is worth noting that although using filters is optional, the design and affordances of many sexual networking platforms indirectly encourage their use. A user who does not purchase a paid subscription is usually limited in terms of the number of possible users he can see at a given time and even how many he can block from contacting him. For example, the free version of Grindr limits results to the nearest 100 while restricting the limit on blocked users to 10. Its premium version increases this number to 300 and allows subscribers to block an unlimited number of users (Apple, 2017). This is relevant because sexual networking platforms are part of an erotic economy where efficiency is paramount. The purpose of logging on is to establish a connection (sexual, romantic, platonic) as quickly as possible, which creates an incentive to use filtering and blocking options (Woo, 2013). The consumer logic structuring this practice becomes clear when we consider the aesthetic similarities between online sexual networking and online shopping (see also Heino, Ellison, & Gibbs, 2010). The interface of most e-commerce platforms typically contain sorting and filtering mechanisms that allow consumers to limit their results based on criteria such as product category, size, brand, and colour (see fig. 13).

The example provided below—a screenshot of a website from the Canadian gay male retailer Priape—is interesting because it bears a striking resemblance to the grid used on sexual networking platforms. Even though gay men have long categorized and classified themselves according to their sexual styles and subcultural affiliations (Campbell, 2005; Mowlabocus, 2010; Wright, 2001), codifying difference through the interface makes filtering and sorting a novel practice in the digital age. Raising questions regarding how it structures users' modes of self-presentation and interactions, it allows the twin logics of computing and the market to come together in rather unexpected ways.

47 There are some important distinctions worth pointing out. First, Grindr's terms of service expressly forbid users from posing in underwear in their user profile photos without also showing their faces (Editor, 2010). Second, there are more "headless torsos" (photos without pictures of faces) on Grindr than its promotional shots suggest. Torso shots represent one way users can preserve privacy and anonymity while communicating desire in this semi-public venue.
Sexual health and sexual networking platforms are not the only place where the informationalization of HIV prevention appears. It also appears within the realms of science and advocacy. This becomes clear when we explore how the logic of the computing and consumer cultures intersect through branding practices. Consider the scientific process of nomenclature—of naming. Scientific actors are continually engaging in (re)branding practices when new biomedical developments require them to recode previously “risky” practices and identities in the name of accuracy and precision. The practice of serosorting is one example. In 2006, scientists began using this term to describe what they had previously labeled as “barebacking” (Berry et al., 2008; Race, 2010; Truong et al., 2006), or unprotected anal intercourse. This emerged from public health's observation that the number of new HIV infections remained relatively stable despite gay men reporting elevated rates of high-risk sex and STI transmission. Challenging the logic that situated condomless anal intercourse as the riskiest thing a person could do in terms of HIV, this phenomenon demonstrated that some people were
not behaving “recklessly” but in a strategic, calculated manner. Namely, some people living with HIV were mobilizing knowledge about their condition to “hack” the condom code and reduce their risk of transmission using alternate methods. Researchers observed that this mainly occurred through people limiting episodes of condomless anal sex to people of the same serostatus, pushing scientists to distinguish this phenomenon from so-called “risky” and “reckless” sex. Mobilizing the language of data and code (Chow-White, 2008), serosorting has emerged as part of the new lexicon of the informationalization of HIV prevention. With the Internet facilitating serosorting, it transforms itself from a site of risk to one of rationality.

This rebranding has not gone unnoticed. In his critique of HIV science, scholar Kane Race observes that:

while barebacking and serosorting clearly overlap, and may actually refer to the same practice, they proclaim quite different positions in the field of sexual morality, revealing how risk discourse is filtered through more traditional moral categories. Where barebacking foregrounds desire and sensation, and is not always explicit about the concern for HIV prevention that also informs the practice, serosorting foregrounds prevention and risk avoidance (2010, pp. 150–151).

Here, Race discusses how nomenclature changes the meaning of specific acts. Presuming a level of intentionality on the part of sexual actors, re-branding barebacking into serosorting transforms it into a rational practice (2010, pp. 151–153)—and along with it, the resistant identity of the barebacker into the scientifically legitimized one of the serosorter (see Castells, 2004). In this form of conceptual assimilation (Latour, 1988), digital branding also becomes how scientific actors assert ownership. Where barebacking is part of the gay vernacular popularized by the adult entertainment industry and gay men living with HIV, the language of serosorting places it firmly within the domain of science.

Serosorting is not the only datafied practice that emerges in HIV prevention discourse; the language of matching appears as well. In 2015, researchers from Northwestern University published a mixed-methods study describing a novel risk-reduction strategy that relied on both the Internet and pharmacological HIV prevention methods like pre-exposure prophylaxis (PrEP) and virological suppression (Newcomb et
By re-branding practices from “risky” to safe, the informationalization of HIV prevention helps re-brand certain subjectivities as well. Consider the biosocial category of “undetectable”. Until the mid-1990s, people could only serologically classify themselves in relation to HIV according to the binary of positive or negative. This changed with the debut of effective anti-retroviral therapies, which made it possible for people to achieve virological suppression—or, in other words, to maintain an undetectable viral load.\textsuperscript{48} Put simply, maintaining an undetectable viral load (“being undetectable”) means that the quantity of HIV in a person's blood has dropped to the point that they are likely to have a near “normal” life expectancy.\textsuperscript{49} Maintaining an undetectable viral load also reduces people's chance of transmitting to a partner to effectively zero, regardless of whether they use condoms. Being undetectable is a marker that a person has successfully adhered to their regime and their body has

\textsuperscript{48} While many HIV/AIDS histories herald the release of HAART as the major development of the 1996 International AIDS Conference in Vancouver, fewer acknowledge that this conference was also where scientists unveiled technologies that could accurately measure the number of copies of HIV in blood plasma. For exceptions, see Race (2001) and Rosengarten (2009).

\textsuperscript{49} The shift from the idea of seropositivity as a risk to seropositivity as preventative has so far coalesced around three major events: 1) The 2008 Swiss Statement, where the Swiss National AIDS Commission advised clinicians that a virologically-suppressed person cannot transmit HIV to their partner; 2) Data reported in 2011 from the HPTN 052 study of 1763 serodiscordant heterosexual couples, where those who initiated treatment early were 96% less likely to transmit to their partners; and 3) Data reported in 2014 from the ongoing PARTNER study of 767 serodiscordant couples, where 40% of the couples were gay men and where none of the already virologically-suppressed partners transmitted to their partners during the first 2 years (NAM, n.d.).
responded well to treatment and care. According to dominant discourses about health, this would communicate that a person who becomes undetectable is a “good”, “responsible” patient who has adhered to their health regime and is no longer a “threat” or “risk” to the health of others. The undetectable subject becomes “safe” so long as they remain biomedically-contained (see Race, 2001).

Re-branding identities also has a political dimension. HIV/AIDS advocates and non-profit organizations have been actively rebranding undetectability from a status to a political identity as a way to enhance HIV literacy and challenge stigma. This is important in a landscape where attention-getting headlines like “Undetectable is the new 'negative’?” (Duran, 2014) or “Is 'undetectable' the new safe sex?” (Grindley, 2014) can create a great deal of confusion. A few of my informants expressed some of the practical challenges associated with assimilating the new language of undetectability into everyday understandings of sexuality, health, and risk:

So the new age of undetectable— what does undetectable mean? Is it the new negative? Is it the new 'in remission'?...If someone decides to Google undetectable, what does that mean? There will be one article that will say ‘oh, so undetectable is no risk’. ‘Undetectable is HIV negative’. Undetectable is, you know, like blah blah blah...Just as much good information as there is online is there's tons of misinformation (016, interview).

We literally have guys coming in here and saying, ‘so my boyfriend is HIV-positive and he is undetectable. And I would like to start bottoming without a condom. And I'm on PrEP. Can I do that?' (002, interview).

Yeah, I think there’s still a lot of guys in this city who don’t know a lot about HIV. And so there's still a lot of stigma around that. So even if someone is undetectable, they'll still be like ‘sorry, you’re still positive so I'm not fucking with you’ (023, interview).

A lot of people are saying undetectable is the new HIV negative...and there’s like lots of new things happening but not everyone is aware of things. Especially if you're a young gay guy and where you grew up and what information you have. Getting this information, like it’s available online but you don't know where to look. So how do you get people to look? (026, interview).

The digital environment can be particularly challenging in this regard, as its decentralized nature means that past information is not always so easy to revise or update. Eye-catching headlines are helpful in generating Facebook likes and Twitter
retweets, but they do not guarantee that audiences read and engage with the rest of the content. Therefore, even when the information is accurate and accessible, the online form can make it difficult to ensure people will invest their time consuming it.

Online social marketing campaigns become one way of educating publics and generating conversations about undetectability. An example is AIDS Vancouver’s “The New Face of HIV” campaign. Attempting to raise awareness about virological suppression, the campaign’s logo features an animated red HIV/AIDS ribbon that gradually turns white. With the changing colours depicting the effects of anti-retrovirals on one’s immune system, the campaign refers to this as a “powerful visual metaphor for our project’s goal of rebranding HIV for the post-treatment era” (AIDS Vancouver, n.d.). West Hollywood's non-profit The Stigma Project (stigmaproject.org) uses similar branding strategies in their work. In addition to creating a number of eye-catching memes designed to educate and promote HIV testing for the millennial crowd on social media, the project also launched their “HIV Neutral” campaign. The anti-stigma campaign addresses the biomedical realities of living with HIV in the 21st century as well as the shame, fear, ignorance, prejudice, and discrimination that remain (MacAulay & Wang, 2016). Similarly, the Connecticut-based World Health Clinicians have designed the “HIV Equal” (hivequal.org) social media campaign to challenge stigma and promote HIV testing by “creating a social art movement that changes the way people talk about HIV and which reopens the national dialogue about HIV”. Inviting celebrity spokespeople to pose for glamour shots and hosting HIV testing events where they invite participants to be featured in the campaign, the group’s posters feature the tagline “Everybody has an HIV status. We are all HIV equal”. Undetectability performs both a scientific and social function in this regard, becoming both a legitimizing identity (Castells, 2004) to prove the efficacy of virological suppression, as well as a project identity (Castells, 2004) that challenges dominant social discourses of contagiousness and danger surrounding people living with HIV. In this situation, the Internet becomes the terrain where rebranding becomes both a mode of public education and a way to “sell” anti-stigma messages to publics.

Anti-retroviral medicines are also experiencing a digital life of their own. Consider the discourse surrounding pre-exposure prophylaxis (PrEP). As is the case with many new scientific developments, a great deal of community uncertainty and controversy
initially surrounded its promotion, uptake, and use. Some of PrEP’s critics expressed concerns regarding its efficacy, necessity, sustainability, and unknown long-term side effects. Many of these stakeholders represented a community with experience in gay men’s health and AIDS activism concerned with the limitations of “getting drugs into bodies”. Such critics have also expressed concerns regarding inequities in access, with many questioning the ethics of drug companies offshoring clinical trials to nations where it is unlikely that participants will be able to access treatments after the study ends (Patton & Kim, 2012). Perhaps unsurprisingly, these critiques have received much less public attention than those criticizing PrEP use on moral grounds (see Race, 2016). In these cases, PrEP emerges as simply another way to promote “promiscuity” among gay men already “apathetic” about HIV. AHF president Michael Weinstein’s reference to PrEP as a “party drug” (Crary, 2014) playwright and activist Larry Kraemer’s suggestion that seronegative users must have “rocks in their heads” to take a daily anti-retroviral (Tharrett, 2014), and blogger David Duran’s (2012) since-retracted characterization of PrEP users as “Truvada whores”50 are examples of discourse that elicited a great deal of attention and further polarized discussion.51 Pitting the figure of the “responsible” gay male subject who abides by the “condom code” against the “reckless” and “irresponsible” one who uses PrEP as an “excuse” to bareback, these controversies set off an online firestorm that provides a glimpse at what HIV treatment advocacy looks like in the digital age.

Under the informationalization of HIV prevention, treatment advocacy takes on a branded and digital dimension. “Truvada Whore”, the widely-discussed buzzword that appeared as a headline in David Duran’s initial piece criticizing PrEP users ultimately set the stage for the beginning of a grassroots social marketing campaign. Perceiving this as a sex-negative form of “slut-shaming” (014, interview), some gay men began politicizing their consumption by proudly reclaiming the title of “Truvada Whore” both online and off. San Francisco PrEP advocate and HIV testing counsellor Adam Zebloski turned his outrage into online activism, responding by creating his own online advocacy and fundraising campaign. Designing and selling blue t-shirts printed with the hashtag

50 Truvada is the drug company Gilead’s brand name for the HIV drug Tenofovir. Truvada treats HIV, but can also effectively prevent HIV transmission.
51 Both Kraemer and Duran have since changed their stances.
#TruvadaWhore, Zebloski donated the profits to local HIV/AIDS organizations. In an interview with Out.com, Zebloski explained that he selected the colour to match the same shade of blue as Gilead’s Truvada tablet and thought a social media campaign would be an effective way to disseminate his message (Glazek, 2014). Selling some 200 shirts but influencing the discourse of countless people online, Zebloski’s #TruvadaWhores campaign helped create a type of brand awareness attached to advocacy, with the Internet playing a crucial role.

Social media and traditional standalone websites have played a particularly important role in supporting community discussion, education, and advocacy. One informant from a community-based organization shared with me their observation that Facebook had became an informal advocacy platform for some of PrEP’s early adopters:

In San Francisco, the early adopters have been talking about PrEP in terms of access to PrEP—either through the demonstration project, a previous research study, or through primary care providers. And, in the last quarter, four months or so, I’ve noticed that the conversation about PrEP on Facebook has changed pretty radically. Where it used to be more shame-based. Or like, ‘oh there’s so many barriers—that would never happen’ (002, interview).

My informant attributed the shift to social media where it gave PrEP advocates and service providers an opportunity to engage with gay men and help them make an informed decision. This also happened through stand-alone websites like PrEPFacts.org. Created through a partnership between the San Francisco AIDS Foundation, the San Francisco Department of Public Health, Project Inform, Be the Change, and other local health agencies, community providers, and advocates, PrEPFacts came after groups observed that there was “a lot of misperception or information gaps about what PrEP was and what PrEP wasn’t. And there was a lot of negativity surrounding this HIV prevention strategy that hadn’t even officially left the door yet” (009, interview). This was particularly important after the FDA approved Truvada for PrEP in 2012. From one informant’s perspective, the published research:

wasn’t consumer-friendly or digestible. Because [it was] just like iPrEx and 44%\textsuperscript{52}! [There was] a lot of numbers, [there was] a lot of terms that people just weren't

\textsuperscript{52} In the iPrEx study, seronegative men who had sex with men while using Truvada reduced their risk of HIV acquisition by 44% compared to those who took a placebo.
used to. And to me, PrEP is kind of this game changer with how we talk about sexual health and how we talk about HIV prevention. So we didn't have the language—we didn't know how to talk about it (009, interview).

The website became an online portal to help groups translate complex scientific findings to publics as they arrived and act as an information resource. From a website evaluation perspective, this was a success. Sharing with me some findings from web analytics, they found the audience was global and that users were “staying on the website for over 3 to 4 minutes, which in terms of website performance is kind of astounding” (009, interview). Although it can often be challenging to measure the effect of both social media and standalone websites on individual uptake and use, there is no question that the Internet acts as an important space to support information, education, and decision-making.

Here is another moment where the complexities of the virtual world appear: Although there is obviously an important public health benefit to enhancing sexual health literacy online, it is also true that pharmaceutical companies benefit from this free promotion. Until the fall of 2016, Gilead had not done any direct-to-consumer advertising for PrEP. They had donated funds to various AIDS Service Organizations to develop consumer-friendly web portals like PrEPFacts.org, but had no official marketing campaign in place at the time. Instead, early promotion came in the form of word-of-mouth marketing by enthusiastic social media users who shared stories about PrEP and discussed it with their friends and colleagues online. It is worth mentioning that the actual tone of the content users posted did not matter in this regard. Whether users posted messages in favour or against PrEP use, their online contributions played an integral role in promoting Truvada awareness among gay men (Pulsipher et al., 2016). When it comes to the informationalization of HIV prevention, perhaps it is true that there is no such thing as bad publicity.

**Codifying disclosure: Binary logic & its unintended consequences**

So far this chapter has explored the dominant discourse behind the informationalization of HIV prevention—that new information technologies will modernize the field by empowering gay men to take control over their sexual health and make more
informed decisions regarding their sexual partners. This discourse aligns well with mainstream HIV prevention advice that emphasizes “care of the self” (cf. Foucault, 1981/2006) through frequent HIV testing, status disclosure, and uptake of novel prevention technologies such as PrEP. I have also focused on how the informationalization of HIV prevention converges the logics of computer and consumer cultures, with classifying, sorting, and filtering becoming prominent activities. The logic of branding appears in other domains like science and advocacy, with the Internet helping scientists and activists re-signify once “risky” identities and practices into “safe” ones. The Internet is thus a productive technology that helps generate new discourses, practices, and subjectivities through its use in the field of HIV prevention. An important question to ask is, who does the informationalization of HIV prevention empower? And who becomes disempowered in the process?

An important thing to consider with respect to the informationalization of HIV prevention is how it could potentially affect people living with HIV, particularly vis-à-vis the legal system. In Canada and in the U.S., people living with HIV are legally obligated to inform their sexual partners of their serostatus before sexual activity begins. As a prosecutable offence modelled after violent crimes like sexual assault and murder, HIV non-disclosure nullifies consent as proponents of these laws argue that people living with HIV have a legal responsibility to notify sexual partners so that they may make an informed choice before having intercourse. Legislators designed these laws in the 1980s, when HIV posed a considerably greater health threat than it does today. Courts rarely enforced them until the advent of effective therapies, which helped shift the social meaning of HIV from a death sentence to a manageable condition—and along with it, a person living with HIV from a helpless victim to a responsible sexual subject. Despite tremendous scientific advancements in HIV treatment and care, courts in recent years have taken a decidedly more punitive approach to HIV non-disclosure—regardless of whether or not transmission even occurred (Mykhalovskiy, 2015; Mykhalovskiy & Betteridge, 2012). Researchers and activists working in this field have observed that the severity of punishments levied has also increased, from a charge of negligence to

53 An example: Between 1989-1999, there were only 3 known Canadian court cases involving HIV transmission; by 2009, this number jumped to 45 (Mykhalovskiy & Betteridge, 2012).
aggravated sexual assault and even attempted murder (CDC, n.d.). This means that people criminally charged with HIV non-disclosure or transmission can legally be classified as sex offenders or murderers, even if the sexual activity was otherwise consensual and no physical violence occurred. The binary logic of the legal system—structured according to innocence/guilt and victim/perpetrator—treats any omission as a wilful deception. Interestingly, it also labels these acts in highly transactional terms—as sexual fraud. In the erotic marketplace of choice, people who fail to disclose their serostatus to sexual partners they meet online can basically become guilty of “false advertising”.

This concern emerges precisely as gay male users of sexual networking platforms are becoming increasingly involved in HIV non-disclosure cases. Consider the case of Nick Rhoades. In 2009, an Iowa court initially sentenced Rhoades to 25 years in prison for failing to disclose his status to a sexual partner he met on Gay.com. Officially, the charge was “criminal transmission of HIV”—despite the fact that no transmission occurred. Rhodes maintained an undetectable viral load and used condoms, although he admits that he misrepresented his HIV status on his user profile. Prosecutors used his online dating profile as evidence of wilful deceit. Rhoades testified that online, it was “different”. “That was a public openness,” he told a prosecutor in 2011, explaining that although he was open about his status with those close to him, he chose not to make information available to “people who randomly page through profiles on an online website”. “It's a stigmatized condition,” he continued. “I have a job” (Hernandez, 2013). After serving a year in jail, the courts reduced Rhoades’ sentence to five years of supervised probation and ordered him to register as a sex offender. As a registered sex offender, Rhoades was prohibited from using social media platforms, ordered to wear a GPS device, and required permission from a parole officer in order to leave his county to visit his parents. Rhoades was slightly vindicated when the state overturned his conviction in 2014, but not without the publicity and stress of the situation taking a severe toll on his personal life.

54 Notably, this will change in the state of California where the penalty for non-disclosure in cases of transmission will be downgraded from a felony to a misdemeanor as of 2018. This may also change in Canada, where Ontario announced on 1 December 2017 that Crown attorneys will no longer prosecute non-disclosure in cases where the accused has maintained an undetectable viral load for at least six months.
More recently, news coverage surrounding Michael Johnson’s case has also brought sexual networking platforms into the realm of criminalization. In 2015, Missouri courts found the young African-American college athlete guilty of reckless infection and exposure (Thrasher, 2015a). Johnson claimed that he had disclosed to his partners, while six of his accusers (two of whom claim that they contracted HIV from Johnson) said that he did not disclose to them before they had condomless anal intercourse. Johnson’s story differed from Rhoades’ because it involved an actual case of transmission, condomless sex, and racialized sexual politics. Johnson was raised by a single mother and has a learning disability. A talented athlete who concealed his sexuality until adulthood, he attended college on a wrestling scholarship in a predominantly white and conservative setting. As a Black gay man, Johnson’s muscular physique and ethnicity subjected him to fetishization. This was made evident on sexual networking platforms, where he represented himself shirtless and went by the name Tiger Mandingo—with ‘Mandingo’ connoting either a physically “strong slave” or a well-endowed man. Meeting Johnson on these platforms, some of his accusers (four of whom were white) described his blackness as a type of sexual novelty. All of them stated that they had condomless anal intercourse with him because he told them that he was “clean” and “disease free”.

Social media, the politics of race and sexuality, and serophobia⁵⁵ shaped the outcome of this case. Of the two white men claiming that they contracted HIV from Johnson, one testified that he went to police when he noticed Johnson’s profile on sexual networking sites (Thrasher, 2015a). Buzzfeed’s Steven Thrasher (2015b) observed that mainstream news sources repeatedly used Johnson’s dark-skinned, shirtless social media photos in their coverage, playing off racist tropes that depict Black men as hyper-sexualized beings (see Collins, 2006; hooks, 2004). Police reports and trial transcripts graphically described Johnson’s penis, which jurors saw in stills from a sex tape. Nearly all of the potential jurors were white, heterosexual, and most appeared to be over the age of 50. All claimed to be HIV-negative and agreed that non-disclosure should be a prosecutable offence. During questioning, half said that being gay was a “choice” while only a third agreed that it was “not a sin”. There was scant discussion of

⁵⁵ Serophobia means fear of HIV and people living with HIV.
race during the trial and the prosecutor framed Johnson as a menacing pervert who left a “calling card” of “HIV with a tint of gonorrhoea mixed in” (Thrasher, 2015b). The defence’s medical experts testified that HIV is a stigmatized yet manageable condition, but the jury opted for the prosecution’s version of HIV as “terminal”. The jury returned a guilty verdict after an hour and the judge sentenced Johnson to 30.5 years in prison—exceeding Missouri’s average for physical assault (19.9 years), forcible rape with a weapon (28.2 years), and even second-degree murder (25.2 years). With even his accusers agreeing that his sentence was excessively long, is it reasonable for our legal system to classify people who fail to disclose as violent sexual predators?

These cases shed light on some of the unintended consequences of the informationalization of HIV prevention. First, like non-disclosure laws, the emphasis on codifying disclosure through interfaces can create the expectation that people living with HIV can and will always disclose. “I mean, you could choose not to [disclose],” one informant observed, “but the expectation is that people will say what their status is on those profiles” (023, interview). This is remarkably different than the tacit understanding within gay communities that due to stigma, an omission is disclosure: “There is an unstated kind of idea on sites that if people don’t disclose then they are positive. So that’s kind of an assumption that people make, right or wrong” (010, interview). The informationalization of prevention may therefore coincide with the erosion of the long-held assumption among many gay men that not bringing up HIV means that someone is seropositive (Halperin, 2009). It may also be part of placing the onus of the responsibility for HIV prevention on the shoulders of seropositive people, something that is at odds with the traditional notion of HIV as a shared responsibility. Much of this comes down to the fact that HIV stigma makes disclosure a difficult issue. “What we are not comfortable with is talking about sex”, one informant told me. “Disclosure is too much for people. People like to have sex. They don’t like to talk about it. And we’re not literate in HIV. Like, we think that we need to train people who are HIV-positive. But we need to train everybody how to navigate it. Because it’s very complicated” (006, interview).

56 As of September 2017, Johnson’s sentence had been reduced to 10 years.
Second, the codification of HIV disclosure attempts to make explicit a communicative act that is complicated and context-dependent. Interfaces and the legal system struggle to take into account how disclosure can make someone vulnerable to rejection, harassment, public shaming, and even violence—despite the fact that human rights provisions widely acknowledge that people living with HIV experience stigma and discrimination. The expectation that seropositive people should always disclose, one informant explained to me, “removes all the power dynamics and all of the other social factors that play into it to have to tell someone that you’re positive”. For them, the emphasis on always disclosing was unrealistic:

we’re putting unrealistic goals or expectations on guys, girls, anyone that’s positive really. And then we are demonizing them when they are not meeting these unattainable goals. And so it’s this vicious cycle. And then the public awareness, like anyone outside of the community or lack thereof, thinks that well, ‘these poz people are disgusting’ (006, interview).

For this informant, the legal system had created a false sense of security among seronegative people, while ignoring how power inequities and HIV stigma made perfect disclosure a difficult practice. Both legal and digital systems also struggle to take into account situations where disclosure is more ambiguous—what Kane Race (2015) refers to as “veiled” modes of disclosure. Users who meet online may hold off disclosing until meeting face-to-face or explicitly state an interest in practices that reduce the risk of transmitting to a seronegative partner.57 The use of terms like “clean” or “healthy” can also be ambiguous. “So a negative guy takes it to mean what, it means negative,” one informant told me. “But for the HIV-positive guy, it could mean, ‘well no, I manage my HIV really well, I have no opportunistic infections, so I’m not sick” (021, interview). This emphasis on standardizing and codifying disclosure does not take into account all of the accidents and miscommunications that can also shape HIV risk and transmission, particularly when serologic identities have come to figure prominently in gay men’s sexual cultures. In short, the informationalization of HIV prevention may empower some while others are left behind.

57 This might include stating an explicit interest in ‘safe sex’, non-penetrative sex, or assuming the position of receptive partner (Reeders, 2007).
Conclusion

In this chapter, I have discussed how informationalization converges the logics of computing and commerce to culturally-produce HIV prevention in the digital age. The informationalization of HIV prevention simultaneously creates new opportunities to revitalize public health practice while also generating a series of tensions. Mobilizing empowerment discourses, the informationalization of HIV prevention constructs networked information technologies as tools to help people exercise control over their sexual health and make more informed decisions. This resonates with a marketplace mentality that empowers patients as consumers vis-à-vis the medical system. Sexual health platforms provide consumer convenience and choice that affords users a sense of control over their healthcare experience. The ability to use tailored platforms to find culturally-competent providers, make clinic appointments online, and receive and share verified test results certainly appeals to everyone, but is especially important for gay men who too frequently experience unique obstacles in the context of receiving adequate and respectful care. I have also examined how the informationalization of HIV prevention involves actors and strategies from the private sector. Through design and advertising, owners of sexual networking sites can support HIV prevention efforts as a form of corporate social responsibility. Interfaces that codify the process of disclosure and advertising campaigns that constitute the dominant mode of health communication online are examples. Classifying, sorting, and filtering have now become integrated into HIV prevention practice.

The cultural logics of data and code (Chow-White, 2008) become apparent when we consider how digital branding has taken form in the social worlds of HIV science and advocacy. Efforts to render passionate sexual activity legible within the context of scientific rationality have helped scientists transform once “risky” practices like barebacking into “safer” ones like serosorting. Recent pharmacological developments like PrEP and virological suppression have also given rise to new risk-reduction techniques like bio-med matching and biosocial serological identities like “undetectable”. PrEP consumption and digital participation have now given rise to a new constituency of subjects labelling themselves as “neg on PrEP”, altering the HIV prevention landscape in still-unfolding ways. In the realm of advocacy, social media has allowed treatment
activists to brand their political campaigns in ways that also indirectly serve the marketing interests of private corporations. This observation is not to invalidate the necessary work of the former; rather, it reveals some of the paradoxes and contradictions that accompany the networking of public health in the digital age.

We must also consider some of the frictions that follow these uses of technology, especially between public health discourses and the interests of people living with HIV. The rhetoric of digital technology promises to level the playing field for everyone, even as it has the potential to exacerbate inequities among marginalized groups. The emphasis on status disclosure as a way to reduce HIV transmission—codified through interfaces and the legal system—is one such example. With prosecutors in HIV non-disclosure cases using social media profiles to frame defendants as malicious liars, informationalization can ultimately render some people more vulnerable than empowered. Seropositive people pay the price for this when they are branded as dangerous sexual predators in the eyes of the law and public opinion, and it frustrates groups that have worked to make HIV a collective issue rather than a matter of individual responsibility. The informationalization of HIV prevention may empower some, but can do so at the expense of others. Virtual friction reminds us, however, that the informationalization of HIV prevention is neither a totalizing or one-way force. Instead, users can mobilize sentiment in rather powerful ways.

Informationalization can be an important part of improving aspects of HIV prevention, but we must remember that technology is neither the source nor the solution to the problem. It may be beneficial for people to leverage consumer power via the health care system, but this emphasis may obfuscate the material barriers people face accessing adequate health care. Technology can give people access to their medical records and the opportunity to rate or assess their quality of healthcare, but this may not be enough if they are poor, live far away from a culturally-competent care provider, or when their healthcare provider does not have enough time to spend with them discussing their last sexual encounter (023, interview). Cuts to public health budgets and a lack of universal healthcare in the US continue to shape the contours of the epidemic in ways that cannot be ignored.
For the informationalization of HIV prevention to adequately serve the needs of gay men, there needs to be a greater emphasis on addressing issues like stigma and digital sexual health literacy. The gay app MR X does this through its “Live Stigma-Free” feature. Rather than ask their members to disclose their HIV status, it provides an option that allows them to mark their profile as being into men of any status. This is an example how an app can encourage positive social norms through design, going beyond the binary of seronegative and seropositive. Given that many sexual networking platforms emphasize disclosure, it may also be time for campaigns that address the omissions, miscommunications, and accidents that can accompany online exchanges. San Francisco's 2006 Assumptions campaign (later adapted for use by AIDS Vancouver) asked publics to reflect on what they know to be “true” about their sex partners (i.e. serostatus) (MacAulay & Wang, 2016). A similar model could be helpful in designing campaigns that ask publics to reflect on the ambiguities behind using words like “clean” (which The Stigma Project does) and relying solely on user information or images to ascertain someone's serostatus. Such a campaign could potentially help boost the digital sexual health literacy of gay men, particularly younger ones or those with less ties to community knowledge (Gaspar, 2014). Sexual networking platforms are obviously one possible venue where prevention groups could share this message, but so are bathhouses, bars, gay blogs and the websites of ASOs and CBOs. Public discussion events, like the San Francisco AIDS Foundation's “Real Talk” series, could also be an example of how to set up face-to-face settings where HIV prevention leaders, advocates, and gay men can discuss these issues in town square-type settings relevant to local needs. Just because the Internet helps move sex-seeking and risk behaviours from public venues into private ones does not mean that all discussion of it should be firmly rooted in the virtual realm.

In the next chapter, I will examine how actors from the social worlds of HIV prevention and Internet start-ups have tried to enhance prevention through research and outreach. Part of their success has come from the recognition that the “problem” of networking HIV prevention is not simply technological in nature; it is also a social issue that requires an intensive amount of negotiation and co-operation. The networking of HIV prevention is characteristic of what urban planning scholars George Rittel and Melvin Webber (1973) have called a “wicked problem”—a poorly-defined, seemingly
intractable, and complex issue that challenges how we think about problem-solving. From disagreements over causality to competing notions of power and responsibility, the virtual friction associated with the networking of HIV prevention has made collaboration challenging. More challenging, however, has been the level of *inertia* that often goes beyond the control of individual actors. The bureaucratic tendencies of public institutions like health departments and academia can often frustrate actors from the private sector, who are accustomed to moving at a considerably more rapid pace. Those who wish to claim that the tech world is inherently a more progressive space for this kind of work may want to consider how “family-friendly” software policies and prevailing attitudes toward sexuality also act as obstacles. Yet, as I will suggest, actors from both worlds have also developed ways to work across these differences and hurdles—by “managing” virtual friction rather than eliminating it altogether (Wasén, 2015). The next chapter argues that although virtual friction has certainly presented challenges for actors involved in the networking of HIV prevention, it may have also represented a turning point for how public health responds to networked changes in sexual cultures and practices.
Chapter 6. “For every hole that we patch, five more open up”: Networking HIV Prevention as a Wicked Problem

And so it's the question of what's the problem—the problem is the overall system. And the way that we go about it. We like to think that we have somehow figured it out, but I think as we go along we’re finding that that for every hole that we patch, five more open up (006, interview).

Introduction

In my interview with an HIV researcher, they shared with me an interesting observation about the challenges in the field. Every time we think that we have finally solved a problem, its unfinished aspects rear their heads and remind us of how much more work we need to do. This is especially true when it comes to something as challenging as modernizing HIV prevention efforts for the digital age. In 2017, we know more about HIV than ever and have many more tools at our disposal than even a decade ago. We can access and post verified test results through our mobile devices, look up the nearest sexual health clinics, and read patient reviews. In some places, we can even order at-home HIV testing kits and have them delivered to our doorstep on a regular basis. All of these represent important socio-technical changes in how we interact with HIV prevention, and yet the scale of adoption and change has not followed. Why is this the case?

The answer: Some problems are easier to solve than others, and the networking of HIV prevention is no exception. From the San Francisco Department of Public Health’s conflict with AOL in the late 1990s to the AIDS Healthcare Foundation’s billboard battle with Tinder and Grindr in fall 2015, friction has frequently appeared in situations involving actors from the social world of HIV prevention, users, and technology platforms that serve them. Some of this has to do with competing interests. As an
institution connected to the state, public health is tasked with the responsibility of protecting the health of communities. When they see that certain activities potentially compromise this, they have an obligation to respond.

Users’ interests are different. We live in an individualistic society where the prevailing sentiment holds that we should be free to make our own decisions and deal with their consequences. As such, we tend to be suspicious when state actors intervene in our personal lives. This can often feel like an infringement or imposition on our personal liberties, especially when sexuality is involved. Platform owners are on our side when it comes to this issue. When it comes to our intimate use of sexual networking platforms, they understand the importance of user privacy and take steps to protect it. They are, of course, in the business of keeping users happy and making money. This can generate friction, as HIV prevention actors may make demands on owners that are unrealistic from a business perspective and clash with user interests. These are some of the tensions that occur when the networking of sexuality and HIV prevention join people from the different social worlds of public health and technology.

In this chapter, I examine the virtual friction that emerges when networked information technologies are implicated as both the cause of social issues and their solutions. New technologies have arisen as some of the infrastructure behind HIV prevention efforts—the condom code, for example—has eroded. As a result, actors must frequently negotiate the tension between the potential of new technologies to augment their efforts with concerns that they may intensify or even generate new problems. This friction is by no means restricted to this situation, as we find it follows the introduction of many web-based services. Online retailers have challenged the business models of brick-and-mortar businesses, traditional newspapers are trying to keep up with online outlets, and even the adult entertainment industry continues to grapple with the implications of file-sharing and user-generated content. Of course these industries face other challenges outside the realm of the digital, but the salience of technology remains.

In this situation, sexual networking platforms pose a challenge for the HIV prevention infrastructure that public health practitioners and activists designed for gay men’s sexual environments—bathhouses, bars, and other physical, public venues—of the 1980s. Although people still meet in public spaces, there is no question that the
debut of sexual networking platforms in the 1990s has helped decentralize and privatize cruising. How to modify HIV prevention to suit the norms, dynamics, and structures of the Internet remains a persistent challenge. Researchers and practitioners have invested significant time and money building interesting portals, virtual worlds, and apps to help bring HIV prevention into the digital age. They have uncovered interesting findings and some online interventions have delivered promising results, but technology’s promise to solve social problems remains unfulfilled.

This is because the networking of HIV prevention is more than a technical issue. Although it involves technology, it is just as much about creating the necessary social infrastructure to modernize efforts as it is about designing the best tools. Co-ordinating the world of HIV prevention and Internet start-ups is difficult because it requires a great deal of negotiation and compromise. The social worlds of public health and Internet start-ups have different perspectives on the best way to modernize HIV prevention efforts. Their different perspectives shape whom they enlist as experts, what questions they ask, which actions they pursue, and whose evidence counts. This creates virtual friction that makes the networking of HIV prevention unlike other technical issues we can fix by determining the “correct” solution. Virtual friction is not an easy problem to solve; in fact, it is downright wicked.

What does it mean to call the networking of HIV prevention wicked? Certainly, I am not suggesting that it is somehow malicious or evil. Rather, I use the term wicked to emphasize its tricky and persistent nature. Put another way, wicked problems are social issues that are difficult to neatly resolve through rational means alone. The concept of wicked problems comes from the work of urban planners Horst Rittel and Melvin Webber (1973), who developed it as a critique of the rationalizing tendency of public institutions to treat every social problem as something in need of a technical fix. Rittel and Webber argued that wicked problems are poorly defined, seemingly intractable, and complex public policy issues. They contrasted wicked problems against ones they considered tame—those that are highly scientific or technical in nature, clearly defined, and have findable solutions. When it comes to the networking of HIV prevention, some aspects of it are tame. If a jurisdiction faces the problem of having no way for people to access their HIV test results outside of regular clinic hours, technology can help solve that problem. The BC Centre for Disease Control’s Get Checked Online service, for example, allows
people to print requisitions for HIV/STI testing and provide samples at local laboratory centres. Like the US-based app Healthvana, if results come back negative, users can access them online. However, in places lacking the infrastructure to support that need or if groups face social barriers to testing, then the wickedness of the problem becomes evident.

What makes addressing wicked problems difficult? Rittel and Webber suggest that part of the challenge surrounding the resolution of wicked problems is the fact that we live in a pluralistic society. Pluralism forces us to recognize and negotiate multiple perspectives on social issues while also pushing us to acknowledge the limits of established ways of knowing. Having so many options to choose from makes it difficult for actors to find the best solution. Consider scientific disagreements over the extent to which the Internet exacerbates or ameliorates HIV prevention, or the friction that emerges when public health values clash with civil liberties. How do we work in the face of scientific uncertainty? What is the best way for public health to protect the health of communities while respecting the fact that consenting adults have the right to make their own decisions?

These can be difficult questions to answer. The lack of scientific consensus as to whether and to what extent the Internet shapes HIV risk makes it challenging to design effective online interventions. It is also clear that as a wicked problem, the networking of HIV prevention is not an independent issue but a symptom of some other problem (Rittel & Webber, 1973). Rendering visible other issues affecting gay men’s health, such as HIV stigma and homophobia, the Internet provides a unique cultural lens to understand how these frictions intersect. The fact that most online interventions struggle to adequately address them demonstrates the limits of treating the networking of HIV prevention as a purely technological issue. This brings us to the final point of why wicked problems are so difficult to understand: They are essentially unique (Grint, 2005; Rittel & Webber, 1973). Efforts to draw comparisons to other situations often face significant shortcomings because the networking of HIV prevention involves specific dynamics that set it apart from others. Virtual friction emerges when invisible audiences, collapsed contexts, and blurred notions of the public/private (boyd, 2010) complicate our understanding of visibility, space, and boundaries. As such, networked efforts have to suit the norms and cultures of sexual networking platforms.
This becomes even more complicated when we consider the institutional arrangements required to make the networking of HIV prevention successful. The bureaucratic tendencies of most public institutions involved mean that many of the solutions actors pursue ultimately amount to one-shot efforts that leave little room for trial and error (Rittel & Webber, 1973). This demonstrates how poorly equipped many institutions are to meet the demands of Internet-based research and practice. A second challenge is that wicked problems tend to be located at the intersection of various institutions (Rittel & Webber, 1973). In this situation, the networking of HIV generates important questions regarding ownership of the problem: When it comes to the HIV prevention needs of gay men who seek sex online, is it possible to fairly and effectively distribute responsibility between platform owners, public health, and users? What would that look like?

This chapter argues that although the wickedness of networking HIV prevention has been challenging, the frictions generated have in many ways been transformative for the field of public health. Virtual friction has forced public health to take on the role of the leader who asks such questions rather than the commander who issues demands (see Grint, 2005). This has emerged from the recognition that there are no true/false answers when it comes to wicked problems, only ones that are better or worse. The biggest “successes” in the networking of HIV prevention have not come from major technological breakthroughs but from the messy and complex collaborations of the social worlds of HIV prevention and Internet start-ups. In this chapter, I will examine some of the factors that have contributed to the friction that makes networking HIV prevention a wicked problem. I will also explore the social processes of negotiation that have helped actors from various social worlds collaborate in mutually transformative ways. This is the one way in which the ambivalence of virtual friction becomes clear. Friction can bring frustration, but it can also be productive in ensuring socio-technical change develops in a sustainable and socially interested way.

**Networking HIV prevention: Structure & agency**

The first thing to understand about the social world of HIV prevention is that it is not monolithic. The epidemiologists, physicians, nurses, social workers, counsellors, and
psychologists who engage with its digital aspects do not all share the same position regarding the Internet’s role in shaping HIV risk and transmission; in fact, they often disagree. Much of the disagreement revolves around whether the Internet is an environment that uniquely *shapes* risk, or whether it is a neutral zone where risk simply *occurs*. This question has analogue origins dating back to the bathhouse battles of the 1980s where researchers and practitioners debated whether gay bathhouses facilitated HIV/AIDS risk or simply attracted people already likely to have high-risk sex in the first place (Shilts, 1988). In the scientific world of HIV prevention, actors support their positions using empirical evidence that resonates with their disciplinary frameworks. In the quantitative field of networked epidemiology, adherents of the Internet risk hypothesis base their arguments on mathematical models of risk focusing on *correlation*. Epidemiology is not necessarily in the business of proving causality so much as it seeks to establish connections. Epidemiologists examine population-level data to identify trends that help explain certain phenomenon. Based on the finding that HIV risk behaviours and infection correlate with having multiple anonymous sexual partners, epidemiologists label any mechanism that facilitates the ability to co-ordinate more sexual contacts as augmenting risk. This explains why proponents of this view understand a sexual networking platform as riskier than a dating site; a bathhouse as riskier than a singles mixer; a bar as riskier than a coffee shop. Environments matter, as do their dynamics. “Networks,” one researcher explained to me,

The important thing about both the Internet and about bars and bathhouses is that they shape sexual networks. And so they can affect the way that extremely high-risk men who come into contact with men who take occasional risk. We’re not worried about the guys who take no risk—they’re going to do it online, they’re going to do it in bathhouses, doesn’t matter. But that mixing between high-risk and medium-risk men is fundamentally important (017, interview).

According to epidemiological narratives, networked mixing can shape an endemic by transmitting infection across sexual networks more efficiently. This can also happen when sexual networking platforms promote what is known as concurrency (multi-dating). Given that the speed or rate at which an infection travels is important in an epidemic, anything (a bar, a bathhouse, the Internet) that facilitates multiple connections in a short duration of time may potentially accelerate transmission or augment risk (Wohlfeiler & Potterat, 2005). According to this perspective, *where* people seek sex becomes just as important as *what* they do.
This structural perspective on HIV risk makes several claims. First, it suggests that the context of a situation can shape individual behaviours by proposing that people behave differently in more sexualized environments than neutral ones. It is more acceptable, for example, to explicitly state an interest in a casual sexual encounter on a sexual networking platform than a dating one (“Grindr immediately takes it to an overly sexualized, casual, testosterone-on-testosterone level”, one informant told me); more acceptable to bypass norms such as not knowing someone’s name in a bathhouse compared to a mixer; and it is more acceptable to be under the influence of drugs or alcohol in a bar than in a café. This can affect the range of possible behaviours. Structural perspectives also challenge the idea that a person’s relative level of HIV risk is always under their control. The higher prevalence of HIV within gay men’s communities, for example, means that gay men will always be at an elevated level of risk irrespective of their individual behaviours. Some people are more likely to be exposed to HIV by virtue of who they and their sex partners are. Of relevance to this situation is that structural perspectives also raise the possibility that technological changes to the sexual landscape matter. Decentralization as well as the enhanced speed and rate of Internet sexual communication may, in theory, make it easier for infections to transmit more efficiently across a greater distance. “The Internet does not cause [outbreaks],” one
informant told me, “but it’s facilitated it” (002, interview). This can affect how the social world of HIV prevention responds to outbreaks.

The friction between structure and agency, or determination and contingency, becomes clear when we take critics’ perspectives into account. They question the legitimacy of such scientific narratives by suggesting that structural approaches ignore individual agency (“it’s not where you do it, it’s what you do,” one informant told me), which can go a long way in explaining why not all gay men who seek sex online are necessarily placing themselves at risk. Critics may also point out that structural approaches offer theoretical explanations of risk that lack conclusive evidence linking sexual networking to HIV risk and transmission. In other words, they may argue that the notion that the Internet is a unique risk environment is simply a hypothesis that may explain some scenarios better than others. For example, a structural perspective may help us understand the dynamics of a specific outbreak rather than explain situations where no infection is present. For critics of structural perspectives, the Internet may simply provide a space amenable for those already likely to seek high-risk sex regardless of venue (Groh et al., 2014). They may also argue that users may not be representative of the entire population of gay men, making the Internet a convenient site of blame for the deeper social problem of elevated HIV transmission.

The lack of consensus creates challenges because solutions depend on the problem-definition. Targeting the environments where people “work, play, and have sex” (Wohlfeiler, 2000), structural interventions are often based on interventions in physical spaces like bathhouses. Online, this may involve pushing platform owners to promote safe sex, prohibiting references to illicit substances in user profiles as a way to promote positive social norms, or providing more opportunity for users to supply and exchange personal information. Structural interventions differ from behavioural ones, which serve as solutions when public health defines the problem in terms of individual attitudes, values, and beliefs. Behavioural interventions typically use the Internet as a tool to encourage people to reduce their risk. Through games, virtual worlds, and social media, online behavioural interventions attempt to reduce risk by enhancing interpersonal communication, knowledge, and self-efficacy regarding HIV prevention. These very different approaches come from public health’s divergent disciplinary orientations, where structural approaches are often rooted in epidemiology while behavioural ones emerge
from social psychology. This means that the criteria for an intervention’s efficacy differ. For structural interventions, a reduction in the number of new HIV infections at a population level is a sign of success. For behavioural ones that more closely resemble social science experiments, participants’ reports of decreased risk practices (i.e. more condom use, more disclosure, etc.) three and six months post-intervention are a sign that the intervention has worked.

Of course, there are challenges with both models. With structural interventions, changes are not always immediately measurable or observable and may take up to a generation to materialize (Wohlfeiler, 2000). We also know that changes cannot always be directly linked to a particular intervention and require a certain amount of faith that the intervention will work. Structural interventions also tend to be more controversial and disruptive than behavioural ones, requiring significant investment into convincing stakeholders that they are worthwhile endeavours. Consider the amount of time and energy it has taken to enact structural interventions like bathhouse policies, needle exchange programs, and sex work legislation. That said, behavioural interventions also have limitations. While they are “easy to measure, easy to implement” (Wohlfeiler & Ellen, 2007) and are often more voluntary than structural interventions, they also tend to attract highly motivated people who might not be at risk in the first place. With their targets being individuals or groups, any benefits they produce are often difficult to scale up at a population level and tend not to be long-term.

When it comes to HIV prevention online, this means that the field is dealing with the friction of what science philosopher Thomas Kuhn (1962) has labelled “incommensurable paradigms”—a rupture that occurs when scientific viewpoints are incompatible with each other. In this socio-technical drama, the Internet becomes a bistable figure. Some researchers will look at the evidence and see an environment that actively shapes risk, while others may see a neutral terrain where behaviours occur. It is more difficult to assimilate the notion of Internet as culture within either paradigm. Consensus or closure on the issue is unlikely because the evidence to firmly resolve the debate one way or another is elusive. And even though there are certainly public health actors that may be paradigmatically agnostic or willing to be persuaded (though not converted) by a different viewpoint (Rittel & Webber, 1973), the political economy of HIV prevention funding—where there may be a call for structural or behavioural approaches
but seldom both—makes it so that many online interventions must necessarily take an either/or position. Behaviours and environments become artificially compartmentalized, even though they are often relational rather than binary. This requires us to ask difficult questions: In what moments do structures—digital or otherwise—enable or constrain decision-making? In what moments is agency stronger, and is it a constant, unchanging thing in people’s lives?58 “As much as I’d like to recognize the agency of people”, one informant observed, “sometimes, if people just want to have sex they are just going to have sex” (020, interview). If we truly favour an agency-centred perspective, as many behavioural interventions do, then how do we account for vulnerabilities and barriers? How much responsibility should we assign to individual actors, knowing that HIV risk is asymmetrically distributed? As one informant observed,

[It’s] very easy to say ‘oh, you know people need to be responsible for their behaviour,” one informant observed, “but the problem with saying that is that not everyone has the same resources and so not everyone is going to have that HIV knowledge. So even if I’m trying to be responsible, there just might be things that I just don’t know, and so therefore, whose responsibility is it? (023, interview)

These are difficult questions that demonstrate the frictions that emerge around networking HIV prevention when there is significant disagreement on the source and origin of the problem of HIV risk and transmission.

Networking HIV prevention as a unique problem

There are also many dynamics associated with the networking of HIV prevention that separate it from problems that can be resolved through technological means. A look at the dynamics of networked publics is instructive. Taken from Internet researcher danah boyd’s (2008) ethnographic research of youth on social media platforms like Friendster, MySpace, and Facebook, networked publics are groups of users who converge online. We can consider gay men who use sexual networking platforms as an example of a networked public, characterised by the fact that this is a public composed

58 Allan Dafoe asks similar questions in his essay “On Technological Determinism” where he states that “assuming that individuals ‘have choice’ and assuming that humans have none are equally disempowering; we should be exploring the hard questions of how much and what kinds of agency humans have in particular circumstances, and why” (2015, p. 1069).
of invisible audiences, collapsed contexts, and blurred boundaries between the public and the private. Some aspects of networked publics (e.g. invisible audiences) are desirable for users because they afford them a level of privacy, while others (i.e. collapsed contexts, blurred boundaries) can generate friction for people navigating hybridized social worlds.

For actors in the social world of HIV prevention, networked publics create unique challenges. Where an outreach worker might be able to interact with people on a sidewalk, in a bar, or in a sex venue, this is considerably more difficult online. One informant recalled formative work they had done in the 1990s, which they characterized in retrospect as “very very naïve”. Trying to replicate the success of effective in-person efforts online, they had not yet understood that there was a “very specific distinction between the two…So essentially, when people are engaged in looking for sexual hookups, they are not necessarily looking for sexual [health] information. And we made that mistake” (002, interview). Finding a way to engage publics without alienating or offending them is a delicate practice. One informant described their online outreach and testing promotion efforts as something that became “kind of touch and go”:

We were getting some responses back from people being like, ‘how dare you think that I need STI testing? What are you saying?’ And rightfully so. And our messaging, it was very like, so this is our program and we offer testing. And so that was a little too in-your-face. So we kind of geared back on that. It’s still part of our messaging but it’s sort of at the end of our blurb. It’s a dance. It’s a real dance (016, interview).

When conducting outreach in face-to-face venues, HIV prevention actors can allow people to come to them and can gauge people’s interests and responses through facial expressions and body language. This is significantly more challenging when workers only have a username and profile picture to work with. Without context and face-to-face cues, users can easily misinterpret the most well-meaning efforts as hostile or aggressive.

The presence of invisible audiences can also make it challenging for intervention designers to ascertain whether or not their platform has reached intended groups. Speaking with me about text-messaging campaigns to support HIV/STI prevention, one informant explained that anonymity is the reason for their success—“especially when
you are talking about sensitive issues such as or working with the community that is stigmatized":

But that advantage also becomes challenging when you are trying to track biological markers or a very specific individual outcome That require that you know the identity of the person that is accessing the service. And so, we would love to be able to track when they utilize the service and keep track of infection rates over a period of time, but we can't do that because it sort of infringes on our promise of confidentiality and anonymity (028, interview).

The absence of this data has become the Achilles heel of program evaluation and justification to funders because designers can only provide metrics on how people use tools, rather than who uses them. Therefore, a paradox of online anonymity is that it makes people both easier and more difficult to reach.

The networked blurring of the public and the private also generates questions about the boundaries and access rights of the social worlds involved in the networking of HIV prevention. “Without control over context,” writes boyd, “public and private become meaningless binaries, are scaled in new ways, and are difficult to maintain as distinct” (2008, p. 341). Sexual networking platforms are an example of a space where these distinctions collapse. Technically speaking, sexual networking platforms are boundless spaces open to any member of the public with Internet access. But socially, they are also privately owned commercial entities. The Internet is like a shopping mall in that it is a publicly accessible venue where private businesses have control over the spaces they rent (Chun, 2006; Jin & Feenberg, 2015). Sexual networking platforms are like mall stores; they may be technically open to the public, but access is conditional and tiered. “What lies definitely within, what without, and what placements are ambiguous?” grounded theorist Anselm Strauss asks about the boundary issues surrounding social worlds. “How is all this to be determined or ratified, and by whom?” (1982, p. 185). Virtual friction follows.

The ambiguity over boundaries and access can create challenges for effective collaboration among groups from public and private sectors. The publicly accessible nature of the Internet means that HIV prevention actors can technically enter sexual networking sites without owners’ permission. However, owners have the ability to digitally “evict” any account violating their terms of service. This includes unsanctioned
accounts that some HIV prevention actors have created for the purposes of outreach and recruitment. Some have even used a “bait-and-switch” approach by impersonating an attractive user in the hopes of beginning conversations that way. According to one informant, “some of the organizations would create a false profile, sort of alluding to the fact that they were on there looking for sex. But really when someone would message them, they got the real story”. Recommending that organizations avoid this behaviour because it “created a sense of mistrust”, he observed that although “a lot of positive communication happened as a result of it, once you try to re-establish trust after that initial falsehood, it’s harder to develop a meaningful relationship and develop rapport” (021, interview). In situations characterized by friction, such boundary crossing can aggravate what Wasén calls “relational scars” (2015, p. 59), the product of past tensions that not only impair social relationships but also constantly hinder and resist change. This seemed to be the case with respect to the mixed public response surrounding the San Mateo County health department’s HIV online outreach efforts in 2014. In a county with no gay bars and limited funding, the health department used fake profiles to elicit the attention of users and engage them in a conversation. Responding to concerns over the ethics of such practices, county HIV prevention co-ordinator Darryl Lampkin asked whether it was equally questionable to ignore the potential of outreach tools to provide sexual health information instead (Hemmelgarn, 2014). Friction reminds us that the “right” thing to do for some may not necessarily be perceived as such by others.

It is worth mentioning, however, that some owners do permit outreach and recruitment. Often this happens under the condition that prevention actors are transparent about their activities and maintain a passive presence online. In other words, they are permitted to create a profile or an advertisement but are not always allowed to directly message users. “Different sites have different guidelines, rules and restrictions around what you can post, and how you can engage with their members,” one informant explained to me. “We had to sign an agreement and provide our own policies and procedures and those sorts of things. So on some sites, we’re able to message, you know, to engage on profiles. Others, we aren’t. And we just sort of have to exist” (016, interview). Owners design these rules to keep their clients satisfied. If prevention workers act in an intrusive manner, this creates unwanted friction in the user experience. An annoyed user might complain, or worse, stop using the service—which is a lose-lose
situation for both owners and HIV prevention actors. Although there is some evidence—both documented and anecdotal—to suggest that users tolerate the presence of an outreach worker online (Bolding et al., 2004; Brennan et al., 2015), the benefits of online outreach remain unknown. Some of my informants seemed ambivalent about online outreach from an institutional perspective. “So I can create a profile and that's fine and I can sit there”, one informant told me:

But if it's not getting us anything, if I'm just sitting on the computer for five hours, then what's the point? Like, it's not bad when I'm here working, but...if I wasn't sitting here working, open with my computer for five or six hours. Even if I'm at home, yes, and check it on the weekends or whenever, the chances that I will get someone in that 20-minute window that I'm online is almost nonexistent.

These are some of the trade-offs HIV prevention actors must make when working with owners of sexual networking platforms. They must learn to view the situation from the perspectives of others, and make compromises in order to maintain successful working relationships. Compromising is an important part of networking and collaboration, even though it does not necessarily mean that everyone will feel satisfied all of the time.

**Stigma: What lies beneath**

The irony of online interventions is that most in the field of HIV prevention understand that the Internet is not actually the problem. Rather, the Internet is a place where many underlying frictions emerge. In chapters 2 and 4, I discussed how the Internet makes the phenomenon of sexual racism visible. And in this section, I discuss how the Internet becomes a space where the stigmas surrounding HIV and sexuality converge. Symbolic interactionist Erving Goffman’s work on stigma is instructive in this regard. Defining stigma as a “deeply discrediting” attribute that reduces its bearer from a “whole and usual person to a tainted, discounted one”, Goffman frames it as a “spoiled identity” that governs social interaction (1963, p. 3). Gay men and people living with HIV are examples of stigmatized groups by virtue of the fact that their social identities are associated with cultural taboos surrounding anal sex and intravenous drug use (Sontag, 1989). The stigmatization of gay men and people living with HIV also emerges through the rules and sanctions society creates to reinforce their otherness (Goffman, 1963). Consider the historic exclusion of sexual minorities from social institutions like the
military or marriage, and legal bans on gay men donating blood as examples. Travel/immigration bans, quarantines, and the criminalization of HIV non-disclosure are examples of measures that stigmatize people living with HIV. To cope with stigma, people use a variety of management strategies that include self-isolation, partial disclosure, or concealment (Goffman, 1963). Stigma management is evident whenever gay men and people living with HIV avoid social situations that may target them, when they selectively tell people about their sexuality or health condition, or when they keep it a secret from virtually everyone.

Stigma works by encouraging people to stay quiet and remain invisible. And for gay men living with HIV, their doubly stigmatized status can make finding support even more challenging. One informant explained to me that “when you add being poz on top of being gay, there is so much societal stigma and discrimination that there's literally nowhere for people to talk about it. When they do, they get looked at like they have two heads, or they're disgusting” (006, interview). The Internet becomes one site where these stigmas and their effects appear. An example of this can be found in the language some people use in their sexual networking profiles to describe themselves and their ideal partner. It is not uncommon, for example, for a user on a gay platform to describe himself as “masc4masc”, which is code for a conventionally masculine gay man seeking someone similar. It is also not uncommon for users to describe their serostatus as “clean” (HIV negative) or “DDF” (drug and disease-free), followed by a “UB2” to indicate that their ideal partner should be the same. If we accept Goffman’s definition, then this is an example of how stigma operates in everyday discourse online. Using terms like “clean” or “DDF” to describe serostatus presumes that people living with HIV are unclean, diseased, and undesirable. This creates a disincentive for gay men living with HIV to be upfront about their status to others online, since they may risk rejection, be inundated with annoying questions (“how did you get it?”), patronized (“oh what a shame”) or outright bullied (Artavia, 2016). This has widespread negative consequences.

HIV stigma is not only cruel and unfair to gay men (and indeed all people) living with HIV but can also compromise the success of online HIV prevention efforts. Consider the emphasis on using the Internet to passively disclose and seek partners of the same status (Bolding et al., 2005; Jenness et al., 2010; Race, 2010; Rietmeijer et al., 2007). This can be a challenge when stigma is involved. A clinic study of people living with HIV
in Seattle found that nearly 60% of MSM subjects who met partners online reported being rejected due to their status—over twice that of MSM subjects who reported meeting partners in other venues (Golden et al., 2007). And again while the Internet may not independently create stigma, the invisibility, social distance, and asynchronous nature of online communication (Suler, 2004) simply make it easier for stigmatization processes to occur. We can think about this in light of results from a 2015 U.S. industry survey of 4000 gay male app users that found over half of seronegative respondents admitted that the chance of them initiating contact or responding favourably to an attractive person who disclosed that he was living with HIV online was “unlikely” (28%) or “highly unlikely” (29%). It is little wonder, then, that only 43% of seropositive men surveyed said they disclose their HIV status in their profiles (GrabHim, 2015). This is comparable to data from academic studies finding that over a third of MSM living with HIV have admitted to misrepresenting their status to someone they had met online (Carballo-Diéguez et al., 2006; St De Lore et al., 2012). Although the availability of PrEP and knowledge about virological suppression may help mitigate this, the stigma and shame associated with HIV infection can easily muddy people’s intention to be truthful with their partners.

HIV stigma is one element that makes the networking of HIV prevention a persistent challenge. Speaking specifically about anonymous partner notification systems, one informant considered them “helpful”, but added that “helping people understand the importance of overcoming the shame and stigma that people feel for having an infection, and getting them to reach out to their networks, is really the most important aspect” (022, interviews). HIV stigma is also something that remains underdeveloped in many online interventions. One researcher shared with me the feeling that the messaging behind many online interventions had been “kind of narrow”:

I think if we took a step back and started thinking about other things like HIV stigma or internalized homophobia—all issues that contribute to the transmission of HIV...Those might be—I’d love to see online campaigns that kind of address some of those more drivers of the epidemic or the social determinants of health (021, interview).

Although a number of social marketing campaigns have begun to tackle the issue of HIV stigma (Vancouver’s CBRC-led “Resist Stigma” campaign is one example), there
remains a need to communicate how these structural factors shape behaviours and transmission. Most online sexual health platforms, for example, tend to focus on information provision above all else. In their review of apps from the Apple and Android stores, Muessig et al. (2013) found that information provision comprised over 70% of content while less than 2% included content related to stigma. Given the increasing recognition within the field over the role stigma plays in exacerbating the HIV epidemic, it is notable that it receives so little direct attention from designers.

The stigmatization of sexuality and HIV also appear in the public and private sectors. One informant explained to me that in the public sector, there is a need to be cautious about how much attention online sexual health efforts attract. “The government does not like things about sex,” they said, explaining that media attention to publicly-funded efforts can often invite pushback from people who view such initiatives as a waste of taxpayer money (019, interview). Sexual health also remains a somewhat taboo topic in the social world of Internet start-ups. In the industry this is evident by the fact that sexual and reproductive health platforms tend to be unmentionable issues—so much so that they tend to be showcased as part of the “Unmentionables” panel at San Francisco’s annual Health 2.0 conference. It is also evident by some of the attitudes within the tech industry, which is itself a contradictory space that holds both progressive and conservative values (Marwick, 2013). Consider one founder’s response to my question about why there seemed to be so few sexual health apps compared to apps for dieting or fitness. Describing to me a scene where they went on stage to pitch their idea, they were disappointed when they found that “nobody wanted to work on it”:

I talked to people after and I was like, ‘hey, would you be interested?’ And they would be like ‘no, I would rather work on photo sharing or something like that’. It's just not a very sexy topic. The whole stigma. Consciously or subconsciously. With me as well. Sometimes I think ‘what would my family think if I worked in HIV? Would they not like that?’. On the contrary, I had amazing support from my family. They think it's great but still, it's kind of a not okay topic to work on. That feeling sometimes came up (013, interview).

The founder articulated a common issue that comes up whenever anyone—designers, researchers, or artists—enters the realm of sexuality. Classifying sexuality research as “dirty work”, sexuality scholar Janice Irvine (2014) suggests that the cognitive, affective, and institutionalized biases surrounding sexuality encode this work as socially necessary
and yet stigmatized. Sexuality researchers report feeling stigmatized when tenure committees view contributions to prominent field journals such as *Sexualities* or the *Journal of Homosexuality* as less valuable than those submitted to more generalist publications, and when funders view sexuality research as potentially drawing too much media attention. I have personally seen this stigma at the interpersonal level in academia. Smirks, uncomfortable expressions, and hushed tones are not uncommon reactions people outside of public health or women’s/sexuality studies departments give off when I proudly tell them I study gay men and HIV prevention on the Internet.

The stigma surrounding sexuality also finds itself encoded into the terms and conditions of software, creating a barrier for researchers and designers. Apple’s App Store guidelines, for example, prohibit any content above a PG-13 rating (Ward & Arsenault, 2012), while Twitter only allows sexual health promotion under the condition that messages “do not contain sexual content and do not link to sexual content” (“Adult or sexual products and services,” 2014). Such guidelines make it difficult for groups to design HIV prevention messaging for gay men using culturally appropriate vernacular (i.e. fucking) and images, which members of the general public may find too sexually explicit. This issue came up a few times during my interviews with informants and general conversations in the research community, as people reported that sexual networking platforms sometimes declined their advertisements for these reasons. Given the ongoing conflation of sexuality with pornography, it is clear that stigmas surrounding HIV and sexuality also play a role in the wickedness of the networking of HIV prevention.

**Networking HIV prevention: A one-shot operation?**

We might also wish to consider the friction that emerges during the execution and implementation of online interventions. According to Rittel and Webber (1973), every solution to a wicked problem is a “one-shot operation”. Because there is no opportunity to learn by trial-and-error, every attempt counts significantly. This is also the case for the networking of HIV prevention. One constraint is time. “Being at a research institution,” one researcher told me, “it was so hard for us to design something for a 5 year study, thinking that 3 years down the line, its going to be obsolete by the time it comes out… I felt like it wasn't—I kind of was disillusioned with it, honestly. And it
really was such a drop in the bucket” (021, interview). Whether it involves researchers planning a five-year research study or public health practitioners working within one-year timeframes, most of these endeavours are out of sync with the temporal demands of Internet-based research and practice. Walking me through the process of securing funding, getting IRB approval, and publishing, the above informant described to me the tension between academia’s slower pace and the rapid pace of socio-technical change. Over the year or two it takes researchers to successfully receive funding and clearance, the technologies they have proposed to study may have already begun to change. “You know, I mean, look at Grindr. When the mobile, geographic dating sites became—that was, things happened that are real game-changers, just in a week. So it’s hard to keep up with” (021, interview). This challenge intensifies when it comes to the glacial pace of academic publishing, where multiple rejections and “revise and resubmit” decisions are common. “By the time you get the papers published—maybe 10 years since you came up with your original idea—well then its totally obsolete” (021, interview). For those designing online interventions, inertia and technological obsolescence can make it difficult to achieve meaningful longevity or sustainability—to “evolve to remain current”, as one informant observed (005, interview).

To mitigate this, some of my informants recommended taking time to develop online interventions. “Flexibility and patience are key,” one public health informant explained:

Because, some, well, [our intervention] is over a year overdue from when we were first, initially planning to launch it. And that has been because of things beyond our control. On the IT side. And that, yeah, that’s another lesson learned is that if it’s involving technology that needs the input of the IT department and needs collaboration with them. It’s kind of like writing your thesis—however long you think it’s going to take, triple it. And then you’ll be close (005, interview).

This statement reflects the reality of attempting to innovate in publicly-funded systems. Although technology evolves at a rapid pace, rushing to get an online intervention out of the gate may mean blockages and backups at a later point. Building effective collaborations with IT personnel and systems in the public sector becomes just as important as having an excellent idea.
The linearity imposed on the processes of research and development also limits opportunities for iteration. One informant explained to me that when it comes to working in government, beta testing of users for online efforts is uncommon. Once a service is launched, there is little opportunity for major retooling. “We feel like we have one shot to get this right,” they said. “So if [our service] didn’t work out right and it stopped and failed, that would essentially be the end…I feel like we don’t really have the opportunity to regroup and try something else” (019, interview). This puts a great deal of pressure on actors in the public sector. “There are no second chances,” they concluded. This also happens in academia, as the rigidity of some institutional review boards demonstrates that not all institutions are equipped to accommodate the flexibility required for online research. Consider the experience of one informant who described to me the challenges associated with securing ethics approval for an evaluation study of an Internet intervention at a university:

There has been more resistance about the idea of evaluating as you iterate. So [there was] this idea that ‘oh you should do it like a drug trial. You should do a small safety study with small amount of people and then you should launch the exact chemistry, the drug doesn't change from the time of the approval process’. And they wanted to treat [the intervention] in the same way (012, interview).

Here, the informant identified a common challenge that that emerges at the intersections of Internet and medical/scientific research. Some institutional review boards treat the risks associated with online research as analogous to the physical risks associated with something like a clinical drug trial, even though there are important distinctions. With a drug trial, scientists might have some idea of how the drug will interact with a participant’s body chemistry by relying on previous scientific knowledge. The same cannot be said for a study of how users interact with a specific website, as every website is different and people’s interactions with it may be idiosyncratic. And yet for this informant, the review board asked the study team to safety test a website with a small group before releasing, not allowing any changes to be made after launch. This anecdote tends to go against all of the ways we think about technological design and innovation. In industrial settings, it is common to develop prototypes and do user testing to ensure that platforms are well set-up and meet people’s needs. In the research setting, however, review boards want researchers to anticipate all possible outcomes before working with human subjects. While not underestimating the important role that
review boards play in ensuring that research subjects are respected and protected in Internet research—indeed, risk management is one of their core capabilities (Leonard-Barton, 1992)—review board demands can create challenges for researchers when rigidity discourages flexibility and iteration. After listening to these stories, I both admired the perseverance of people willing to work through these obstacles and wondered about how many other potentially innovative ideas never get the opportunity to be explored.

Power & responsibility

Many wicked problems span multiple institutions, and the networking of HIV prevention is no exception. As an issue involving social worlds from the public and private sectors, the networking of HIV prevention requires these worlds to reconcile different levels of power and responsibility. The social world of HIV prevention is connected with the public health care system, granting it a type of stability and political commitment necessary for protecting community health. Public institutions are also trustworthy when it comes to personal health information. Both British Columbia and California have extensive data privacy legislation designed to mitigate the potential risks associated with security breaches and commercialization.

Friction emerges when the regulatory setup of public institutions ensuring stability comes at the expense of flexibility. This is evident in urgent situations where controlled modes of decision-making and public communication can make it difficult for public health to respond in a rapid and creative manner. As Carl Sandler, blogger and CEO of gay apps Daddyhunt and MR X revealed in a 2014 interview with Digital Culture & Education, “when the meningitis outbreak hit New York City a few years ago, it took many months for the City’s Department of Public Health to coordinate any sort of Facebook based approach because all messaging required layers of approval”. Adding that invoice payment delays in public health are commonplace (“most website owners I know won’t accept those kind of payment terms, he said), Sandler pointed out a few of the challenges that thwart effective efforts and meaningful collaborations between the public and private sector (2014). Although in this case a combination of community vaccination and outreach efforts had helped stem this particular outbreak, this situation mirrored a faint resemblance to the slow public health response when a “rare cancer”
(also known as AIDS) initially emerged among urban gay men in the U.S. (Altman, 1981). These types of public health emergencies challenge the notion that the availability of rapid communication technologies always ensures quick action,

There is also the question of deciding whose expertise is most relevant and valuable for the networking of HIV prevention. On one hand, sexual networking and sexual health platforms have a level of access to gay men and user data exceeding that of most research institutions and community organizations. Grindr, arguably the most popular gay sexual networking platform, reports over 10 million user downloads. It boasts 5-6 million monthly active users, with approximately 2.4 million using the service daily (Grindr Team, 2014; Staff, 2016). Owners of such platforms also have an intimate understanding of how users engage with the technology, having access to metrics related to logins, interactions and even geographic locations. Grindr knows, for example, that their average user logs on 8 times daily, for a daily total of 90 minutes. They even know which users people click on the most (Aleksandersen, 2015; Grindr Team, 2014). As privately funded and relatively autonomous actors, platform owners also have the advantage of operating under less bureaucratic conditions than the public sector. This gives them the ability to develop and change messaging quickly, avoiding the public health tendency to “get something approved and then they just run it to death” (010, interview). At the same time, there are also questions over how much decision-making power to grant owners of Internet platforms. “It’s a careful thing,” one informant observed, suggesting that “not all website owners are so smart about how they go about things…What kind of power do we want to give them?” (010, interview). Not all Internet entrepreneurs have HIV prevention expertise or the time to consider all of the relevant factors, particularly when profits are on the line. This makes a case for public institutions to partner with the private sector to create the institutional infrastructure necessary to support co-ordination and knowledge exchange (Wohlfeiler & Kerndt, 2013).

**Troubleshooting: Multiple choices**

Rittel and Webber point out that when it comes to wicked problems, solutions cannot be meaningfully right or wrong; instead, some are better than others (1973). By this, they mean that there is no objective way to determine the best solution for a wicked
problem but we may find that some more appropriate for a given situation than others. This is certainly the case when it comes to the networking of HIV prevention. HIV prevention actors have learned to take a more collaborative rather than confrontational approach with owners of sexual networking sites. They have also had to do so while acknowledging the sexual autonomy of users who may not at all be interested in changing their behaviours in the first place. Emerging from the tradition of harm reduction popularized by public health responses to drug use (i.e. needle exchange programs, safe injection sites), this approach emphasizes informed decision-making rather than dictating appropriate behaviours to publics. This differs significantly from earlier public health efforts to eliminate risky behaviours through more coercive measures.

What does this mean for HIV prevention? Should we interpret this to mean that public health has gone “soft” in its approach? Or is this an example of what public institutions must do when the situation demands it? To be sure, some of this may be ideological. In liberal-democratic societies that value individual choice and responsibility, it is difficult for public health to pursue more coercive measures without inviting resistance and backlash—friction, if you will. But in my opinion, this does not solely explain public health’s more collaborative stance. While public health has certainly learned the importance of balancing individual rights with their duty to protect the health of communities (Wohlfeiler & Kerndt, 2013), their ongoing battles against alcohol, food, and tobacco industries suggest that their tenacity has not faded away.

The major impetus behind their decision is the reality of the situation. Although HIV remains a major public health concern for many people, it is no longer the national crisis it once was. In cities with adequate access to health services, fewer people appear visibly ill than they did in the past, and those who do are often institutionalized (029, interview). This lack of visibility can fuel the perception that HIV is no longer a problem. As one researcher put it to me, “there isn’t the same urgency…We’ve got treatments for those people who are lucky enough to get them, infections are down. I mean they’re down a lot more than they were…With people—we got used to so many more thousand. So that’s where we are” (017, interview). The numbers certainly do not lie. Consider that between 1981-1995, doctors diagnosed over half a million Americans and nearly 15 000 Canadians with AIDS (CDC, 2006; PHAC, 2010). The majority of these cases were fatal:
By 1995, over three quarters of Americans living with AIDS had died; in Canada, two-thirds (CDC, 2006; Health Canada, 1999). This changed after the debut of effective therapies, which caused AIDS incidence and mortality to decline dramatically. From 1996-2004, incidence dropped nearly 30% in the U.S. and over 65% in Canada. Mortality among persons with AIDS in both countries plummeted by over 70%. Although some people still present at clinics and hospitals with AIDS (what public health now refers to as stage 3 HIV infection), the substantial decrease in HIV-related morbidity and mortality means that some of the urgency surrounding the epidemic has dissipated.  

This means that the “command and control” measures public health has successfully leveraged in emergency situations will not necessarily be effective or appropriate. Instead, public health must rely on different approaches, mobilizing forms of soft power through activities like persuasion, dialogue, and compromise (Grint, 2005). “We need to figure out how to better work with [sexual networking platforms] or think about what we can do even if we’re not there,” one researcher told me. “I hope our field goes in that direction. It’s not our field’s tradition to go in that direction, even though it should be” (017, interview). By this, the researcher meant that public health ought to take a leadership-based approach that listens and asks questions, rather than an adversarial one that issues commands.

59 Most recent estimates suggest that 13% of new diagnoses are at the stage 3 level in the Vancouver Coastal Health region (BCCIE, 2017), while San Francisco’s estimates are 15% (SFDPH, 2016).
Figure 15: Positional map, Leadership: Individuals, Businesses, and Public Health

It appears that the world of HIV prevention is headed in that direction. In their report titled “How can we improve HIV and STD Prevention Online for MSM?”, researchers affiliated with the San Francisco STOP AIDS project surveyed website owners, HIV/STI prevention directors, and gay men who use sexual networking platforms. The report acknowledged barriers and missteps such as strained relationships and the lack of community consultation or user feedback. Asking “what should be done?” (Wohlfeiler et al., 2011, p. 5), the report identified that “the only way to succeed in promoting public health, and more specifically, to reduce [STI] and HIV infections, is for all three stakeholder groups to share responsibility” (2011, p. 25). In this case, responsibility is not only about looking out for one’s own interests, but is also about finding ways to build on commonalities. This was evident in the report’s assessments and outcomes. Identifying areas of broad consensus (i.e. provision of HIV prevention materials online) and disagreement (i.e. displaying statistics regarding recent infections on sexual networking platforms), the report ultimately informed the development of a national working group to meet with website owners and engage in ongoing program monitoring and evaluation. In 2014, the Building Healthy Online Communities consortium was established in order to allow actors from the social worlds of HIV prevention and Internet start-ups to meet to figure out the best way to support the networking of prevention online. Some of their current initiatives include online STI/HIV prevention training for health departments, consulting with platform owners, and supporting the
development of a sexual health web-series with the platform Daddyhunt. Their website contains a great deal of information to help public health actors and owners of sexual networking platforms write content for their own web presence. This represents an important development in public health, where meaningfully networking HIV prevention is not simply about innovating our way out of problems but finding ways to together. Friction in this case provides important opportunities for learning and growth.

**Conclusion**

In this chapter, I have argued that the virtual friction associated with the networking of HIV prevention is a sign that it is not simply a matter of “too little” or “too much” technology; rather, it is a complex socio-technical issue that demands a corresponding set of solutions. Using the work of Horst Rittel and Melvin Webber (1973), I have argued that addressing the friction surrounding the networking of HIV prevention is challenging because it is a “wicked problem”. As a wicked problem, the networking of HIV prevention is an issue that remains poorly understood. This is partly due to the lack of scientific consensus over the Internet’s role in shaping HIV risk and transmission in the first place: Are sexual networking platforms unique risk environments that shape sexual behaviours, or are they simply neutral tools people use? In other words, what matters more: structure or agency? Different theoretical and philosophical perspectives on the matter among the social worlds of public health and Internet start-ups shape competing constructions of the problem and the solution. I have also discussed how aspects of sexual networking sites—invisible audiences, collapsed contexts, and blurred distinctions between the public and the private (boyd, 2008)—generate friction. Online anonymity makes people both easier and more difficult to reach. Users also have different expectations of digital spaces that can make them less receptive to tried-and-true offline efforts developed for physical ones. Public health actors and owners of sexual networking platforms also have to negotiate boundaries on platforms that are both publicly accessible and privately managed. These tensions are difficult to navigate.

The social dimension of the networking of HIV prevention became apparent to me during my interviews with informants. Those who have worked on the networking of HIV prevention will often be the first to admit that it is in many ways symptomatic of
another problem. In this situation, that underlying problem is stigma. The twin stigmas surrounding HIV and sexuality often compromise the efficacy of online interventions, as efforts to promote more open sexual communication among people (or even promote such tools!) can be deterred by the un-speakability of disease and the cultural taboos surrounding sexuality. These stigmas affect gay men and are evident in some of the structures and prevailing attitudes of the tech world. This demonstrates that we must address these cultural issues before we can use technology to its full potential.

I have also proposed that the wickedness of the networking of HIV prevention requires us to consider how institutional contexts shape particular forms of action. The involvement of public institutions in wicked problems, for example, often means that solutions represent one-shot efforts that allow little room for trial and error. The speed and unpredictability of the Internet poses specific challenges for risk-averse research institutions and governments in these situations. This can make it extremely difficult for researchers to create anything innovative, as the institutional need for control clashes with the need for flexibility and iteration in technical design. Some researchers have tried to overcome this by partnering with actors from the private sector. The private sector often works under different regulatory conditions that can offer the flexibility necessary for innovation. However, this also requires a significant level of co-ordination and co-operation. Occurring at the boundaries of multiple institutions, the networking of HIV prevention needs actors to reconcile different modes of power and responsibility when working on collective solutions.

An important takeaway from this is that there are no easy answers when it comes to dealing with wicked problems. As actors from the social worlds of HIV prevention and Internet start-ups can attest, the solution is not found through technological means alone. Rather, part of the solution involves relationship-building and developing efforts that are appropriate for all parties: users, public health, and Internet entrepreneurs. It also requires actors to be more realistic about the situation before them. Public health’s tenacity and willingness to forgo popularity for the duty to protect the health of communities is commendable and has often been effective in the past, but the current reality of HIV in the west means that such tactics will no longer be as successful. Instead, the virtual friction generated through networking of HIV prevention has helped transform the field’s approach from “command and control” to one based on leadership.
and compromise. This is not about “giving up”, but rather about having a willingness to change approaches when the situation demands it. One of the biggest lessons learned is the importance of starting from the needs and positions of all stakeholders, rather than having one group impose its view and demanding others conform. It is about acknowledging that although everyone has ideas, nobody has all of the answers.

Wicked problems teach us about how difficult it can be to bridge the gap between what is and what ought-to-be (Brown et al., 2010; Rittel & Webber, 1973). They teach us about the limits of using technology to solve social problems, and about the importance of maintaining epistemic openness, a willingness to try new things, and the ability to adapt to changing circumstances. This is crucial when it comes to the networking of HIV prevention, as the rapid pace of technological change does not afford public health the luxury of stubbornness. As I have argued in this chapter, developing intersectoral collaborations is certainly a tricky endeavour. Any provocation can dredge up “relational scars” (Wasén, 2015, p. 59) or “bad blood” (as one informant put it) between groups. However, these collaborations are necessary. They help social worlds resolve their tendency to compartmentalize solutions from a single perspective without considering others. The knowledge exchange these collaborations facilitate also strengthens the digital expertise of public health, and it allows owners of sexual networking platforms—who are often gay men themselves—to contribute to contemporary HIV prevention efforts. Although it is doubtful that such collaborations alone will mitigate all friction that occurs, they make it possible for the field to evolve in important and productive ways.
Chapter 7. Virtual Friction: What Difference Has it Made?

*Virtual Friction* positions the Internet as an ambivalent technology that has reshaped the social worlds of gay men and HIV prevention in profound ways. Set on the West Coast of North America in the cities of Vancouver, BC and San Francisco, CA, this qualitative study focused on the perspectives and experiences of relevant groups such as gay men, HIV prevention actors, and Internet entrepreneurs. Much of my empirical data came from over two years of fieldwork involving 31 informant interviews that I supplemented with archival research, documentary analysis, and observations from my own experience working in the fields of HIV prevention and gay men’s health. I titled this study “virtual friction” to emphasize the unique role that networked information technologies like the Internet play in social tensions and conflicts, which was a central phenomenon I observed in the situation. The Internet opens up more opportunities for sexual connectivity among gay men, leading to sexuality’s networked decentralization and privatization (both in the individual and market sense). This offers users a greater sense of freedom, convenience, and choice, even as it generates friction among them over the rules of engagement. Likewise, the networking of sexuality bears on the world of HIV prevention—a socio-technical system already trying to reinvent itself for the contemporary age. The Internet opens up the possibilities for HIV prevention to become a more diffuse and personalized phenomenon just as it provokes questions about how decentralization and privatization may shape HIV risk. Scientific debates emerge, and actors from private and public sectors engage in discussions over causality, responsibility, and the best way to move forward. This might lead us to believe that friction—the resistance generated when two or more surfaces rub against each other—is a force we should eliminate. However, as I have suggested, friction is ambivalent in the sense that it can slow movement and lead to transformation—in both the physical and socio-technical sense.
Friction can be a necessary intervention. As Nordal Åkerman reminds us, “without friction, there’s no movement whatsoever. Nothing can get going if it cannot push off something else...It is friction that, together with the energy of motion, keeps you warm, defending life (1993, p. 9). In this situation, virtual friction intervenes in the networking of sexuality and HIV prevention at crucial moments. Among gay men, virtual friction promotes dialogue and reflexivity about the role of networked technologies in community life. It encourages people to speak up—even confront people—when they feel othered online, and to think deeply about gay digital citizenship. For actors in the world of HIV prevention, virtual friction pushes them to consider how to make HIV prevention a more relevant and democratic practice for sexual communities while also asking them to develop meaningful working relationships with unlikely partners. It also challenges owners of sexual networking platforms to think about their relationships with users in more complex ways and adapt to a changing socio-political environment that demands more from the private sector (as the state distributes less). My intent is not to paint a rosy picture of virtual friction but rather to emphasize its importance in shaping and understanding complex socio-technical situations.

Summary

Broadly, this study asked what difference networked information technologies like the Internet have made in terms of gay men’s sexual cultures and HIV prevention. I began by suggesting that networked decentralization and privatization have generated forms of virtual friction regarding the role of sexual networking platforms in gay life. To call sexual networking platforms a digital bathhouse, for example, serves to both affirm the Internet as an important community space and a commercial venue. Calling it a virtual bathhouse also invites public health debates concerning the relationship between Internet use and HIV risk among gay men who seek sex online. This in turn reignites debates over the extent to which environments and structures shape agency or whether individual actions matter more, pointing to the limits of scientific narratives in explaining the complexity of modern social life. Whatever one’s ultimate stance is, there is no question that the Internet has become an integral part of sexuality and HIV prevention.
This study has also examined the discourses, subjectivities, and practices that follow the networking of sexuality and HIV prevention. Networked information technologies like the Internet have effected tremendous changes at the levels of production, power, experience, and culture (Castells, 2010). For gay men, the space- and time-shifting properties of new media technologies have transformed the social experience of place and time, creating a gay culture of real virtuality. With its analogue roots in both the physical spaces of bars and baths as well as the media platforms of personals ads and telephone sex, the gay culture of real virtuality uniquely decentralizes and privatizes cruising in new ways. The gay culture of real virtuality becomes a site of contradiction when the same affordances that provide users with the opportunity to come together and express themselves freely may also further a sense of vulnerability and alienation from community life. Many of my informants valued how sexual networking platforms allowed them to compartmentalize their sexual personae from their social ones, even as they wondered whether such connections were sometimes shallow or objectifying. They expressed similar ambivalence regarding anonymous online communication, valuing the ability to express uncensored opinions and feelings even as they expressed concern over how it empowered people to sometimes behave in cruel and even oppressive ways. Pointing out such limitations and contradictions does not diminish the value or importance of the gay culture of real virtuality; rather it outlines how friction mediates online participation.

The networking of HIV prevention has also been generative. Informationalization (Castells, 2009; Chow-White, 2008) mediates and actively constructs HIV prevention through platforms that allow actors—users, public health groups, and Internet entrepreneurs—to input, upload, access, and share HIV-related content online. Its consumerist orientation interpellates gay men as savvy sexual consumers making rational decisions in a marketplace of choice (Adam, 2006), while its digital dimension encourages them to classify, sort, and filter themselves in the name of HIV prevention. Informationalization also plays a productive role in HIV science, advocacy, and treatment activism as barebacking becomes serosorting (Race, 2010), serological identities become niche publics, and HIV activism becomes virtually indistinguishable from a marketing campaign. Such changes clearly represent an important step in modernizing efforts, and yet the binary logic of digital culture can create friction when the
informationalization of HIV prevention clashes with the needs and interests of people living with HIV. User and community resistance to the potentially totalizing tendencies of informationalization therefore serves an important function in ensuring that technology develops in a more equitable and culturally sustainable way. As networked information technologies begin to play an even more prominent role in contemporary prevention efforts, it will be important to observe how they are implicated in the active production of various subjectivities, discourses, and practices that—for better or worse—shape our understanding of the epidemic among gay men and other historically-marginalized groups.

This research project also inquired about the opportunities and challenges that arise, and how actors respond to these challenges. Certainly, actors from the public and private sectors face a series of challenges as they attempt to work together. Disagreements regarding causality, boundaries, and responsibility make problem-definition and solution-development a slow process. Adding to this is the politically charged nature of sexuality and HIV, which remain stigmatized issues. Public health actors working on online interventions must then play a delicate game of political tightrope as they navigate the bureaucratic and underfunded worlds of academia and the public sector, which are often ill equipped to support truly innovative approaches. This emphasizes that the networking of HIV prevention is not so easily resolvable by technological solutions alone. Rather, it requires that HIV prevention actors learn to co-operate and collaborate with owners of sexual networking and sexual health platforms as partners. The friction surrounding such public-private partnerships can be tricky and difficult to navigate. Yet, they occur because the changing state of HIV prevention and public health in the digital age demands it.

Contributions to the literature

Broadly speaking, this study contributes to the scholarly literature by examining how friction mediates the relationship between technological and social change. Friction is an important yet often neglected aspect of the study of science and technology. In her essay unpacking the nebulous meaning of actor-network theory (ANT), Anne-Marie Mol (2000) argues that classic approaches developed by sociologists like Michel Callon and
Bruno Latour tend to emphasize ordering mechanisms that eventually facilitate network stability at the expense of discussions of tensions. Looking specifically at ANT’s emphasis on the “association” of different actors and interests, she notices an absence of scholarly discussion regarding collaboration, clash, addition, tension, exclusion, and inclusion—topics that often emerge in many postmodern accounts of modern life. She notes that this happens even as ANT emphasizes heterogeneity and embeddedness while more constructivist accounts acknowledge the presence of power, manipulation and negotiation. Implied in much ANT accounts, Mol suggests, are that actors ultimately overcome their tensions. This emphasis on stability, according to Mol, ignores the role of radical change and uncertainty in socio-technical life. Not all black boxes close and not all controversies are resolved. Rather, in many real world situations, "gaps are only partially bridged…while tensions endure" (Mol, 2000, p. 264). Anna Tsing echoes this point, observing that “the omission of friction is still with us in much social theory” (2005, p. 274).

I found that this was very much the case in my study, where I struggled to find literature that adequately captured what I saw before me. This happens in spite of the fact that the study of scientific controversies is a cornerstone of classic science and technology studies, where epistemic and ontological frictions in scholarly debates are commonplace. I also found that the literature on networks and networked information technologies, while very interesting, often seemed to imply that the non-hierarchical structure of networks somehow produced seamless social arrangements. I felt that the rosy rhetoric of “non-hierarchical” and “participatory” structures often elided how hierarchies and cultural differences always find ways to rearticulate themselves in ways that can make group co-operation a challenge (see Wasén, 2015, p. 42). If networks are composed of heterogeneous groups, then it stands that there should be competing

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60 An example can be found in Trevor Pinch and Wiebe Bijker’s social construction of technology (SCOT) framework (1987), where the malleability of a technology’s meaning and form (interpretive flexibility) is solidified through the process of rhetorical closure. Although Pinch and Bijker leave open the possibility for a technology’s unmaking and remaking by relevant social groups, it still leaves us with a rather linear narrative of technological progress that requires stability and closure before it can be understood.

61 One example is the rather feisty debates between Latourian and Bath School perspectives regarding how the study of scientific knowledge should be pursued (see Bloor, 1999; Collins, 1992; Latour & Callon, 1992; Woolgar, 1992).
objectives, opposing power bases, and contradictory interests that can both advance and thwart collaboration—producing friction, if you will. This study attempts to examine that phenomenon, studying not only its evolution over time in a particular situation but also how it emerges among diverse groups of actors (see Wasén, 2015, p. 75). In the following sections, I explain other ways that my study contributes to the scholarly literature.

**Networking sexuality**

*Virtual Friction* is a study that engages with several key ideas from the fields of communication, Internet studies, and public health. Its major area of concern has been the social implications of new information communication technologies. This is evident in its engagement with Manuel Castells’ network society thesis, which draws on scholarship from the Toronto School of Communication (Innis, 1961; McLuhan, 1964; Wellman et al., 2003), sociological accounts of post-industrialism (Bell, 1976; Touraine, 1971), and (to some extent) modernity theory (Bauman, 2000; Giddens, 1991). Scholars in this tradition have examined how new technologies have helped destabilize traditional practices and modes of communication, reconfiguring traditional social structures (i.e. religion, the state, the family) and engendering new modes of collective identity and practice. Like my study, this literature emphasizes the fact that many of these changes are unprecedented and require us to readapt ourselves to meet technology’s new demands.

I have been careful in this study, however, not to place the Internet in a vacuum. There is no question that other mitigating factors and socio-technical developments have affected sexual cultures and HIV prevention. Changes in employment and the economy that have given rise to flexible and freelance labour mean that many work long or more irregular hours (Arvidsson, 2006). This helps partly explain the popularity of the Internet for hooking up, since it helps busy people fit dating into their schedules. Furthermore, the rising costs of living in major “gay-friendly” urban centres like San Francisco or Vancouver have created an economic incentive for people to log on for love and sex. In my opinion, this illustrates why many of my informants cited economic efficiency as a motivating factor for logging on instead of going out. Going to a bar and spending money
on cabs, cover, and drinks is simply less cost-effective than staying home and having someone come over. For HIV prevention, there is also no question that many other factors have shaped the epidemic among gay men. Homophobia, racism, treatment optimism, mental health, and addiction obviously contribute to HIV risk and transmission in more direct and obvious ways. Still, the fact that the Internet emerged during the same time period as the debut of effective treatments and the popularization of drugs like crystal methamphetamine onto the party scene is not insignificant. Nor is it insignificant that the Internet plays an important role in mediating all of these issues. In my view, this means that we must view the Internet in tandem with other developments—that we must study it as an important, though perhaps not a special, thing (see Wellman, 2004).

One theoretical contribution my study makes to the literature is in its development of the erotic culture of real virtuality. Re-appropriating Manuel Castells concept of the culture of real virtuality (2009), I have tailored it for this situation by labelling it the gay culture of real virtuality and treating gay networked communication spaces as media environments. The gay culture of real virtuality is a hybridized space spanning “online” and “offline” environments, which gay men create through the networked mediation and distribution of sexual content, images, and expressions. Like the culture of real virtuality Castells describes, it has roots in the analogue era through media forms like personals advertisements and telephone sex. However, what separates it from Castells’ is its physical dimension as it digitally rearticulates aspects of community spaces like bars and baths. Hybridization also appears through its modalities and affordances. The gay culture of real virtuality permits what Castells labels mass self-communication through user profiles, while its ability to tier people’s levels of participation in the gay community online personalizes their networked experiences with gay life. The gay culture of real virtuality is also hybridized in that it is both the result of grassroots efforts by early gay virtual communitarians and hackers and corporate efforts to cash in on gay identity and community online. This generates friction among those who wish to distinguish it as either a commercial digital realm or a political one. In reality, it is just as much a venue that encourages users to internalize the logic of consumption as it is a place where people build meaningful connections and communities. By treating sexual networking platforms and online HIV prevention as a part of gay men’s erotic
cultures of real virtuality, we can begin to better understand the meanings, contradictions and tensions that underpin their digital worlds.

This study also contributes to the sociological understanding of networked individualism by examining some of its more ambivalent implications or the virtual frictions that emerge. The scholarly literature about social networks and networked individualism frames it in largely positive terms. Social networks can provide sociability, emotional support, material needs, and information. Strong ties have traditionally been important, but in a globalized and distributed society, weak-tie relationships built on associations and episodic contact can also be beneficial (Granovetter, 1973). Networked information technologies play an important role in supporting weak-tie networks by helping people sustain multiple, overlapping interpersonal relationships varying in intensity and duration (Rainie & Wellman, 2012; Wellman et al., 2003). In my study, I found that all of these things were true and yet networked individualism was not always a win-win. Networked individualism satisfies needs for instant and ephemeral connection, but it also seemed to explain feelings of loneliness or dissatisfaction some of my informants experienced when wanting something more stable and permanent from an online connection. I also observed that networked individualism corresponded to epidemiological narratives framing centrality in sexual networks as intensifying rather than minimizing vulnerabilities to disease transmission. Having many loose and overlapping sexual connections can make for an exciting sex life, but according to epidemiological models this can also increase one’s chance of exposure to infection. Reconciling some of the promises and pitfalls of networked individualism may help add nuance to discussions over how it plays out in sexual life.

This study also contributes to the network society literature (Castells, 2010; Wellman et al., 2003) by mapping out its erotic contours. Although scholarly interest in online sexuality is growing (thanks in part to the popularization of online dating), sexuality remains peripheral in most mainstream scholarly discussions of the social implications of technology. To his credit, Manuel Castells makes brief mention of some of the erotic aspects of the network society by discussing France’s Minitel system (2009, p. 372) and San Francisco’s Kinky Komputer BBS (2001, p. 50) in his work but stops there. The lack of general scholarly attention to the networked life of sexuality is surprising, especially when we consider how the multi-billion dollar pornography industry
has historically been one of the earliest adopters of communication technologies and
digital services like streaming video and e-commerce (Barss, 2010; Lane, 2001). Or
when we consider the intimate relationship that exists between the history of online
dating/matchmaking services and the history of computing (Castillo, n.d.; Paumgarten,
2011; Peril, 2008). By placing sexuality at the centre of a scholarly discussion about the
Internet, this study broadens our understanding of its socio-technical implications.

It also does so by placing the experiences of sexual minorities at the centre of
inquiry. With the exception of public health or gender and sexuality studies, much of the
existing literature on online dating emphasizes the experiences of heterosexuals (see
Finkel et al., 2012; Heino et al., 2010; Smith & Duggan, 2013). This creates a hetero-
normative bias in the field that ignores how sexual orientation mediates users’
experiences with these technologies. Heterosexual people, for example, do not “come
out” on the Internet, nor do they face the same kind of challenges that same-sex
attracted people do finding partners in small towns, at work, and at most popular
nightspots. Heterosexual people do not log onto the Internet in search of a heterosexual
“community” or content because it is virtually everywhere. The same cannot be said for
sexual minorities who may be or feel otherwise culturally-isolated. All of these instances
suggest that sexual minorities have unique experiences with technology that mainstream
literature infrequently addresses. At the same time, I must point out that just because
sexual minority groups have unique experiences online does not mean that we cannot
discuss them in tandem with heterosexuals. I excluded heterosexuals from my study due
to the scope of the project and the particularities associated with gay men’s cultures and
HIV prevention needs. However, in my experience chatting with anyone and everyone
about online dating over the past five years, I believe that many of my findings—
especially regarding the erotic culture of real virtuality—would be applicable to
heterosexual users.

**Networking HIV prevention**

This study also contributes to the public health literature in its exploration of the
social and scientific debates regarding the role of the Internet in shaping HIV risk and
transmission. It provides another way to consider a question that communication studies
seems reluctant to explore: Under which conditions do environments influence behaviours, and under which conditions do individual behaviours matter more? In an attempt to dispel technological determinism and consider other factors that influence social change, contemporary communication studies seldom considers how everyday situations and uses of technology influence action. As a field, public health attempts to explore this question empirically by examining correlations between attendance at certain venues, risk behaviours, and health outcomes. It looks for patterns. This empirical approach, however, can sometimes be tenuous because correlation is not always sufficient to convince people who require an epidemiological smoking gun—
correlation is not causation. And although this is certainly true, how might we argue against causality without following the instrumentalist logic of ‘guns don’t kill people; people kill people’—which underemphasize the potential agency of artefacts? This study examined this tension in a more sociological manner, drawing on the tradition of science and technology studies (see Callon, 1986; Latour, 2005; MacKenzie & Wajcman, 1999). Problematizing the arbitrary distinction between technology and society, such sociological perspectives emphasize technologies as socially-shaped and socially-shaping. They understand that while technology is not the sole driver of change, it is neither a neutral tool that has no material effect whatsoever. This moves beyond questions of causality to also consider consequence and take stock of some the qualitative and quantitative differences that have accompanied the networking of sexuality and HIV prevention.

This study also contributes to the public health literature by examining how new technologies have changed research and practice. Until the Internet’s popularization in the 1990s, communication technologies largely served as one-way amplification tools for public health messages. Physical venues hosted structural interventions and behavioural ones often involved people meeting face-to-face. Recruiting participants for interventions and focus groups was often a time- and cost-intensive process, and getting out time-sensitive information required extensive budgets and liaising with media personnel. To some degree, many of these things remain true but the tools and environments have

62 Symbolic interactionism is a notable exception, although it tends to be associated with the Chicago School of sociology and not at all with the critical tradition of communication.
changed. Epidemiological perspectives on HIV risk and online sex-seeking frame the Internet as a potential risk environment, prompting researchers to explore how to translate interventions from physical environments to virtual ones (Wohlfeiler, 2000). HIV-specific features on sexual networking platforms and interactive health information portals are examples of such efforts. The Internet is a site of tremendous potential, but as I have shown in this study, digital tools do not come without their own challenges. High attrition rates (Bull et al., 2004), the slow pace of public research, technological obsolescence, and a lack of conclusive evidence regarding efficacy are examples of some of the frictions that frustrate successful efforts. As it turns out, face-to-face communication remains important for building trust and establishing the rapport to retain study participants. A strategy that may appear innovative for its time may be quickly dated by the time published research findings emerge. A reversal of the carrot-and-stick approach happens in studies where online anonymity protects participants’ privacy while making meaningful follow-up difficult. The findings of this study suggest that social factors need to be integrated into our understanding of why some technologies “succeed” and others “fail”. Failure is a particularly important aspect worth examining, since we tend to treat it as a sign of what went “wrong” rather than a way to move forward.

This study also contributes to the public health literature by examining how the classic tension between civil liberties and public health plays out in the digital age. With respect to HIV/AIDS and gay men, the most famous example of this occurred during the gay bathhouse debates of the 1980s (Bayer, 1991; Disman, 2003; Shilts, 1988) when public health officials in a number of U.S. cities pushed for closure. This polarized communities and provoked resistance from gay civil libertarians and business owners, many of who interpreted this as an unwarranted and sex-negative move to interfere in the private lives of gay men. Today, we see similar debates concerning the extent to which public health should involve itself in the sex lives of gay men but the civil liberties issues occur in a new context. From outrage over public health officials clandestinely logging onto Grindr for outreach purposes (Jaafari, 2014) to privacy concerns over posting personal health information online, the blurred boundaries between public and private have made online privacy the civil liberties issue of the 21st century. What are the
rights and responsibilities of platform owners and the state when it comes to user privacy and public health? Who decides?

A discussion of civil liberties and individual rights online with respect to public health also opens up room to consider the political and practical implications of neoliberal rationality vis-à-vis HIV prevention. Neoliberal rationality appears in empowerment discourses that locate the individual as the site of responsibility and change. How do we support people’s sense of autonomy and informed decision-making while also challenging discourses that serve to individualize HIV prevention and configure it into a series of decontextualized choices? This presents a challenge for those of us who wish to acknowledge and celebrate agency without diminishing the very real structures that make empowerment and the acquisition of “good” health a more attainable goal for some than for others (Ayo, 2012; Barry et al., 1996; Galvin, 2002; Petersen, 2003). This has implications when we consider the rhetorical power of HIV prevention messaging. Historically, community-level HIV prevention efforts have been most effective when they have appealed to some community value. Whether the value in question has been love (Callen et al., 1983), eroticism (i.e. “safe sex is hot sex”), or political resistance (i.e. the legacy of ACT UP), such rhetorical constructions went beyond disease prevention to also mobilize people as citizens and political agents. At a time when the political urgency surrounding HIV has diminished, what collective values could we mobilize to inform contemporary efforts? How do we meaningfully empower communities?

Recommendations/Areas for future research and practice

This study examined a number of questions but raises many more. For example, how do other media forms like television interact with the Internet in the gay culture of real virtuality? I ask this question because one thing that surprised me during my study was how frequently informants mentioned television—especially Showtime’s *Queer as Folk*—despite the fact that none of my questions had much to do with it. For many of my informants, television in the 1990s appeared to fulfil many similar functions to the Internet today. For young men living in rural or socially-conservative settings where Internet access was limited or parent-monitored, staying up late to watch gay content
gave them access to gay images and ideas that might have been otherwise out of reach. Although there was always the chance that a family member could “catch” them watching gay programming, it was a much less likely and awkward scenario than having to explain one’s Internet search history to their parents. Such programming may have also been formative in providing information about HIV/AIDS for men without firsthand knowledge of the epidemic, as programs like *Queer as Folk* featured main characters living with HIV and explored associated topics like serodiscordant partnerships, barebacking, sex work, addiction, aging, and death. More recently, programs like Logo TV/MTV’s *RuPaul’s Drag Race*, HBO’s *Looking*, and ABC’s *How to Get Away with Murder* have featured seropositive characters and plotlines that integrate current biomedical HIV prevention strategies like pre-exposure prophylaxis (PrEP) into storylines. Discussions and debates surrounding such media representations reverberate back into the gay blogosphere and play an important role in shaping gay men’s understandings of what it means to live with HIV today. Studying how television cultures intersect with digital ones may help inform the development of future programming and enrich our understanding of the gay culture of real virtuality I have explored here in this study.

Another area of inquiry concerns the terms and conditions of sexual networking platforms, especially in terms of prohibitions on references to high-risk sexual practices and drug use. In the early 2000s when sexual networking platforms were a relatively nascent and unregulated phenomenon, public health actors recommended that platform owners prohibit such references so as not to promote them. This was in line with bathhouse policies that prohibited illicit substance use, and laws prohibiting sex acts in places that serve alcohol. Owners implemented such measures for a variety of reasons, with public health’s recommendations standing alongside law enforcement drug measures and Internet service providers’ morality standards. Platforms like Manhunt offer users the option to check off a “no PNP” option if illicit substance use is a turnoff for them (Wohlfeiler, 2000), while Grindr and Scruff ban references to substances altogether. While the rationale behind such policies is clear, the enforced silence around substance use prompts questions about informed decision-making and unintended consequences. If one party prefers to use crystal meth and choose sexual practices that confer the risk of transmission while another does not, might both parties benefit from
knowing this information upfront? Platforms like Adam4Adam and BarebackRT, for example, have features allowing users to indicate and search for people based on drug and smoking preferences. Having evidence indicating whether current policies prohibiting references to high-risk sex and substance use are effective or whether alternatives are possible might benefit users, public health, and owners. It is also worth noting that the prohibition of such terminology is partly related to conservative App store guidelines requiring all content to be PG-rated. If words like “chemsex” or meth are banned, this can make it difficult for groups to recruit study participants or design culturally-appropriate online campaigns—something a few of my informants noted. Studying the research impact of such policies could potentially make the case that there may be a public health benefit toward having apps above a PG-rating.

From a practical perspective, it may also be worth considering some of the logistics necessary to reach public health goals like increasing uptake of online interventions, enhancing health communication, and supporting health literacy. At the moment, there are virtually dozens of tools that remain under-utilized partly because they are under-promoted. As I learned during my study, this is partly related to the fact that many public health institutions have no budgets allocated for promotion. And while there have been some stories of public health organizations partnering with sexual networking platforms to notify users en masse during local disease outbreaks (Stern, 2013), even these efforts have been hindered by a lack of adequate resources to pay for more comprehensive and planned-out campaigns. Outside of such emergency situations, how can we best leverage our society’s constant connectivity to give people HIV-related information they might actually want and need?

It should be noted that most gay men possess at least a basic level of HIV literacy and know to look online for sexual health information. Data from Canada’s Sex Now survey suggests that nearly 65% of gay and bisexual men have looked up sexual health information online. The same proportion of men were aware that ART suppresses viral load, while 80% were aware that there is a higher risk of HIV transmission for the receptive partner (CBRC, 2014). Although such findings are promising, others suggest that there are other aspects of HIV-related literacy that could be improved. Less than 50% of respondents in the same survey were aware of rapid and early HIV testing, while only 30% knew that an average of 1 in 5 urban gay men are currently living with HIV.
Given that HIV prevention is increasingly becoming a networked and data-driven phenomenon, ensuring that gay men are able to access, understand, and use such information is a crucial part of supporting their literacy and prevention needs in the digital age.

**Coda: “Is It Any Different Now?”**

To repeat the tagline of a famous British Columbia-based HIV testing campaign, *it’s different now*. For many (but certainly not all), an HIV diagnosis is no longer a dreadful death sentence but a chronic and manageable health condition akin to diabetes. Safe sex is not simply about practicing abstinence, being monogamous, and using condoms, but also involves a broad range of biomedical tools, processes, and practices. Pre-exposure prophylaxis, virological suppression, and serosorting have become other “tools” in the HIV prevention “toolkit”, to use the discourse of the field. Additionally, the anonymous sexual environments courting public health concern and social debate among gay communities are not just physical environments like bathhouses but virtual spaces that exist in the palms of our hands and in front of our faces. Once considered platforms for “risk-free” cybersex and sexual education, these so-called virtual bathhouses have become implicated in contemporary discourses surrounding HIV, culture, and gay men. Technically-speaking, things have clearly changed over the last three decades of the epidemic.

And yet, this techno-scientific movement contrasts against the social inertia surrounding HIV/AIDS. Racism, homophobia, sexism, transphobia, serophobia, and socio-economic inequities continue to shape the HIV epidemic and sexual life. HIV may appear to be under control in relatively white and well-resourced cities like Vancouver and San Francisco, but the same cannot be said for Indigenous reserves in the Canadian province of Saskatoon (Taylor, 2017) or the Southern US states that represent 21 of the 25 metropolitan areas with the highest HIV prevalence among gay and bisexual men (Rosenberg et al., 2016; Villarosa, 2017).

While we wait for more scientific developments to come down the pipeline, we find ourselves caught in the crossfires of bureaucracy, institutional inertia, and resource
constraints that impede meaningful change. Last year, Canada’s Liberal government announced funding cutbacks to a number of community-based HIV/AIDS organizations while the Trump-Pence administration has proposed what would be devastating cuts to HIV research and programming. These situations remind us of the deeply-political nature of an epidemic that remains unresolved, oscillating between the past and the present. “While it is different now, for a certain percentage of the population who can afford housing, take their meds on time, and have food, HIV isn’t a death sentence like it used to be,” one informant observed. “But we still see people showing up with full-blown AIDS. So is it any different now?” (006, interview). We can continue to ask how it could be that at a time when we know more and can do more about HIV than ever before that rates of infection remain elevated among gay men and other historically-disenfranchised groups, but we know the answer: The technologies are different, but the social problems remain the same.
References


Adult or sexual products and services. (2014). Retrieved from https://support.twitter.com/groups/58-advertising/topics/249-advertiser-policies/articles/20170427-adult-or-sexual-products-and-services#


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Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360–1380.


Phillips, W. (2015). *This is why we can’t have nice things: mapping the relationship between online trolling and mainstream culture*. Cambridge, Massachusetts: The MIT Press.


Rebchook, G., Curotto, A., & Kegeles, S. (2003, July). *Exploring the sexual behavior and Internet use of chatroom-using men who have sex with men through qualitative and quantitative research.* Presented at the National HIV Prevention Conference, Atlanta, GA.


## Appendix A: Informant Codebook

<table>
<thead>
<tr>
<th>Informant ID</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Gay community member</td>
</tr>
<tr>
<td>002</td>
<td>Community-based organization employee</td>
</tr>
<tr>
<td>003</td>
<td>Gay community member</td>
</tr>
<tr>
<td>004</td>
<td>Gay community member</td>
</tr>
<tr>
<td>005</td>
<td>Public health employee</td>
</tr>
<tr>
<td>006</td>
<td>Researcher</td>
</tr>
<tr>
<td>007</td>
<td>Researcher</td>
</tr>
<tr>
<td>008</td>
<td>Gay community member</td>
</tr>
<tr>
<td>009</td>
<td>AIDS Service Organization Employee</td>
</tr>
<tr>
<td>010</td>
<td>Internet entrepreneur</td>
</tr>
<tr>
<td>011</td>
<td>Internet entrepreneur</td>
</tr>
<tr>
<td>012</td>
<td>Internet entrepreneur</td>
</tr>
<tr>
<td>013</td>
<td>Internet entrepreneur</td>
</tr>
<tr>
<td>014</td>
<td>Gay community member</td>
</tr>
<tr>
<td>015</td>
<td>Internet entrepreneur</td>
</tr>
<tr>
<td>016</td>
<td>Community-based organization</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>017</td>
<td>Researcher</td>
</tr>
<tr>
<td>018</td>
<td>Researcher</td>
</tr>
<tr>
<td>019</td>
<td>Public health employee</td>
</tr>
<tr>
<td>020</td>
<td>Gay community member</td>
</tr>
<tr>
<td>021</td>
<td>Researcher</td>
</tr>
<tr>
<td>022</td>
<td>Gay community member</td>
</tr>
<tr>
<td>023</td>
<td>Testing counsellor</td>
</tr>
<tr>
<td>024</td>
<td>Gay community member</td>
</tr>
<tr>
<td>025</td>
<td>Public health employee</td>
</tr>
<tr>
<td>026</td>
<td>Researcher</td>
</tr>
<tr>
<td>027</td>
<td>Researcher</td>
</tr>
<tr>
<td>028</td>
<td>Non-profit organization employee</td>
</tr>
<tr>
<td>029</td>
<td>Researcher</td>
</tr>
<tr>
<td>030</td>
<td>Community-based organization employee</td>
</tr>
<tr>
<td>031</td>
<td>Gay community member</td>
</tr>
</tbody>
</table>
Appendix B: Interview Protocol

Personal questions

1. What is your name? [This question will not be included if the person wants to remain anonymous]
2. How old are you? [Optional]
3. What is your occupation? (general occupation title, no name of company necessary)
4. Which neighbourhood do you live in?
5. Where did you grow up?
6. When did you move to this city?
7. How old were you when you came out?
8. Are you single or partnered?
9. Do you have children?
10. Do you attend gay spaces like bars, clubs, gyms or events? Rarely, sometimes, often?

The gay internet

1. Can you remember the first time you used a computer and logged on to the internet? What kind of computer was it and what were some of the first services you used?
2. Can you tell me about some of the gay-themed online communities or services you remember seeing?
3. What were some of the purposes they served?
4. How did you find out that these existed? Were they advertised somewhere, or did someone tell you about them?
5. Did you know anyone who used them? Was there a particular type of user who visited these sites and services?
6. What are some of the reasons you think gay men might have been attracted or interested in using these services?
7. When was the first time you had heard of gay men using computers to arrange dates with other men?
8. Do you remember what people thought of these technologies? Were they excited?
9. If the internet was widely available in the mid 80’s, what difference do you think this might have made?
10. Do you think the internet has been an important technology for gay people? What kinds of opportunities and challenges have you seen?
HIV-prevention and sexuality for gay men

1. What does community-level HIV prevention mean to you? Do you think a gay community still exists today, and what might their role look like to you?

2. Do you think there is something unique about gay life and HIV/AIDS on the West Coast that is different than gay life on the East Coast, for example?

3. What have been some of the ways that gay men have traditionally found out about HIV/AIDS prevention? What difference does the internet make for people who have questions about HIV/AIDS?

4. Hook-up websites and bareback communities seem to get a lot of attention from community groups and researchers as new sites of risks. Some people think they promote risky behaviours. What are some of your thoughts on these services? Do you think we should discourage people from using them, do you think we could change them, or is there nothing we can do about them?

5. Do you think that the internet could be an important tool in HIV prevention and education for gay men?

6. Have you heard of any HIV-prevention programs for gay men that exist online? What about gay men’s health information services?

7. Even though we seem to know more about HIV/AIDS than we ever have, rates of infection have seemed to plateau and even rise among some groups of young men.

What are some reasons you think this is happening?

8. I am interested in the internet as a sexual space for gay men. Do you think cruising online is the same for gay men as it is for other groups, like straight men or women? Do you think gay men have unique needs in these spaces?

9. Even though a number of cities have bathhouses, bars and sex clubs for gay men, gay guys still seem to be interested in the internet as a way to meet other guys. Why do you think this is so? Do you think guys in bars and bathhouses are different?

10. Do you think that gay community spaces and businesses are important for HIV prevention? What happens when these spaces are closed down?
Appendix C: Maps

Situational Maps

Figure 16: Abstract Situational Map: Messy/Working Situational Map
<table>
<thead>
<tr>
<th><strong>Collective Human Elements/Actors</strong></th>
<th><strong>Nonhuman Elements Actors/Actants</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public health departments</td>
<td>New info. and communication technologies</td>
</tr>
<tr>
<td>Community-based organizations (CBOs)</td>
<td>Sexual networking platforms</td>
</tr>
<tr>
<td>AIDS service organizations (ASOs)</td>
<td>Medical records</td>
</tr>
<tr>
<td>Website/app owners</td>
<td>HIV medicines</td>
</tr>
<tr>
<td>Non-profit organizations</td>
<td>Drugs + alcohol</td>
</tr>
<tr>
<td>Health care providers</td>
<td>HIV tests</td>
</tr>
<tr>
<td>HIV researchers</td>
<td>HIV status</td>
</tr>
<tr>
<td>Activists</td>
<td>Safe sex</td>
</tr>
<tr>
<td>Big Pharma</td>
<td>Condoms</td>
</tr>
<tr>
<td>Policymakers</td>
<td>Risk/harm reduction</td>
</tr>
<tr>
<td>Health agencies/regulatory bodies (i.e. CDC, PHAC, FDA, Health Canada)</td>
<td>HIV prevention</td>
</tr>
<tr>
<td>Users of sexual networking sites</td>
<td>Ubiquitous Internet access</td>
</tr>
<tr>
<td>“At risk” gay men</td>
<td>Access to health care and public funding</td>
</tr>
<tr>
<td>Gay men living with HIV</td>
<td>HIV</td>
</tr>
<tr>
<td>Seronegative men</td>
<td>STIs</td>
</tr>
<tr>
<td>PrEP users</td>
<td>Data + databases</td>
</tr>
<tr>
<td>Serodiscordant couples</td>
<td>Bars and bathhouses</td>
</tr>
<tr>
<td>Gay men of colour</td>
<td>FDA/Health Canada regulations/approval</td>
</tr>
<tr>
<td>Young gay men</td>
<td>Telecommunications policies (esp. CDA, 1996)</td>
</tr>
<tr>
<td>Older gay men</td>
<td>Internet risk hypothesis</td>
</tr>
<tr>
<td>Courts/legal system</td>
<td>Internet interventions</td>
</tr>
<tr>
<td>Patient-consumers/informed patients</td>
<td>Media</td>
</tr>
<tr>
<td>Advertisers &amp; marketers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Social World Constructions of Individual and/or Collective Human Actors</strong></th>
<th><strong>Social World Construction of Nonhuman Actants</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public health as protector vs. antagonist of gay men</td>
<td>HIV medicine (HAART, PEP, PrEP) as magic bullet</td>
</tr>
<tr>
<td>Website/app owners as having great vs. no responsibility vis-à-vis the health of gay men</td>
<td>HIV as a manageable, chronic condition vs. a deadly disease</td>
</tr>
<tr>
<td>Gay men as vulnerable/reckless vs. responsible/empowered subjects</td>
<td>New info. &amp; communication technologies as disrupting/augmenting HIV prevention</td>
</tr>
<tr>
<td>CBOs/ASOs as representatives of gay men’s needs</td>
<td>Safe sex as success vs. failure</td>
</tr>
<tr>
<td>PrEP users as responsible sexual actors vs. reckless #TruvadaWhores</td>
<td>Sexual networking platforms as sites of risk and transmission</td>
</tr>
<tr>
<td>Health care providers as knowledgeable partners vs. clueless adversaries</td>
<td>Bars and bathhouses as community institutions</td>
</tr>
<tr>
<td>Gay men living with HIV as vulnerable/reckless vs. empowered/responsible (i.e. Undetectable)</td>
<td>Health regulatory bodies and big pharma as impeding/supporting prevention efforts</td>
</tr>
<tr>
<td>Patient-consumers/informed patients as empowered subjects</td>
<td>HIV tests as HIV prevention</td>
</tr>
<tr>
<td></td>
<td>PrEP as revolutionizing/challenging HIV prevention</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Political/Economic Elements</strong></th>
<th><strong>Socio-cultural/Symbolic elements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Social determinants of health</td>
<td>Network society &amp; Gay culture of real virtuality</td>
</tr>
<tr>
<td>Cost of HIV prevention, treatment, &amp; care</td>
<td>Transgressive sexual practices (i.e. barebacking, PnP, chemsex)</td>
</tr>
<tr>
<td>Neoliberalism</td>
<td>HIV stigma</td>
</tr>
<tr>
<td>Civil liberties</td>
<td>Technological determinism</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>Sexual racism</td>
</tr>
<tr>
<td>Criminalization</td>
<td>Sexual autonomy</td>
</tr>
<tr>
<td>Privacy &amp; security</td>
<td></td>
</tr>
<tr>
<td>Responsibility</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Budget cuts/restrictions</th>
<th>Disease prevention</th>
<th>Politics &amp; norms surrounding HIV disclosure</th>
<th>Self- &amp; peer-policing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureaucracy</td>
<td>Promotional culture</td>
<td>Safe sex as community practice</td>
<td>Homosclascinity</td>
</tr>
<tr>
<td>Homophobia</td>
<td></td>
<td></td>
<td>Community/altruism</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individualism</td>
</tr>
</tbody>
</table>

**Temporal Elements**

- History & legacy of HIV/AIDS epidemic (1981-)
- HIV/AIDS activism (1981-)
- Internet’s development and popularization (1990s)
- Deregulation of telecommunications providers (1996)
- HAART as watershed moment (1996)
- Increase in HIV non-disclosure cases (1998-)
- AOL SFM4M syphilis outbreak (1999)
- HIV status added to websites (2000s)
- Development of smartphones & apps (2000s)
- Development of sexual health tools online (2004-)
- Grindr as first GPS dating platform (2009)
- U.S. FDA approves Truvada for PrEP (2012)

**Spatial Elements**

- Decentralization of socio-sexual networks through technology
- Ubiquity of accessible information
- Gay neighbourhoods
- Positioning of culturally-competent health care
- Proximity to tech centres (i.e. Silicon Valley)
- Space of flows
- Big city/small village feel
- Compartmentalizing erotic/social spaces

**Major issues/debates (usually contested)**

- Civil liberties vs. public health
- Structure vs. agency
- Individual vs. community
- Whose responsibility is HIV prevention?
- Is HIV prevention succeeding or failing?
- HIV: The biggest health issue facing gay men?

**Related discourses (historical, narrative or visual)**

- Responsibilization discourses
- Risk discourses
- Health discourses
- LGBT discourses
- Gender/race/class discourses
- Technology discourses

**Major social processes**

- Networking
- Sorting
- Filtering
- Matching
- Classifying
- (Re)Branding
- Marketing
- Promoting
- Preventing
- Transmitting
- Cruising
- Chatting
- Negotiating
- Informationalizing
- Collaborating
- Cooperating

**Other specified elements, moral/ethical; mass media and other pop cultural discourses**

- Representation of illness, disease, health
- Scientific literacy & media representation
- Health communication & promotion
- Blame, purity, cleanliness, borders
- HIV ambivalence
- Online anonymity, social distance, visibility

Figure 17: Abstract Situational Map: Ordered/Working Situational Map
Figure 18: Social Worlds/Arenas Map: Big Picture
Figure 19: Arenas Map
Figure 20: Social Worlds Map
Networking HIV Prevention: Whose Responsibility is it?

Business owners are responsible for clients’ well-being

We all have our part to play

This is public health’s problem

Business owners are responsible for clients’ well-being

Public health needs to step up

Everyone must do their part

Networking HIV Prevention: Whose Responsibility is it?

Business owners are responsible for clients’ well-being

We all have our part to play

This is public health’s problem

Business owners are responsible for clients’ well-being

Public health needs to step up

Everyone must do their part

Figure 23: Positional Map, Responsibility: Individuals vs. Businesses

Figure 24: Positional Map, Responsibility: Individuals, Public Health, Businesses