The Tunneling Metaphor in Networked Technologies

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Abstract
This article explores the metaphor of tunneling to illustrate how the emancipatory language of border resistance can become co-opted in transnational technocultures. Drawing on specific instances of tunneling in science fiction film, video games, and digital platforms, I reveal how this metaphor has been mobilized to cast vanguard forms of online connectivity and networked transgression in terms that are distinctly white, masculine, upper class, and adhering to liberal tenets of individual mastery. This analysis suggests why we must question what kinds of politics and which subjects are privileged or undervalued in the metaphorical discussions of online borders and so-called border resistance. Only then can we respond to dominant and reactionary forms of transmission and connectivity across the internet.

Keywords
borders, tunnels, whiteness, class, traffic, VPNs

Introduction
The border is not a metaphor. As Gloria Anzaldúa (1987) describes in her influential text *Borderlands/La Frontera*, living with borders is a rich, conflictual experience on social, political, and environmental registers that exceeds the physical demarcation of a dividing line between two nations. Emerging from and reinforced by a plethora of sociocultural divisions and the institutions that support these, geopolitical borders manifest political struggles as demarcations on physical space and as control mechanisms that regulate movement. Borders are constructed by negotiations between individuals and institutions, performed by

habitus, and subject to instability and constant change. The "actual and heuristic disaggregating" of nation-state borders during late twentieth-century globalization increasingly relied on information and communication technologies (Sassen 2005). These technologies help agents beyond the national territory to fortify its boundaries from afar, generating mobile borders that "jump scale" into transnational space and "touch down" in various nodes across the globe (Brenner 2004, 57). Dependent on complex databases and biometric technologies located in distant territories, "remote control borders" identify, profile, and track transnational movement (Shields 2014). In short, the twenty-first-century border is a highly differentiated sociocultural entity embedded in, and increasingly reliant on, networked technologies to operate.

Although the border is not a metaphor, metaphorical invocations of the border abound in technoculture, from geoblocked access, to entertainment content, to enclave discussion forums, to subscription paywalls. As struggles over sovereignty, surveillance, and control become an inescapable feature of online interactions, the internet can no longer promise a border-free network of connectivity. Discussions about partitioning off sections of the online sphere and restricting availability of content borrow the language of borders to explain uneven distributions of user access. Indeed, online communications have become highly stratified and discriminatory, replicating many of the social inequalities of the offline sphere (Noble 2018). Because of such concerns, the rising adoption of metaphors about online borders must be more carefully examined. How, why, and for whom these online "borders" exist may have some parallels with offline borders, but often the material implications of different borders are widely divergent. As the metaphorical borders of the internet give rise to other metaphors that signal adherence to or responses against such boundary-making practices (storming, breaches, stealth modes), we must attend to and interrogate what kinds of politics and which subjects are privileged in these discussions of so-called border resistance.

In this article, I turn to the metaphor of tunneling to illustrate how emancipatory language of border resistance becomes co-opted in transnational technocultures. This metaphor reveals new, and refashions old, forms of defining and modulating information transmission over the internet. Drawing on how the figure of the tunnel has been deployed in specific instances of science fiction film, video games, and digital platforms, I illustrate three distinct aspects about digital networked culture mobilized by the tunneling metaphor: mapping entry points as underground resistance; corridoricity as geopolitical structuring; and boundary crossing as user-friendly practice. Tunnels allude to a symblolic vertical differentiation between channels of connectivity that are not in some online elsewhere, but remain just below the channels used for everyday navigating (Llamas-Rodriguez 2016). This vertical differentiation reveals a struggle for legitimacy, where only accepted channels are deemed (metaphorically) "above ground" and all other channels are actively persecuted for undoing the state and

corporate interests in the internet. Although many of the material infrastructures that support the internet lie underwater or in outer space (Starosielski and Parks 2015), the verticality of the virtual sphere remains predominantly a symbolic one. Tracing the tunneling metaphor illustrates how power struggles over control of transnational connectivity play out in spatial terms.

In particular, I am interested in how the tunnel metaphor has been mobilized to cast vanguard forms of online connectivity and networked transgression in terms that are distinctly white, masculine, upper class, and adhering to liberal tenets of individual mastery. As Fred Turner demonstrates, the capture of countercultural movements into emergent cyberculture of the mid-twentieth century envisioned a "new world" that was distinctly masculine, upper-class elite, and white by "celebrat[ing] systems theory and the power of technology to foster social change" and "turn[ing] away from questions of gender, race, and class, and toward a rhetoric of individual and small-group empowerment" (2006, 97). The examples I discuss in this article reveal instances where the tunnel metaphor in early twentieth- and twenty-first-century technocultures took the resistant connotations of underground cross-border formations and repurposed them to reinforce an imaginary of white, male, and elite control over mediated space. The metaphorical purchase of the tunnel as hidden, restructuring, and transgressive enables the reinforcement of traditional sociocultural norms (whiteness, masculinity, wealth) in emergent technocultures under the guise of inventiveness, innovation, and rebellion.

Tunneling as a metaphor applied to transnational communication technologies helps us apprehend the contours of the cultural and political geographies of the internet—in other words, how dominant and resistant practices de- and re-territorialize the online world. Metaphor, as a conceptual vehicle, allows for uncovering affinities and adjacencies without eliding differences. Vertical metaphors for operations of power are especially useful for those who are subordinated since the symbolic recasting of power struggles as vertical spaces begets sites for exposing and contesting these relations. As Lisa Parks (2013) argues, mapping a vertical public space has clear stakes even for those who may not yet have the means to access it. Tunnels have always shaped popular ideals about public spaces, about who can access these, and about the strategies for reclaiming them. Tracing the tunneling metaphor in various media forms offers us lessons in how such ideals can also be mobilized to support the enduring hold of an elite white male ethos in the networked sphere. These lessons can then help us respond to dominant and reactionary forms of transmission and connectivity across the internet.

Mapping Entry Points as Underground Resistance

Hidden underground transnational networks have long figured in practices of state resistance and popular reimaginings of public space. As Lara Langer Cohen (2017) argues, images of the underworld date back to antiquity and have often

been associated with oppositional cultures, but the figurative use of "underground" to signify a movement that operates out of sight and from below is a relatively modern phenomenon. Cohen dates this to the 1840s when the popular idea of the "Underground Railroad," a network of secret routes and safe houses established in the United States during the nineteenth century for African American slaves to escape into Canada, gave wide circulation to the notion that hidden thruways allowed for the unfettered movement of people across state boundaries. Likewise, Rosalind Williams traces the emergence of a "type of underground story" in nineteenth century literature where the underworld becomes a site for living otherwise. The technological sophistication of these imagined undergrounds provided speculations not only about new worlds but also about new world orders (Williams 1990). The modern formulation of the secluded underground as a site of opposition thus flourished in tandem with discourses about technological disruption.

Tunnels became a specific formulation of underground imaginaries that attracted popular attention throughout the twentieth century. The tunnels under the Berlin Wall, for instance, have been the object of much media fascination for decades. At the height of the Cold War, they were the subject of the Hollywood films such as *Escape from East Berlin* (Siodmak 1962) and the reason for strained relationships between US television networks and the US State Department. In the early 1960s, the news divisions of the CBS and NBC networks indirectly aided the construction of some of these tunnels in return for exclusive rights to film people escaping through them (Mitchell 2016). The tunnel still serves a mythic function in the unified Germany of the twenty-first century, both as a reference to the tunnels that once existed there and as a rhetorical figure for Cold War legacies. The aesthetics of Berlin's tunnels even recur in other national cinema's reimaginings of Cold War experiences, as in the case of the Serbian film *Underground* (Kusturica 1995). The symbolic power of the tunnel as a figure of the physical and metaphorical "underground" has persisted over time and across regions.

When figures like walls and tunnels metaphorically spatialize the complexities of geopolitics, we run the risk of simplifying a multiplicity of struggles into a binary of freedom and control. In the case of films and television shows about the Berlin tunnels, David Pike argues that "opposition to the Wall could respond only in terms of the spatial metaphorics determined by it, and so it is with great difficulty that tunnel fictions diverge from the simple opposition of oppression and freedom" (2010, 76). Being underground and unseen need not always translate into furthering progressive or liberatory causes. These underground formations can also abet reactionary projects like organizing white supremacist groups or support quotidian yet illicit activities, such as the smuggling of alcohol (in the early twentieth century) and drugs (in the late twentieth and early twenty-first centuries) through the tunnels underneath the US-Mexico border.

Given the popular lore of tunnels for both progressive and reactionary practices, it is hardly surprising that the creators of Tor, an online browser that allows for anonymous browsing in various websites, liken their work to a "series of virtual tunnels" (Boggan 2013). Indeed, much of what transpires in the unsearchable parts of the internet mirrors the underground activities that tunnels facilitate in the physical world, from tactical organizing to smuggling. Yet the casting of a browser *as an entry* into a virtual tunnel reveals one notable difference in how opacity operates differently in online networks of communication and transmission from offline ones. The "length" of an underground tunnel in the virtual realm is primarily a fiction since its material conduits—the computers, fiber optic cables, servers—are ostensibly the same as those for legitimate channels. What makes a difference between the licit and illicit channel is often the entry point which allows the user to forge a network transmission without being detected. The hiddenness of sites like the now-defunct Silk Road and its subsequent dark web copies lies not only in the fact that the sites are untracked but also in the regular user's inability to make their way there. The metaphorical use of tunneling in these instances renders access to opaque spaces as a function of possessing the know-how to find "the route" to get there. Such know-how remains heavily coded as a white masculine enterprise of flaunting the rule of law for play and pleasure.

To illustrate this metaphorical dynamic, consider one of the best digital culture examples where the "hiddenness" of tunnels lies in discovering a specific point of entry and where the ability to navigate such entries is celebrated as individual might: the console game *Grand Theft Auto V* (Rockstar Games 2013). The fifth entry in the popular and polemical game series, *Grand Theft Auto V* (*GTA V*) takes place in the fictional region of San Andreas and the fictional city of Los Santos, a reinvention of Los Angeles that is likewise filled with celebrities, crime, and extensive and complex highway systems. The game's main story focuses on three male criminals' plans for robbing the Union Depository, a bank filled with US$200 million. The trio find themselves fighting against and running from local police, corrupt federal agents using them to carry out their own agenda, and numerous rival gangs. Throughout the game, they must complete a series of side heists, including carjacking and armed confrontations with other criminals, in their path to rob the Union Depository. During these missions, players race around the streets of Los Santos and the city's extensive underground tunnel systems. The use of underground tunnels in the game offers the possibility of movement without surveillance from the authorities. Tunnels signify the potential to operate below the threshold of visibility. By design, the police characters in the game are programmed to lack understanding of the vertical layers of the city. These non-playable characters (NPCs) have the tools to track the player as they move in the horizontal plane yet cannot fathom where the player may be if they do not show up on the street. These illicit structures signal an alternative geography that is incompatible with the horizontal modes of viewing previously assumed by the forces of control.

However, detection at the points of entry and exit to these tunnels is tantamount to the legibility of the underground. In *Grand Theft Auto V* Let's Play videos, users warn that tunnels are only a viable escape measure if a police car is not immediately behind the player when the player drives into the tunnel. Players will warn that police NPCs can only discover the underground tunnel system by directly following a player into the tunnel during a chase. Game users thus post city maps from the game and indicate to others where the ideal entrance and exit points for these tunnel systems lie. On forums, users will share maps and offer suggestions on the entrances best suited to avoid detection (Figure 1). Players use these entrances to make last-minute decisions during a chase sequence. Through their fan practices, these users build an alternative geography of the city, opening new pathways for its navigation.

Figure 1. Screen capture from Reddit post by user areski, "The tunnels beneath LS are apparently a great place to hide out a bounty," November 14, 2013.
https://www.reddit.com/r/GrandTheftAutoV/comments/1qly4f/the_tunnels_beneath_ls_are_apparently_a_great/

The coding of the NPC police agents in *GTA V* as oblivious to and unable to track the game city's tunnels except by following the players into them reveals a key feature in the tunneling metaphor within digital culture. As opposed to physical tunnels, where the entire structure constitutes a separate channel for transportation, virtual tunnels operate materially with the same component parts as the channels deemed "above ground." Any given user's opportunity to access

these virtual tunnels, however, depends on the user's capacity to find the point of entry and to access it undetected. Likewise, the policing NPCs' capacity to discover and intervene in these unauthorized channels depends exclusively on following a player into the hidden "underground" system. Given how heavily *GTA V* is coded as a masculine world, this tactical mastery of space, understood in terms of exploiting spatial openings without alerting one's enemies, operates as a form of macho one-upmanship.

How these tunnel networks operate procedurally in *GTA V* illustrates the metaphorical purchase of tunneling when referring to other illicit networks of connectivity whose access is coded as "enterprising" or "daring." By reconfiguring the fact of different points of communication access into the imaginary of an entire virtual underground space, the tunneling metaphor affords a familiar way of figuring the social and political implications of a rather technical detail. Using a Tor browser to access and navigate the dark web likewise makes more sense as an entry into a "series of underground tunnels" than as a hub for transporting data from faraway servers through the use of specialized transmission protocols. This reconfiguration afforded by the tunnel metaphor extends from the points of entry to the entire network implied by the transnational connectivity of the internet.

Still, it is not a coincidence that the tunnel as a figure for representing mastery of space and for reconfiguring the flaunting of the law as pleasurable play would lend itself to the dynamics of a game like *GTA V*. Several game scholars have critiqued the game's reinforcement of racist and misogynist stereotypes through its rules and design (Leonard 2006; Gray 2015). In particular, Amanda Phillips notes that the fact that San Andreas draws heavily on the urban design of Los Angeles means understanding the virtual city in *GTA V* as a "racialized geography" with "geometric division[s] of Los Santos into racial gang territories" (2020, 62). The restrictions imposed on which NPCs can travel (or not) across the game's geography illuminates its pervasive encoding of racial segregation. The presence of hidden underground tunnels that allow certain players to upend such segregations only to benefit the racist violence that the game enables demonstrates how the figure of the tunnel gets co-opted in digital cultures. Tunneling to escape oppressive authorities shifts from a liberatory to a reactionary practice.

Whether in the dark web or in the *GTA* virtual urban space, the use of tunnels to signify flaunting the rule of law evacuates the collective imaginaries of freedom and rebellion of the underground railroad image and transforms traversing hidden passageways as individualistic feats reserved for cunning users. Further, such acts of traversing are often coded as white and male, distorting erstwhile resistant practices into the reinforcement of dominant norms. The imaginary of these hidden passageways as progressive resistance must be tempered by a critical evaluation of the types of flows they enable and the kinds of subjects who control access to such flows.

Corridic Structures and Transnational Geopolitics

At a transnational scale, metaphorical tunnels in technoculture can render the complexity of the planet into a series of corridors enabling the smooth passage between two points. Corridors are instruments of modernity that attend to speed, power, social differentiation, and the industrialization and corporatization of life. They function as "purpose-driven spaces" whose main function was to bring "man, building, and nation into a single optic" (Jarzombek 2010, 751). In the late twentieth and early twenty-first centuries, the cultural imaginary of the corridor has expanded more powerfully to the realm of the geopolitical: urban corridors, pipeline corridors, supply corridors. Supply corridors are an essential feature of understanding the organization of the world within the field of logistics, concerned with "the management of the movement of people and things in the interests of communication, transport, and economic efficiencies" (Mezzadra and Neilson 2013, 206). As Sandro Mezzadra and Brett Neilson explain, "the aim is not to eliminate differences but to work across them, to build passages and connections in an ever more fragmented world" (2013, 206). These passages are the global supply chains that, as Deborah Cowen (2014) analyzes, increasingly become fundamental to, if not interchangeable with, national security. The discourse of corridors in global logistics functions as a way to simplify an ever more fragmented world into linear, smooth passages between two faraway points.

Nowhere is the geopolitical reordering of the world into logistics corridors better figured as a tunnel than in a series of transnational films from the early twentieth century based on the novel *Der Tunnel* by the German author Bernhard Kellermann. *Der Tunnel* tells the story of the man who plans and builds an underground tunnel between Europe and the United States, and all the filmic adaptations follow this basic premise faithfully. The book's earliest cinematic iterations were the multi-language version films *Der Tunnel* and *Le tunnel* (Bernhardt 1933). Multi-language film versions, or productions shot simultaneously in different languages with different casts, were common practice in the early years of film sound before the introduction of dubbing. While the plots of both films concern the planning and building of an underground tunnel between Europe and the United States, the films' production also embodies this transnational orientation. Co-produced by Vandor Film in Paris and Bavaria Film in Munich and shot simultaneously in French and German, the films gestured at the potential and pitfalls of transnational solidarity in the years prior to the Second World War. Two years after these films, the British adaptation *Transatlantic Tunnel* (Maurice Elvey 1935) encoded the significance of the tunnel construction in broader geopolitical terms than its predecessors. A group of wealthy British and American industrialists invest in a scheme proposed by Richard McAllan (our main character) to construct the tunnel between the United States and Britain—a single undersea linear connection between two nations that the story presents as tantamount to "connecting the world."

The titular tunnel in this film operates as a transnational figural corridor that shapes the possibilities for imaging the geospatial organization of the world otherwise. As Kate Marshall (2013) demonstrates, modernist narratives employ the corridor to reflect on their own formal character. As a literary form, the corridor encodes in its own material structure the communicative aspects it represents: connection, movement, and division. Because of its self-reflective formal character, the corridor reveals the aesthetic, technical, and political operations that go into its creation. In *Transatlantic Tunnel*, the film draws a direct connection between tunnel construction and international broadcasting, marrying the physical corridor with the appeal of uninterrupted connectivity across continents.

The scene in question opens on a medium close-up of an outdoor speaker with the sky in the background. The announcer's voice on the speaker indicates, "This is the Outer Wave Broadcasting and Television Station calling the world." As the announcer provides details about the tunneling project, the camera tilts down to reveal three levels of stairs leading up to the speaker. With skyscrapers visible in the background, the speaker tower thus appears as if it is monumental itself. The tilt down continues until the frame settles on an outdoor screen, framed inside a console as if it were a television the size of a house. On the screen we see the Outer Wave announcer and a camera behind him. The screened image dissolves into a look inside the transatlantic tunnel. "You are now looking at the latest completed sections on the English side," says the announcer (Figure 2). Two more dissolves introduce the radium drill making the tunnel possible, first in a long shot and then in close-up. The announcer then introduces Richard McAllen as the "presiding genius behind all this tremendous effort" and the "inspiration of thousands of workers." "You've seen him spoken of, you're now going to see him and hear him speak," the announcer exclaims as another dissolve introduces Richard being interviewed. As Richard begins his speech, we finally cut from the outdoor console screen to a medium close-up of Richard as he stands within the tunnel. A cut to a long shot reveals Richard, a gaggle of reporters, the tunneling crew, and the cameraperson interviewing him in front of the radium drill. After cutting back to the medium close-up of Richard, the film cuts to the American side of the transatlantic tunnel, where the worker crew stands around watching Richard's interview in another consoled screen about as high as a man (Figure #3). Richard ends his speech by claiming, "We're on our way," and the American workers cheer enthusiastically.

Figures 2 and 3. Screen grabs from *Transatlantic Tunnel* (1935)

Throughout this scene, the editing and framing simulates visually the transnational connection that the story's tunnel attempts to do diegetically. The focus on the "television" screens and the long-distance live broadcasting transport us from the unidentified urban setting to inside the British side of the tunnel then to inside the American side of the tunnel. Along with interpellating the diegetic

public (and the audience) as "the world," the scene presents what would have been at the time a futuristic medium to introduce another futuristic infrastructure: the television and the transatlantic tunnel represent for the 1935 audience similarly novel channels of connection. Indeed, the *NY Times* reviewer for the film briefly mentions the irony that "the prophets at Gaumont-British lay their engineering triumph in the not-too-distant future when television and trans-Atlantic passenger service by plane have become practicable" (Sennwald 1935). Cutting into the television frame as the way to transport into the British side of the tunnel and then connecting to the American side via the giant screen renders the technical affordances of television (long-distance wireless broadcasting) through the formal affordances of cinema (spatial and temporal matches through continuity editing). The fact that most of the scene has us watching the footage of the tunnel through the frame of the television cements the parallel between audiovisual media and underground transportation. This screen is the symbolic window into the world just as the tunnel is meant to be the physical thruway across the world.

In *Transatlantic Tunnel*, the figure of the tunnel translates the technical capacity for media access into an aspiration for undoing geopolitical divisions. Not only was this aspiration particularly poignant in the interwar years, but it is also one that continues throughout the history of audiovisual media in the twentieth century and into the twenty-first. Each new medium navigates the promise of transgressing boundaries while contending with its own emergent technical limitations. Understanding the discursive work of the tunnel metaphor illustrates how media intervenes in these desires for unfettered transnational connection in aesthetic, technical, and political terms. Similar to many mainstream histories of technological disruption and change (Bailey 2011), the construction of this technologically sophisticated tunnel here is coded in gendered terms. There are only minor women characters in the film and the major thrust of the narrative lies in the sole man's quest to finance and carry out his transatlantic plan.

Crucially, the tunnel in *Transatlantic Tunnel* is also coded in strict class terms. The designer and executor of the tunnel is an affluent British man funded by wealthy industrialists. The constructors of the tunnel itself, who have no speaking roles, are coded as working-class laborers. Given the film's emphasis on drawing parallels between the tunnel construction and transnational telecommunications, these workers are, metaphorically, not only cogs in the machine but also electromagnetic pulses. Indeed, at the end of the scene described above, the foreman on the American side of the tunnel motivates his workers by reminding them that the boss man on the other side is waiting for them.

Such class-stratified positions vis-à-vis technological change may seem quaint when viewed through an early twentieth-century film. Still, such dynamics continue to permeate twenty-first-century discourses. Consider the dedicated online fan bases of wealthy technologists such as Elon Musk and Jeff Bezos, fans

who perceive these Silicon Valley capitalists as individual, ambitious "geniuses." Musk, in particular, has been notorious for proposing (and failing) to build exclusive underground tunnels to make driving electric cars smoother and easier for the wealthy elite who can afford them (Cao 2021). The evocation of figurative and literal tunnels as corridors for ease of travel continues to imply hierarchies of class, creating exclusive channels for those with the means to build their separate forms of connectivity. At the same time, such exclusive focus on the individual genius of affluent white men diverts attention from the thousands of laborers upon whose work these purported technological achievements rely upon.

Boundary Crossing as User-Friendly Practice

At its most basic, the main function of bordering formations is to sort and redirect movement. Border metaphors remain compelling in technoculture because the logics of traffic management in online connectivity owe much to the (often forceful) selection and redirection of movement that occurs at geopolitical boundaries. Traffic consists of flows and blockages, where these blockages serve to direct the flows. The dominant logic here is thus not of access and trespass, but of sorting. Sorting implies management, modulation, and regulation rather than inclusion and exclusion. For instance, immigration documents such as passports, visas, and permits are structured as a series of barriers that sort people out even before arriving at the border. When an individual is not permitted entry, they are sent to another location, or back to their country of provenance. Sorting implies that movement is constant and extensive. Methods of securitization are therefore attuned to redirect, to steer the movement away, around, or besides rather than stop the movement altogether.

In computer science, a sorting network is an algorithm that organizes a fixed number of values using a set sequence of comparisons. It is called a network because the basic model is a series of lines and comparator modules—of edges and nodes. The input values flow across the lines. Each comparator connects two lines, compares the values coming in through the lines, and outputs the smaller value to one line and the larger to the other. The sorting network is thus the simplest example of what the logic of traffic entails: values flow through lines, arrive at checkpoints that evaluate them, and then continue sorted into their intended lines. In a larger scale, traffic consists of this process, repeated infinitely, in what Alexander Galloway (2014) terms an "infuriated" manner—distributed, multiple, asymmetrical, rhizomatic. Sorting serves as traffic's protocol, as the distributed management systems that allow control to exist within the heterogeneous material milieu of global networks. Tunneling then is the contravention of these protocols, distorting the sorting mechanisms within the network, preventing them from selecting what is authorized or unauthorized and thereby impeding them form redirecting their flows.

If the distributed network is all-encompassing, there is no thinking of an inside and outside. There is only the network that comes alive when traffic occurs within

it. The very "liveness" of the network depends on the existence of traffic, yet traffic is also trafficking: the movement of unauthorized data that sorting mechanisms hope to redirect likewise keeps the network live. Indeed, the classification of such data as unauthorized or illicit is a result of the sorting mechanism itself. The process of securitization at play is not stopping the traffic/trafficking, but devising methods to identify and redirect flows accordingly. Undesirable connections must be somehow tracked, marked, and regulated. If the dynamic network exists through process, as Galloway and Thacker argue in *The Exploit* (2007), it depends on the transit of both licit and illicit traffic to bring it forth. Stopping that transit altogether would bring about the demise of the network itself. Control must take shape in forms that allow for distributed formations and movement.

Tunneling extends this dialectical struggle between sophisticated methods of sorting and more robust tactics of sorting contravention into a global geopolitical scale. If global traffic depends on the movement of flows, then its sorting should take place at the traffic blockages, which manage the information about the flows and make the necessary redirections. Within a framework of borders and container states, sorting takes place at the border, whether this is the single boundary or the disaggregated border at a distance. At the border, some are let through while others are not. Yet, within a framework of traffic and tunnels, these blockages act less as the sites for management and more as the inducers of movement. Tunneling is an exploit: it consists of "discovering holes in existent technologies and projecting potential change through those holes" (Galloway and Thacker 2007, 81). It leverages the increasing dependence of geopolitical actors and institutions on ICTs for border securitization by exploiting the protocols these technologies rely on. If sorting necessitates legibility, then tunneling contravenes sorting mechanisms firstly by way of illegibility. Without interpretation, traffic cannot be sorted. Traffic and trafficking become one and the same.

A simple case study for navigating the discourses surrounding the internet's complex sorting of traffic and trafficking nowadays are virtual private networks (VPNs), which allow users to encrypt data sent and received across public networks, acting as if connected to a private network and granting differential levels of access, privacy, or security. Popular commercial user-friendly VPNs, aka consumer-friendly VPNs, run the gamut of technical sophistication and affordability, revealing the growing demand for these services. The service that VPNs offer to users is protection from the negative side effects of using other commercial platforms: namely, a response to rampant user tracking and data collection. At the same time, these VPNs rely on users' familiarity with popular consumer interface design to make the technical service they provide appealing and manageable to everyday users. The mediatory function of consumer-friendly VPNs thus lies in negotiating the contradictions between the illusion of security ("these platforms protect you from other platforms' data collection") with ease of usability ("these platforms are as easy to use as other platforms").

Popular commercial VPNs engage in a process of aesthetic resignification in order to obfuscate the technical sophistication of traffic management. One of their central features is to make accessible a practice that was once reserved for users with knowledge of coding. To transform this specialized technical knowledge into something legible to everyday users, VPNs rely first on branding. Clever mascots analogize encrypted data transfer to commonly known animal behaviors: the gopher from Mullvad, for instance, already implies the tunneling aspirations of its platform. The Toronto-based VPN TunnelBear reinforces, in name and in image, the amalgam of infrastructure and mascot to counter the lack of common-sense association between both (Figure 4). TunnelBear's advertising features not only the bear but also the tunnel as the figure performing the functions offered by the service. The bear relies on the yellow tunnel to get the user from one side of the globe to another. In its dual mascot, TunnelBear *cutifies* the infrastructure by association with its cute animal avatar, reaffirming Sianne Ngai's argument that "*cuteness* names an aesthetic encounter with an exaggerated difference in power" (2005, 813). It is an aesthetic rendering of the unequal structuring of the internet and of a possible measure to undo such structures. The world is literally cut open in one of TunnelBear's promotional images, its tunnels zigzagging across the center of the globe to create new avenues for travel and connectivity (Figure 5). When the service promises users to "experience an open and global internet," it simultaneously reminds them that the internet is neither open nor global most of the time (Llamas-Rodriguez 2017).

The aestheticization of VPNs not only responds to branding efforts but also promotes a discourse of risk management. VPNs simultaneously make evident the risks of tracking traffic through commercial platforms and offer a simple way for users to respond. In this way, VPNs represent a distinct change in public discourse from anti-virus software of the Web 1.0 era, where the threat was external to the medium for engaging with the online sphere. The data-collecting practices of popular service platforms represent the threat consumers want to avoid, and another set of platforms (VPNs) represent the solution to deal with such a threat. VPNs perpetuate the development of platform capitalism by mitigating consumers' most notable reticence towards commercial platforms while simultaneously perpetuating the consumption practices and infrastructural structures that support these new economies. Like the tunnel metaphor, the VPN reminds users that the channels for opaque or visible, restricted or unfettered connectivity are ultimately the same ones. While technical complexity once meant that only people with sophisticated coding expertise could bypass existing geoblocks, the rise of consumer-friendly VPNs has made this type of circumvention more tenable—but at a price. Technical expertise has been replaced, once again, with financial power. Who is in charge of these channels, how they regulate these channels, and what struggles enable the retaking of control over such channels, become a class-differentiated enterprise.
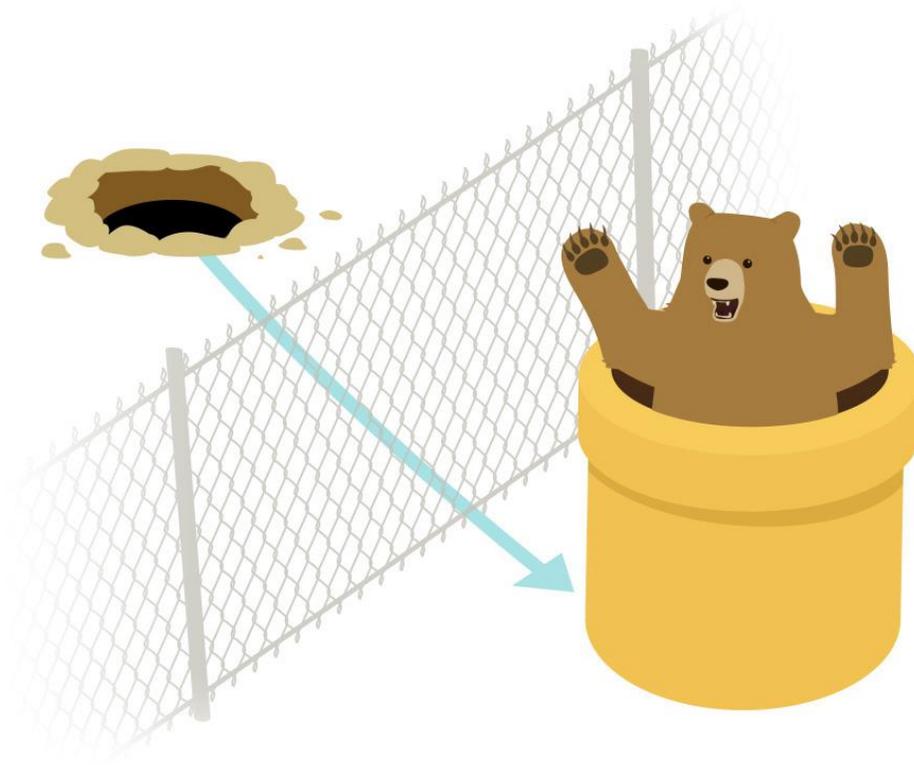
Figures 4 and 5. Screen grabs from TunnelBear promotional materials.
https://www.tunnelbear.com/

The metaphor of tunneling in the promotional material for TunnelBear reductively illustrates basic functionalities such as masking a user's IP address, but productively signals how spatializing power differentials facilitates their critique. If

borders have become dynamic, as Didier Bigo (2008) argues, then tunneling takes advantage of this fluctuation to allow for previously restricted traffic flow—but only temporarily. The dynamism of borders does not imply a disequilibrium: tunneling creates potentialities that are eventually foreclosed again. The time it takes to "cross the tunnel"—to transfer whatever communication was previously prevented by virtual borders—is one and the same as the time that this tunneling protocol is active. Acknowledging the "stretch of time" that tunneling entails means realizing that the structural imperatives that make tunneling necessary remain in place, disturbed but not disrupted (Llamas-Rodriguez 2016).

The temporality of tunneling shows the structures of power of the internet beyond their spatial characteristics. It also reveals the internet's power-chronographies, or how time is "worked on and differentially experienced at the intersections of inequity" (Sharma 2014, 13). Because time is produced at the intersection of a range of social differences and institutions, tunneling exhibits not only how users experience these power differentials based on their geographical location but also how they constitute themselves in time. Affluent users can afford VPNs that enable them to access content instantly and to "travel" around the world without detection, and technologically savvy users can pursue this invisible, unfettered connectivity even faster. Crossing the technical boundaries of the internet becomes a simple, user-friendly practice for select users. Making sense of the borders of the internet and the "tunneling" tactics that allow privileged groups but not others to navigate it therefore means understanding the cultural geography and the cultural chronography of the internet. When, and for how long, any user can connect over the internet undisturbed is a consequence of their economic or cultural capital.

Conclusion

The tunnel metaphor as I have theorized it in this article does not exhaust all the ways that tunnels, physically and figuratively, mediate ideologies about gender, race, class, and citizenship in contemporary times. Indeed, the risk of physical border tunnels from a white-nationalist perspective is not only about the flow of goods and information but about the fear of Global South subjects moving and receiving opportunities only intended for the Global North privileged citizens (Llamas-Rodriguez 2020). Tunnellers in the U.S.-Mexico border context, for example, are presented as basic technologists—"smugglers with shovels and pickaxes," as anthropologist Howard Campbell facetiously puts it (quoted in Woodhouse 2015)—a highly racialized distinction meant to contrast with the illusion of technological mastery performed by the nation-state agents hoping to shut those tunnels down. Numerous others scholars have also identified how different media forms and surveillance technologies engage with the figure of the tunnel to explore questions of access, privilege, and (in)security across geographical and historical contexts (Elden 2013; Walker 2013; Weizman 2007).

Still, the selective instances of media tunnels from the early twentieth and twenty-first centuries explored in this article illustrate how the tunneling metaphor puts forth specific ideals about global interconnectivity as enabled by media technologies. Whether in mapping entry points as underground resistance, corridoricity as geopolitical structuring, or boundary crossing as user-friendly practice, tunneling serves as a metaphor to understand the struggles over networked communication cultures. These examples reveal the tunnel's figural work as enduring throughout the emergence of new media forms and practices, from science fiction film to console video games to consumer-friendly VPNs. The tunnels in *GTA V*, *Transatlantic Tunnel*, and TunnelBear remain figural representations that nonetheless articulate very real concerns. In contrast to tunnels in the physical world, the "tunnel"-ness of these representations remains primarily symbolic yet still significant for how it gives shape to otherwise amorphous and abstract issues. The physical characteristics of tunnels facilitate this understanding by "giving shape" to their virtual representations. The implied underground nature of tunnels raises questions about visibility and invisibility as well as the dynamics of transit that mediate between such states. As we see in *GTA V*, the opacity of underground structures lies not in their literal invisibility but in their un-mappability: NPCs cannot pursue or capture players inside tunnels unless the characters can map their way into these underground structures. The implied corridoricity of tunnels as a straight connector between two faraway places points us to how often geopolitical structures conceive of the planet as a series of lines and points. The tunnel in *Transatlantic Tunnel* offers the crudest version of this conception as a literal construction across continents, yet the idea of this smooth transit continues nowadays in various techniques of trade and war. Underground-ness and corridoricity, in turn, feed into the common application of the tunneling metaphor as simplified boundary crossing. In TunnelBear, the tunnel helps explain the sorting functions of IP management, as well as their contravention, by drawing on comparisons to physical fences and tunneling underneath them. Each of these examples, then, both *simplify* the technical and conceptual frameworks undergirding media-enabled forms of connection and *expose* the ideological underpinnings of fantasies of interconnectivity at the same time.

Another simplification at play in these metaphorical uses of the tunnel to understand transnational networked connectivity is the reduction of emergence and control over the internet (and its globally reaching technological antecedents) to individual instances of mastery figured as white, male, and wealthy. Underground resistance through tunnels becomes appropriated into playful instances of unlawful mischief in white masculine video games. Transgressing commercial barriers becomes coded as aggressive posturing in consumer-friendly VPNs. The geopolitical restructuring of the world into transnational tunnels abets the interests of the upper-class elite in the science fiction film. In reality, however, underprivileged and ostracized populations continuously find creative exploits to circumvent communication restrictions and to access new technologies, yet these

efforts are seldom imagined as feats of mastery. When non-white, poor subjects manage to cross technological boundaries, they are merely seen as "smugglers with shovels and pickaxes." In emergent technocultures, the metaphorical purchase of the tunnel as spatial restructuring often enables the reinforcement of whiteness, masculinity, and wealth as the norms under the guise of inventiveness, innovation, and rebellion. Yet it need not be that way. Alternative, subaltern forms of tunneling are not only possible but also worth pursuing.

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