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DISESTABLISHMENTARIAN

A JOURNAL OF CONTEMPORARY SOCIOCULTURAL INQUIRY AND EXPERIMENT

SPECIAL ISSUE

on

Bigdata

& Predictive Futures

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Diya Mathur, Jessica Percy-Campbell,
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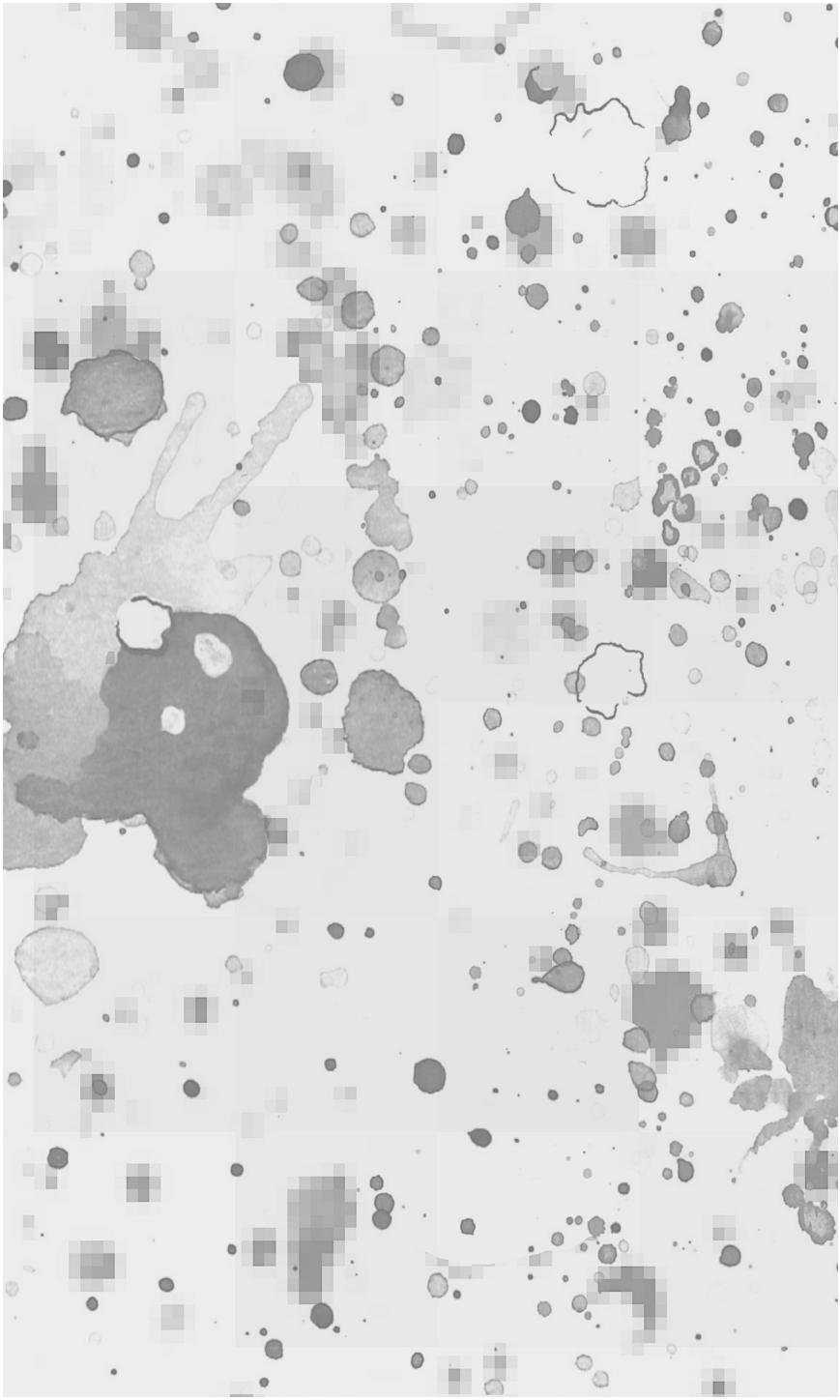

Table of Contents

- 1 -
Big Data & Predictive Futures:
Introduction to the Special Issue
Diya Mathur,
Leanne Letourneau,
Carmen Lamothe,
& Martin French

- 16 -
Virtual Power, Virtual Resistance:
Field Notes from the Future of Big Data
Brian R. Schram

- 26 -
Making (In)Accessibility:
Power, Semi-Sovereigns and Global Internet Filtering Practices
Jordon Tomblin

- 45 -
Stasis: Search for Identity
Hiba Alhomoud

- 46 -
Career Change and Cultural Hegemony:
An Integrated Approach Involving Transformation Through Writing
George Dutch

Big Data & Predictive Futures: Introduction to the Special Issue

Diya Mathur, Leanne Letourneau, Carmen Lamothe, & Martin French[1]

On December 19th, 2016, the United States government began requesting disclosure of social media activities from select foreign travelers as part of the visa screening process for entry into the country (Helmore, 2016). Positioned as an anti-terrorist measure, the program was proposed the preceding summer, with much protest from activist organizations including the American Civil Liberties Union (ACLU). Objecting to the consequences of this move for civilian privacy and mobility, activists point to the inevitable: caught in the bustling stress of air travel, and already nervous about making their flights, travelers will feel (or be) pressured into providing their information despite it not being mandatory. Under these conditions, it becomes virtually unavoidable that travelers' social media identities and idiosyncratic affiliations be subject to the scrutiny of border guards "who [would] decide which of your jokes are funny and which ones make you a security risk" (Romm, 2016). This incorporation of social media screening into the American regime of border surveillance effectively transforms social media platforms into a "standing-reserve" (Heidegger 1977: 27) of raw material that can be mobilized to sort travelers into different categories, and to deny them entry at the border. It represents but one more instance of the convergence of once discrete surveillance systems into a broader "assemblage" (Haggerty & Ericson 2000), a process that has been facilitated by the *datafication* of everyday life.[2] And, it fans the flames of a longstanding public fear lurking beneath willing participation in

1 Acknowledgements–The authors would like to thank the members of the editorial collective who participated in the organization of this special section: Andrew Maclean, Jessica Percy-Campbell, and Matthew Perks.

2 *Datafication*, according to Mayer-Schonberger and Cukier, "refers to taking information about all things under the sun – including ones we never used to think of as information at all, such as a person's location, the vibrations of an engine, or the stress on a bridge – and transforming it into a data format to make it quantified. This allows us to use the information in new ways, such as in predictive analysis" (2013: 15). For these authors, to "datafy a phenomenon is to put it in a quantified format so it can be tabulated and analyzed" (2013: 78). Although Mayer-Schonberger and Cukier assert that datafication is a process that preceeds digitization, "the move to big data" (2013: 78) may nonetheless be viewed as a mode of 'turbocharging' datafication (2013: 83).

social technologies that log and analyze the day-to-day of individual identity, namely, the possibility that they will be turned against users to influence, control, or otherwise disadvantage them. This example, which shows how easily data shared for one purpose (e.g. to create and maintain friendships, acquaintances, and community online) can be used for other purposes in the digital age, highlights some of the issues at stake in contemporary efforts to manage risk via big data surveillance.[3]

Considerations of the social consequences of the U.S. effort to transform social media into tools for border surveillance and security reflect a broader set of concerns, which surveillance studies scholars have long wrestled with. Broadly speaking, these concerns have to do with the opacity of data collection, analysis, and use in ways that are not transparent to those who are governed by such uses. They also have to do with the automation and amplification of discrimination, marginalization, and disadvantage (Lyon, 2002, 2003a, 2005; Gandy, 2006; Andrejevic, 2014; Reigeluth, 2014; Browne, 2015). In the social-media-screening-at-the-border example we have just discussed, the American Civil Liberties Union (ACLU) has reported that customs agents are demanding travelers' device and social media account passwords, and that this login information is stored to be accessed with future re-entries into the country (Greenberg, 2017; Salerno, 2017). Activists also worry that this program could create a dragnet effect, with other countries adopting the same technique, thereby restricting civilian transnational mobility (Romm, 2016) and eroding universal human rights by digital means, mediated by keystrokes instead of gunshots (cf. Bauman et al, 2014). What this example clearly illustrates is that the modes of big data surveillance that are today being deployed to regulate risks also create a range of new risks. Surveillance studies scholarship can help to theorize these new risks, but there is also a need to go beyond the existing literature, to develop new concepts and frameworks that can provide accounts of this rapidly evolving space. The articles in this special section contribute to this urgently needed work, each concentrating on emergent power-relations that big data surveillance prefigures.

To set the stage for our special section on big data surveillance and predictive futures, we highlight below the troubled figure of the liberal individual, the supposed seat of the rational actor, the subject of law, rights, and the democratic polity, who's agency is simultaneously erased and enrolled by big data surveillance. Our editorial piece first considers how big data surveillance works at once above and below the level of the individual, decomposing a person's identity into bits of data and re-aggregating them to suit a myriad of purposes. We next consider how individuals are incentivized and enrolled into modes of big data surveillance. We then reflect on how this dual

3 *Big data* describes 'both the unprecedented size of contemporary databases and the emerging techniques for making sense of them' (Andrejevic and Gates 2014: 186). *Big data surveillance* is the mode of surveillance that takes advantage of the affordances created by big data. It relies on "automated data analytics", thereby ushering in "an era in which determinations of risk and suspicion result from complex data interactions that are both unanticipatable and inexplicable" (Andrejevic and Gates 2014: 186).

pressure of erasure and enrollment, which big data surveillance exercises on individuals, calls for anthropological, sociological and, in fact, interdisciplinary scholarship that can locate the individual within the broader context and complexity of its power-relations. Although the socio-technical arrangements underpinning big data surveillance give us 'predictive futures,' and thereby provide a handle on some kinds of risk, they also generate novel forms of unpredictability, which invite the type of empirical and theoretical work exemplified by the articles in our special section.

Following this introductory presentation of our special section, we also make some opening remarks on the two additional pieces—a research article and a creative work—that round out this issue of *The Disestablishmentarian*.

Wither the Individual? Erasure and Enrollment

Conceptually, a key issue raised by the datafication turn in surveillance and risk management is in its erasure of the role of the individual both as the watcher and the watched, on which traditionally panoptic models of surveillance have relied.

Erasure

Haggerty and Ericson (2000) posit that in the current era of surveillance, technology meets intelligence so that each individual and every movement is tracked, to be understood in relation to the environment and others. Building on the work of Deleuze and Guattari, they put forward the idea of the 'surveillant assemblage' that conceptualizes the assembly of data from myriad sources into a picture that captures 'flows' of movement. Rather than processing population knowledge, the technology tracks and breaks down the individual into "flows", or "discrete bits of information (...) for purposes of management, profit and entertainment." (619). It is the automated algorithmic and predictive processes that enable such a parsing of flows that is of interest to us here. As far as surveillance goals go, automated, predictive technology proposes to minimize, and even eventually eliminate, the need for human vigilance to monitor the smooth functioning of society.

With the datafication turn, just as the function of *the watcher* is ousted by algorithmic technology, so too is *the watched*, the individual as the target of surveillance (Smith 2015; 2016; 2018). Surveillance of the individual as a discrete entity is replaced by the quest for predictive omnipotence via the process of constructing what Haggerty and Ericson (2000) call the 'data double':

> The surveillant assemblage does not approach the body in the first instance as a single entity to be molded, punished, or controlled (...) Surveillance commences with the creation of a space of comparison and the introduction of breaks in the flows that emanate from, or circulate within, the human body. (612)

By shifting the site of control from the individual body to the 'data double', which

"transcends human corporeality and reduces flesh to pure information" (613-14), the object of surveillance becomes not the individual suspect, but rather a prototype that hypothetically can be memorized. As will be elaborated below, it is by these erasures of the individual—of watcher and watched—that novel modes of social control may legitimize existing hierarchies of power.

Enrollment

The major drawback of algorithmic technology, as commonly understood by the public, is one that appears fairly benign: consumers' information pathways are charted and algorithmically analyzed, rendering one susceptible to targeted marketing. In fact, with its "collect-everything" approach to data-mining, commercial big data is profitable, as it enhances personalized services and connectivity, as well as continually locates novel and unfathomable intersections of data connecting individuals, groups, behavioural patterns and interests or proclivities (Gantz & Reinzel, 2011: 9). Algorithmic analysis of big data promises extensive benefits, such as tracking health, weather, crime, and business patterns (Andrejevik & Gates, 2014: 186). Surveillance technology promises to siphon off personal information in order to provide user-specific solutions for life improvement. Consumer activity is recorded, suggesting interests based on past purchases, or alerting consumers to offers on products or upgrades they presumably want. Even if the advertising is unwanted, being bombarded by targeted marketing may be considered a relatively innocuous tradeoff for the social and material benefits accrued by having one's subjectivity datafied.

Individuals gain access to identity-building via social media platforms. Albrechtslund's (2008) 'participatory surveillance' points to the generative capacity of social media in initiating novel forms of user empowerment, subjectivity-building and online social networking as a sharing practice instead of an information trade:

> Monitoring and registration facilitates new ways of constructing identity, meeting friends and colleagues as well as socializing with strangers. This changes the role of the user from passive to active, since surveillance in this context offers opportunities to take action, seek information and communicate. Online social networking therefore illustrates that surveillance – as a mutual, empowering and subjectivity building practice – is fundamentally social.

Similarly, Bonilla and Rosa (2015) have found that social media provides a platform for "shared political temporality" via features such as 'hashtag activism', where racialized bodies may be materially reimagined. In this sense, rather than perceiving social media as enabling hierarchical modes of surveillance, or a "prisonlike panopticon", Gilliom and Monahan (2012) assert that more likely users experience the fear that no one is watching, which promotes a different kind of "self-disciplining", the likes of which compels individuals to disclose information about their lives and values (in Browne, 2015: 40). The social legitimacy bestowed upon active participants on social

media, combines with faith that, so long as your conduct is not criminal, there will be no major repercussions. Furthermore, perhaps for the wrongly accused, one's data may serve as an alibi: the precision of life-logging via social media log might ensure that one's innocence will be proven (Andrejevik, 2014: 187).

Big Data Surveillance and Predictive Futures: A Call for More Research

Big data, whether intended for communication, leisure or individual security purposes, must be firstly understood as a mechanism of surveillance with a potentially constraining effect. Davies (1994) contends that surveillance technology has the potential to be socially useful. For example, the biometric technology could enhance the efficacy of identification systems, reducing institutional wait times and providing citizens with quicker access to social benefits to which they are entitled. However, Davies is wary of the threat of 'function creep'; that is to say that, once citizens' biometric information becomes state property, this information becomes susceptible to ulterior use without public consent. From a legal standpoint, Peppet (2014) warns that because privacy law is focused on the non-consensual infringement of privacy, surveillance arising from consumer transactions puts individuals in a vulnerable position. Agreeing to have one's movements and activities monitored by algorithmic technology in exchange for incentives, such insurance breaks, opens consumers up to the possibility of future privacy infringement by means of legal loopholes (in Richards, 2012). An individual's 'digital shadow', as Gantz and Reinzel (2011) point out, grows "faster every year, and most of the time without our knowing it. Our digital shadow is made up of information we may deem public but also data that we would prefer to remain private."(8-9) Hypothetically, the digital shadow is meant to be non-disruptive; continuous with the algorithm that interprets it, it would serve consumers by anticipating future needs and entitlements. However, what cannot be ignored is that while more and more consumer information is stored, the profile of one's patterns of association becomes inescapable. Meanwhile the analysis and use of this information, as well as its implications for individual privacy remain opaque.

The highly publicized tragic events of September 11 marked a shift toward pre-emptive surveillance technology, the likes of which would have previously been rejected on the grounds of cost and its potential to threaten to civil liberties (Lyon, 2003: 16). The revelation of the Snowden documents in 2013 was a second important moment in the datafication turn. We now know that the secret US-NSA program, PRISM, intercepts the telecommunication and electronic messages of citizens, commercial entities and governmental bodies alike, performing large-scale mass surveillance not only nationally, but also at the transnational level, even on the U.S.'s European and Latin American allies (Bauman, et al, 2014: 121). Harvesting data from submarine internet cable, the NSA programs amount to an elaborate system of data interception, both nationally and

internationally (122). In this vein, the chilling aspect of social media transformed into surveillance at the border is that while consumers may willingly engage with commercial surveillance tools for personal benefits, such as preferential consumer treatment or to login to airport Wi-Fi (Lyon, 2003), increasingly this information is shamelessly demanded for state surveillance goals.

But despite known risks of privacy infringement, individuals continue to willingly self-disclose their personal information in exchange for use of social media services and technology that relies on the datafication of day-to-day life (Albrechtslund, 2008; Smith 2018). This may be owing to a pervasive data "doxic sensibility," which, as Smith argues, inculcates data disclosure and sharing practices through fetishization, habit and enchantment (Smith 2018).

Profiting from third party data mining, social media platforms rely on users' freedom of speech and willingness to share in ways that are potentially harmful to users' own interests. The ACLU recently reported that increasingly, U.S. police forces have been using social media spying software in secrecy, specifically marketed to target protesters of colour, who are referred to as "overt threats" in the marketing materials. The ACLU claims that 40% of law enforcement agencies have already acquired these surveillance tools, which boast the ability to screen hashtags such as #BlackLivesMatter, #DontShoot, #ImUnarmed, #PoliceBrutality, and #ItsTimeforChange in order to target activists. What is more, this software is being purchased from third party companies, often without the approval or permission of elected officials, nor with prior public notice (Ozer, 2016). This tactic, which tranforms corporately-owned social media platforms into tools of state surveillance, effectively bypasses constitutional legal limits, since entire networks of individuals can be put under watch without a warrant.

Thus, in addition to presenting privacy risks for individuals, it is clear that algorithmically-enabled big-data surveillance also presents a range of risks to groups that are already marginalized through systemic processes of discrimination and social exclusion. Surveillance studies scholars have theorized these risks using concepts like "the panoptic sort" (Gandy 1993), "social sorting" (Lyon 2003b), "cumulative disadvantage" (Gandy 2009), "marginalizing surveillance" (Monahan 2012), and "racializing surveillance" (Browne 2015). These concepts point to the fact that willing participation in social-media-cum-big-data-surveillance by those who suppose that they have nothing to hide, and that they will not be harmed, is linked (sometimes more, sometimes less, but always directly) to the systematic disadvantaging of those who are already marginalized in society.

Accordingly, there is an urgent need for research that draws on the emerging configurations and consequences of big data surveillance. We need to first recognize the need for new theoretical tools. For instance, although the social-media-screening-at-the-border example we discussed at the outset of our article has a panoptic feel to it, the traditional panoptic model is limited in how it can account for the side-effects, such as cumulative disadvantage, that attend the general availability of surveillant technology

(Gandy, 2009; Haggerty & Ericson, 2000: 607; Reigeluth, 2014). In addition, we need more empirical work that can follow the lead of this new theorizing, and that can detail the ways that social sorting, marginalizing surveillance, racializing surveillance, and cumulative disadvantage are actually working in the course of peoples' everyday lives.

The articles in this special section of *The Disestablismentarian* take up the call for new research on big data & predictive futures. Brian R. Schram, drawing on the analogies of Foucault's "plague town" and Ben Bratten's "the stack", discusses how the contemporary "stack" or the virtual high-paced globalized world renders contemporary forms of surveillance more difficult than in Foucault's "plague town". Current practices of surveillance rely on Big Data collection, and as Schram indicates, subjects are unaware of the extent to which they are monitored. Consequently, this type of data collection and surveillance has resulted in a form of power/knowledge within the virtual world. However, Schram illustrates with his ethnographic data from the website Reddit.com that despite the growth and concerns of virtual knowledge/power, this growth is being met with a form of resistance that relies on "speculative fiction and collective storytelling" (10). Therefore, this article illustrates the impact that moving from a "plague town" panopticon type of surveillance to the "stack" type of virtual power/knowledge has had on individual behavior, including the expanding scope of surveillance and forms of resistance.

Jordon Tomblin's article discusses how the rise of Internet filtering through public libraries is viewed as a form of social control that regulates which online materials are considered acceptable. The contentious nature of surveillance and censorship of online material is situated within a historical context in relation to the rise of the Internet, as well as a philosophical debate on what is appropriate viewing material in public and private spaces. Contrary to Schram, who emphasizes a more diffuse type of knowledge/power virtual system, Tomblin contends that despite the decentralized nature of the Internet, Internet filters are used as a centralized form of power that determines the scope of Internet access by its users. This type of power, ultimately, has social and political ramifications, as it is used as a form of social control. Therefore, this article illustrates the extent to which that power and control can be exerted on Internet users, which will determine not only who has access to online resources and different forms of knowledge, but also what that knowledge will consist of and what information will be filtered out.

Stasis and Change

Accompanying our articles on big data surveillance and predictive futures are two pieces—a research article and a creative work—that take up the themes of stasis and change. The creative work, a poem entitled *Stasis: Search for Identity* by Hiba Alhomoud, meshes in many ways with a key tension taken up in our special section, that between a self-realizing and self-determining process of *identity construction*, and an externally imposed process of *identification*. It harmonizes beautifully, we think, with

another creative work, the cover art for this issue, by April Bailey. Together, these artistic works help us to imagine and visualize the very tangible, but also very ineffable, lived experience of identity in its multiple forms of (re)mediation.

The final piece of this issue, an article by George Dutch, also takes up the themes of stasis and change, but in a different register. Dutch is interested in career change as a problem of everyday living. Using the concept of the precariat—an idea that combines notions of *precariousness* with the concept of the *proletariat*—as a point of reference, he reflects on how 'The Canadian Dream' operates as a form of cultural hegemony. The effect, of course, is to download onto individuals the responsibility for managing their structurally-induced difficulties, and the blame for mismanagement of what is effectively unmanageable. To help better address this situation in the context of career-counseling work, Dutch proposes a novel model for working through the challenges associated with the precarity of contemporary employment. This piece, then, also engages the themes of stasis and change by proposing a coping mechanism for futures that are predicted to be increasingly insecure.

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Virtual Power, Virtual Resistance: Field Notes from the Future of Big Data

Brian R. Schram
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Introduction

The popular allure of big data is fundamentally rooted in the unknown. We are not so much compelled by the way big data currently impacts our daily life, but rather, its latent potential for insight and prediction. Across an increasingly wide variety of popular and scholarly literatures, proponents speculate optimistically about the oncoming paradigm shift that Big Data will inevitably prompt in industrial, academic, and commercial spheres. Conversely, it is also this latent transformative potential that inspires a great deal of both public and scholarly apprehension. Indeed, the term "big data" itself seems pregnant with dystopic connotations and imbued with a sense of the monolithic and the totalitarian. This ambivalence regarding big data's potential futures is firmly entrenched in public discourse, which is, broadly speaking, divided between those who evangelize on its behalf and those who fear its eschatological potency.

This article explores two aspects of big data's unknowability. The first is to situate the potential analytic power of big data within a Foucauldian framework of power/knowledge that recognizes the *potential* for insight as playing an active role in the governance of populations and the physics of contemporary power. Here I rely on Deleuze's (1968) concept of *the virtual*–to expand on Foucault's notion of power/knowledge by examining how power has come to reside inside latent systems of knowledge and truth-making that have not yet fully cohered and may never do so. The virtual, in the manner in which I employ it, represents that which is real without being actual. It is, in essence, an ontological frame of both being and non-being. I use it here to refer to a kind of power vested in Big Data's *potential* for behavioral predication and control–a potential that, while understood and interacted with as an *inevitability*, may not, in fact, ever manifest. By contrasting Foucault's (2007) analogy of the plague town with Benjamin Bratton's (2015) vision of *the stack*, I aim to open up a dialogue

regarding how the advent of Big Data and the so called "Internet of Everything" has generated an unwieldy arena in which strategies of governance increasingly rely on formulations of power/knowledge predicated on ambiguity and speculation. Keeping in line with Foucault's well-known adage "Where there is power there is resistance", I also investigate discourses of resistance that have emerged in response to the various imagined futures—both utopic and dystopic—to show how virtual forms of power have compelled new kinds of resistance that rely on creative speculation and collective storytelling about the future of high technology. Using data gathered through online ethnographic work conducted during 2014, I explore how subjects formulate examples of "virtualized resistance" that interpret individual technological prowess as a method of coopting the mechanisms of state hegemony and, as a corollary, a way of reclaiming independence and agency for (ostensibly) disenfranchised Western youths.

The Town and the Stack

The analogy of the plague town is, perhaps, Foucault's most salient example of how systems of power/knowledge cohere to form the building blocks of governance. To Foucault, collective life is intrinsically bound up with an array of complexities that necessitated redress through the use of various technologies and strategies of power, such as sexuality, medicine and surveillance(see Foucault 1978; 1995). In *Discipline and* Punish (1995), and in his lectures on *Security, Territory, and Population* (2007), delivered between 1977 and 1978 at Paris' *Collège de France*, Foucault employs the analogy of the plague town to represent both a hypothetical laboratory for the development of new strategies of governance, and a microcosm of society writ large. Here, he aims to show how the challenges of collective life—and the technologies and strategies of governance that emerge to address them—reproduce themselves in the town's architecture and in the daily movements of its population. Of particular importance is his discussion of security and its relationship with surveillance and visibility. To Foucault, securing liberty and freedom always necessitates the invocation of their inverse correlates. That is, freedom is not a passive process characterized by a lack of intervention. Rather, it is something that must be *produced* by way of active strategies of securitization and management (Foucault 2007). He states:

> [A]n important problem for towns in the eighteenth century was allowing for surveillance, since the suppression of city walls made necessary by economic development meant that one could no longer close towns in the evening or closely supervise daily comings and goings, so that the insecurity of the towns was increased by the influx of the floating population of beggars, vagrants, delinquents, criminals, thieves, murderers, and so on, who might come, as everyone knows, from the country In other words, it was a matter of organizing circulation, eliminating its dangerous elements, making a division between good and bad circulation, and maximizing the good circulation by diminishing the bad (2007, p. 54).

Maximizing good circulation and diminishing the bad are outcomes that rely

heavily on architectures that facilitate the tasks of governance. While Foucault notes that closing the town in the evenings or closely monitoring each inhabitant for illness or criminality represent practical impossibilities, he notes that the plague town must be organized such that "[the] streets [are] wide enough to ensure four functions. First hygiene [...] opening up [...] pockets where morbid miasmas [accumulate][...] Second, ensuring trade within the town. Third, connecting up [...] streets to external road in such a way that goods [...] can arrive, [and finally] [...] allowing for surveillance (Foucault 2007, p. 53-54). As such, the relations between power, knowledge, and the strategies of governance that they generate are embedded in the structure of the town itself, constituting what Foucault refers to as a "diagram of power" (2007). The quelling of miasma depended on implementing architectural responses to specialist medical discourse that implicated the accumulation of foul odor in disease etiology. Keeping the town safe from thievery and vagrants depended on fine-tuning its layout so that the surveillant's gaze could pass between the houses and shops unobstructed: parsing the "good" from the "bad".

Clearly, we may no longer reasonably employ Foucault's analogy of the town to understand the relationship between power and knowledge in our contemporary Western climate of hyper connectivity, smart cities, and omni-present surveillance. Additionally, it is prudent to establish what new dimensions of power/knowledge are made possible under emerging technological conditions and how their associated discursive and epistemic relations come to be enshrined in various practices of governance. While the plague town accomplished the maintenance of security, freedom, and liberty through the construction of open streets that miasmas, commodities, and lines of sight could pass through freely, contemporary collective life presents us with different architectures– both concrete and virtual– that necessitate new methods of engendering and enacting power.

In his book *The Stack: On Software and Sovereignty* (2015), Ben Bratton offers the notion of *the stack* as a way of conceptualizing the fraught terrain of (post)modern urbanity. *The stack,* as he understands it, consists of an accidental megastructure comprised of a series of layers superimposed over the surface (skin) of the earth. From the geological moving upwards, we encounter layer upon layer of intersecting digital, infrastructural, organic, and architectural features that trouble the once stable geographies and outmoded diagrams beneath them. In some sense, the stack evidences the transformation of the city from the mechanical to the computational. While Foucault's plague town facilitated the flow of populations and miasmas through streets and alleyways, the modern metropolis facilitates the flow of digital information along the information superhighway. Bratton writes:

> [W]ithin The Stack, glass, steel, power, and data (and their grids) may all look the same to the layers about and below. At the same time, more specific User relations are arranged by anty of the interfacial surfaces of the urban fabric (not only buildings and roads, but also those energy, hydration and data grids), all of which prioritize differently how a city is

> open or closed to different people and purposes [...] the road makes us all drivers, the fiber cable makes us all callers, and the city layer makes us all inhabitants of a composite urban territory (2015, p.152).

In the modern metropolis, the mechanical components of the city are interwoven with computation. The base mechanical components of the city now come equipped with sensory organs that collect and manage data flows and sort them into immense aggregate systems of information awaiting manipulation and analysis. What Bratton's model of the stack provides is not so much a way of accurately conceptualizing contemporary urbanity, but a sense of the unwieldiness of its interpenetrating layers and overwhelming capacity for connectivity. He states:

> In an age of planetary-scale computation, what is the future of sovereign geography? As it is conditioned by globalization, localization, and intermediate zonal regionalisms, by spaces absorbed by networks and networks absorbed by citadels, will some other, unknown political geometry come to enact and enforce the necessary partitions and brackets (border, wall, law, identity) that would program the world according to its alternative plan, and plan it according to its program? For the citizen-subject-user-agent of that future, how can sovereignty itself be redesigned as the organization of another cosmopolitics, another geography, and another world that is not only possible but even inevitable? These questions are posed in anticipation of an opening-to-come, another "Copernican" transformation of the spatial order that would emerge both in resemblance and against the image of planetary- scale computation as we currently understand it. We may not have to wait. Geographies that were comfortable and doxic are now transient and alien, inhabited weirdly. (Bratton 2012)

Thus, while the plague town could be easily circumscribed by its physical boundaries, the modern metropolis is integrated into systems of connectivity that obscure its limits and render its boundaries indistinct. The stack is the sum total of innumerable data points—the result of the constant, ambient production and archiving of information— and the *possibility* of what they can reveal or the dangers they present when exploited. If the plague town provided a microcosm for Foucault to discuss the maintenance of security, liberty, and freedom at the beginning of the eighteenth century, how can we comprehend such a task at beginning of the twenty-first? While threats to the plague town once came in the shape of problematized bodies visible to the naked eye or disease that rendered itself perceivable by smell, the modern metropolis is haunted by specters that traverse domains unseen and unknown: from the terrorist sleeper cell communicating through encrypted email, to the hacker who steals your grandmother's identity, to the smallpox virus assembled from fragments available for purchase on the web (see Raverson 2016). Indeed, in the age of digital radicalization (see Halverson and Way 2012), and encrypted global terrorist communication networks, the old managerial paradigm seems woefully outmoded. The plague town, constrained by geographic reality, had a defined size, shape, and finitude that permitted its visible delineation and thus its management by encirclement and compartmentalization. The essence of the virtual,

however, is its inability to be constrained by what is actual. The virtual may reinvent itself at whim, and carve out new spaces when none existed before. There is no limit to cyberspace: no way to reduce it to microcosm since it is in a process of continuous reformulation. The virtual is fractal by nature and must be apprehended in its totality or not at all. This complicates the actualization of strategies of governance outside of the virtual sphere. If power/knowledge–and subsequent strategies of governance–are predicated on the ability to survey and apprehend a given scenario in order to intervene in it, the Stack, and its occult architectures, present a major obstacle for the formulation of effective intervention.

I propose that in the wake of such uncertainty, a virtualized form of power/knowledge has emerged that is no longer predicated on the visibility of its subject, but rather, the anticipation of an *oncoming* era of digital transparency made possible by the synthesis of Big Data, sophisticated analytical techniques possessing unprecedented predictive power, and state-sanctioned or corporate spying. It is no surprise that the words "Google knows everything about you" appear with reliable frequency in the popular media. And yet, in a recent interview with ZDnet (an internet security website) former NSA official William Binney stated that "the US government's mass surveillance programs have become so engorged with data that they are no longer effective" (Whittaker 2016, np). As the sensory organs of our digital infrastructure converge and report back to their masters, the unwieldy, multilayered nature of the Stack becomes apparent. Our ability to collect and store large amounts of data has greatly exceeded our analytical capacity. I refer to this problem as "surplus archive"–the storing of information that anticipates a future increase in analytical potential so that it might be mobilized and acted upon. In other words, surplus archive is what occurs when big data becomes too big.

It is important to point out that the potential power embedded within big data archives does not belong solely to the state. Keeping in line with Foucault's observation that "in thought and political analysis we have still not cut off the head of the king" (2003, p. xvii), I think it is prudent to recognize that the power of big data is not concentrated solely in state hands. Indeed, it was not until Edward Snowden revealed the US government's spying program–against the state's wishes–that a great deal of its power was accessed. In a recent poll commissioned by ESET (an internet security agency located in Slovakia), 47% of respondents claimed that they would alter their online behavior in light of Snowden's leaks (Cobb 2014). Similarly, a New York Times article written in March of 2014 details how information regarding the PRISM program being made public has altered consumer behavior in the tech sector, prompting major firms to move operations overseas, ostensibly shielding their data servers from prying eyes (Miller 2014, np). Thus, the power to alter consumer behavior on the internet and to curate the ways that subjects engage with digital technologies is predicated on activities that occurred outside of the state's agenda. Moreover, as the surveillance apparatus tightens around internet users, the ability of the state to wield the power of

archive is weakened by the excessive accumulation of information. It follows that the true power of surplus archive is located in a fictive domain of speculation and partial truth: on knowing one is being surveyed, but not how, when, or at what resolution. It is not so much the reality of big data collection and surveillance that prompts our apprehension, but rather the belief that the "surplus" in our "surplus archive" is under active scrutiny. As such, I argue that such power is firmly rooted in the virtual, rather than the real. While the power of Foucault's panopticon, like big data surveillance, is rooted in the inability of subjects to know when, or at what resolution they are being surveilled, the concrete structure of the panopticon and the way that it curates optical visibility ensures that its power is located firmly inside the realm of possibility. In contrast, Big Data surveillance takes on connotations of omniscient, totalizing knowledge. Its future potential is understood as unlimited, despite very real technological constraints. If the plague town was a machine for population management through the manipulation of movement and visibility, the Stack is a machine for the production of Big Data–for the creation of an archive so large and unwieldy that it achieves mythological proportions. Control inside the Stack is indirect. Rather than shaping the contours of day-to-day life, it presents its occupants with unanswerable questions regarding the extent to which they are monitored and rendered predictable.

Virtual Resistance

While emerging technologies–including those that permit the collection of big data–have prompted the emergence of forms of power/knowledge located in the virtual, they have also compelled forms of resistance that rely on speculative fiction and collective storytelling. Here I rely on ethnographic data collected during 2014 from the website Reddit.com as part of a project approved and sanctioned by the University of Waterloo's internal Research Ethics Board. According to the Alexa Report[1] (the standard index of web analytics), Reddit.com ranks 44th in total web-traffic on the indexable web. As it stands, Reddit is the largest online forum on the English-speaking internet. Subdivided into nearly half a million sub-communities (only ~5,400 being currently active), Reddit boasts over 115 million unique visitors each month. Despite its vastness, the dialogues that occur on Reddit do not end within its own boundaries. It is a common trope among users that what occurs on Reddit today will supply the content for Facebook posts, tweets, Buzzfeed articles, and even write-ups in media as pedestrian as Readers' Digest over the following weeks. Reddit cannot be understood as an island; its tentacles are far-reaching and inform and are informed by the far corners of the World Wide Web. Reddit is a nexus point of sorts: a meeting of individuals with a broad scope of interests, belief systems and geographical locations, all situated under the umbrella of an ostensibly stationary

1 Alexa Web Analytics: http://www.alexa.com/siteinfo/reddit.com. Last accessed: 11/27/2014

medium. Despite its global reach and international membership, PewResearch[2]—a well-respected internet analytics firm—has shown that the largest demographic on Reddit consists of 18-27-year-old American males. Remarkably, PewResearch's demographic surveys have revealed that 15% of American males between the ages of 18 and 27 are active users.

My research methods were eclectic by necessity. As a dedicated "lurker" (someone who browses without participating), I collected thousands of individual comments—related to the future of internet communications and cyber technology— emerging across a wide variety of subreddits related to science, technology, and futurology. In addition to observing dialogues unfolding in real time over a period of several hundred hours, Reddit allows users to search through its databases by keyword. This feature allowed me to analyze pertinent comments and dialogues occurring prior to the duration of this study. After collecting and coding each comment individually, I was able to group comments by theme. Examining the data, I was struck by a polarized understanding of the future of digital technology—one balanced precariously between the slippery slopes leading to utopia and dystopia. Here, the collection of big data and the increasingly intrusive kinds of surveillance and computer/human hybridity are implicated in tales of both apocalyptic destruction and the ascendance of a new class of technocratic expert capable of navigating the complex array of hardware, software, and interfaces, and coopting their power. I would like to point out here that the following discussions do not necessarily implicate big data surveillance as the source of the power that they oppose. Rather, big data represents a small component of the overall colonization of cyberspace and the informatization of everyday life. In the communities I investigated, the future of technology was one that moved seamlessly inside bodies, minds, and consciousness. It was understood to be a future characterized by a widespread "Internet of Everything" from which there was no escape. In some ways, this represents the logical speculative telos of big data: a system of information extraction with access to data produced under the most banal of circumstances—your heartbeat, your thoughts, your blood chemistry, your air conditioner, fridge, and glasses. In this world, where nearly every aspect of life is incorporated into the digital dimensions of the Stack, cyberspace begins to take on quasi-physical dimensions, becoming more geographical and less abstract. Big data is not merely descriptive; it flows through everything, connecting people with objects, geographies, and each other.

Among the themes I identified in the Reddit comment data, the most popular seemed to be hero narratives wherein hackers and developers were given elevated status as the wielders of technological prowess and by extension, agents of freedom. As Paul Taylor points out, the image of the hacker is one that ambulates between two moral poles. On one hand, hackers are depicted in fiction as "anarchic, mercenary, and technologically savvy mavericks who seek (with generally limited success) to re-

2 PewInternet Web Analytics: http://www.pewinternet.org/2013/07/03/6-of-online-adults-arereddit-users/ Last Accessed 11/27/2014

appropriate the technology of late capitalism for their own ends", and on the other hand, as pioneers of a new type of sin or transgression enabled by dangerous, poorly understood technologies (Taylor 2007, p. 601-603). In a similar vein, Mark Oehlert has shown how comic book incarnations of the cyborg also walk a thin line between either good or evil. Beneath the ability to control technology lurks an ideological notion of absolute power: to either create or destroy within a dawning age of computational primacy (Oehlert 2007). Contrast the following statements:

> With the internet, we're becoming more and more of a global society. A group of activists in Idaho can hear all about something like the protests in Turkey and post pictures of themselves holding a big sign showing solidarity and the Turks can see that and start shouting at Erdogan that the US supports them, all in a matter of minutes. With the internet and better transportation technology we're transcending the landmasses and oceans that once kept our individual worlds relatively small. Hackers and activists are merging together to fight corruption digitally and things like Bitcoin are emerging which eliminate the need for national banking systems. I think that in the future, society will become global instead of national
>
> -H

> Given recent advances in "mind reading" through use of brain scanning and imaging, what would protect anonymity and individuality in a post-singularity existence? I ask as currently any information we upload to the Internet is vulnerable to hacking, stealing, and misappropriation. If our entire being is in the form of data- couldn't we be hacked? Is it assumed that technological transcendence of this nature is preceded by widespread egalitarianism/ altruism?
>
> -C

> There have been proof-of-concept hacks of medical devices such as insulin pumps to show that you could remotely kill someone with a susceptible apparatus.
>
> -D

Here, the idea of the hacker is seen to transcend not only the limitations of the state, but of physical reality itself. Discursive fictions like these, wherein discussants imbue themselves or their hacker compatriots with the power to sculpt the future, can be read as an attempt to re-assert personal agency amidst an uncertain socioeconomic climate. Given the demographic makeup of Reddit and the rise of millennial narratives of generational disenfranchisement, this desire is not necessarily surprising. Discussants produce fictions wherein they, having reclaimed their rightful position of dominance, are cast as the heroes or villains of an uncertain future. Freedom and dystopia are seen not only as possible outcomes of a burgeoning technological crisis, but as claims to power: the power to preserve; the power to kill; the power to usher in a new world order; the power to coopt the techniques and strategies of governance wielded by corporations and the state and yoke them to populist desires. We do not yet live in a world where technology has advanced to a state that enables the uploading of our consciousness into cyberspace, or in which the collection of big data has prompted companies to issue Wi-

Fi-enabled insulin pumps, yet in this imaginary world where consciousness itself may be "hacked", the technologically literate reign supreme.

I think what we are witnessing in these speculative dialogues is a response to the unknowability of the kind of power vested in emerging technologies, including so-called "big data". Because the systems of power/knowledge at work in our era of postmodernity are so fragmented and opaque, resistance too becomes amorphous, outlandish, and fictive in response to an invisible enemy. Amidst a political climate marred by Snowden's public revelations and subsequent exile—against a backdrop of the worst economic disaster since the Great Depression—these youthful idealists look to reclaim their place in an open, free society through the appropriation of the very technologies used to dominate them. For example, banks which keep track of credit scores, deny loans, and engage in dubious ethical conduct can be circumvented by open-source banking alternatives like Bitcoin, which H believes will "eliminate the need for national banking systems".

Conclusions

The emergence of big data and the so-called "Internet of Everything" have brought with them new forms of power/knowledge that reside inside the virtual. That is, their power is located in their opacity and potential ability for reinvention. Where power/knowledge was once exercised over defined geographies and reified through the curation of those spaces—as exemplified in Foucault's analogy of the plague town—contemporary urbanity, with its innumerable entryways into cyberspace, cannot be circumscribed, examined, and theorized so neatly. While the challenges of collective living inside the plague town were addressed by specialist discourses and quelled by managerial strategies involving design, architecture, and surveillance, contemporary societies located within the Stack are haunted by complex, occult threats of terrorism, hacking, identity theft, and Big Data's capacity for prediction and control. As such, power/knowledge has mutated to a form that relies on the speculative future of technology in order to intervene. While the plague town acted as a machine for the direct, physical management of population flows, the Stack is an accidental megastructure that produces an unwieldy archive of nearly limitless data. It is not so much the stories that this data tells about us that contains this new form of virtual power, but rather the stories we tell about it.

In response to virtual power/knowledge, virtualized forms of resistance have emerged. These instances of collective storytelling envision high technologies as constituting a new frontier along which the battle for a free, open society will occur. By imagining themselves as the "wielders" of advanced technologies, subjects predict a future wherein only the technological elite will be able to circumvent the mechanisms of power and, in turn, reclaim their agency in uncertain political times.

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Making (In)Accessibility: Power, Semi-Sovereigns and Global Internet Filtering Practices

Jordon Tomblin

Abstract *This article explores how global Internet filtering practices challenge mores woven into the fabric of democratic society, such as freedom of movement, and how a lack of unfettered access to information online perpetuates disciplinary parameters in the Information Age. Drawing on literature and theories from Internet surveillance and security studies, I explicate how Internet filters reaffirm pre-emptive mechanisms of social control among semi-sovereigns that implement end-to-end filtering systems for social, political, conflict and security related purposes without recourse given autonomous public-making capacities of the Internet. As a conceptual toolkit, I use actor-network theory (ANT) to empirically trace how seemingly autonomous actors have repurposed Internet filtering technology as a defense of utilitarian security practices or as an affront to organized contestation of status quo political structures. I argue that despite any efforts of discriminatory practices to restrict Internet publics, actors will endlessly emerge to insist on malleability and freedom to (re)affirm social inclusion and justice.*

Introduction

Sovereignty introduces itself through variegated forms and networks online. As Carl Schmitt (2005:5) declares, a "Sovereign is he who decides on the exception", presupposing that a sovereign entity can unfasten themselves from legal constraints within a society or space that they govern. This moment of temporary suspension in the rule of law is commonly known as the 'state of exception'. Giorgio Agamben (2000:42) suggests that states of exception were frequently invoked by sovereigns in times of perceived ubiquitous crisis, such as in the form of Martial Law during periods of war, but have increasingly become stabilized and perpetual. These concepts are drawn throughout this article which focuses on Internet censorship and explores how semi-sovereign entities (Reidenberg 1996), which I define as an institution that controls

actor mobility and expression, with few legal or tactical nodes to confine or interfere with their efforts. As such, users are subject to protective or constraining currents according to how lines of *code* are assembled. Despite common rhetoric that the Internet is—and always has been—an archaic and largely unregulated space (see Stallman 1992; Barlow 1996), various actors continue to (re)emerge, contradicting utopian ideals of "life" online. Precursors to the Web date back to 19th century industrial marvels, such as railways and telegraphs, along with other revolutionary technologies that have led to booms and busts over many generations (McLuhan, 1962). The Internet's formation is often attributed to military exploration, academic study as well as private investment. The driving force for new methods and measures of use online is largely accredited to computer programmers and hacker subcultures that explored uncharted territories, took many risks and broke fresh ground. Within the brilliant eclectic mix of various social networks and information nodes that have emerged, sovereign powers often depart markedly from a romanticized notion of the Web, as actors inevitably execute (i.e. facilitate or restrict) freedom. Internet filtering systems are one case study, which I centralize in this article to explore the ways in which state and non-state actors restrict user agency, and the current global trend suggests that more sophisticated Internet filtering techniques may be awaiting upstream (Deibert et al. 2008).

This article has five sections. The first explores how Internet filtering as a form of censorship historically emerged in the context of American public libraries. This section situates the topic within literature on information sciences and examines how content filtering differs in theory and praxis. The next section contextualizes debates and controversies around censorship practices by briefly exploring the Internet's rise to prominence. It mostly focuses on the advent of semi-sovereigns as a delegated authority operating across the decentralized structure of the Internet's architecture. The third section examines four predominant types of content filtered in society. The fourth section explores how Internet filtering actor-networks assemble or fail to assemble by drawing on Michel Callon's (1986) four *moments of translation* and associated literature on actor-network theory (Johnson 1988; Latour 2005; Law 2009). The final section considers broader sociological implications on global Internet filtering practices and semi-sovereign entities by engaging with the concept of 'network sovereignty'.

Tightening the Net: Points of Control in Global Internet Filtering Practices

The topic of censorship is a widely published and debated social issue. Its methods and practices predate most technological precursors to the Internet; however, its presence resurfaces online and offline repeatedly. Although its primary incidence is likely unknown, the history of censorship in the form of Internet filtering is ironically well documented and well publicized (Kubota 1996; Semitsu 2000; Zittrain and Edelman 2003). The introduction of Internet filters coincided with the rise of public Internet

access within American public libraries in the early 1990s (Adetunji and Aghama 2011). As Jeannette Bastian (1997) points out, American libraries and librarians have stood together in solidarity in the fight against *any* form of content censorship long before the Internet ever existed. Specifically, the American Library Association (ALA) set out its policies and positions on intellectual freedom and censorship in the Library Bill of Rights in 1939. In regards to censorship, the ALA's (1939:1) position was clear, "Libraries should challenge censorship in the fulfillment of their responsibility to provide information and enlightenment". In fact, this declaration has not changed despite six amendments since this affirmation. As Sarah Houghton-Jan (2010:25) notes, the Library Bill of Rights states, "Any type of restriction on a person's, including a child's, access to any type of content is unacceptable". Accordingly, there has been significant resistance against implementing Internet filters and censorship systems, which creates choke points in user access to information in libraries and contributes to the obstruction of the dawn of the so-called Information Age.

For decades, librarians have continuously fought for unfiltered access to information as it relates to the right for intellectual freedom in American public libraries (Adetunji and Aghama 2011). With global advancements in information and communication technologies (ICTs), content censorship debate expanded as libraries became increasingly dependent on implementing digital means to host and distribute published materials. This has raised concerns around whether access to certain material (e.g. pornography) should be restricted to "protect children" as they browse and search content online within this public space. Debates such as these elicited several social and political implications around social control. For example, restrictions on information resources, e.g. pornography, likely generates a consensus among Western publics in that the denial of access to such content is routinely considered inappropriate for enjoyment within any public space (Nantais and Cockerline 2010). Probably, much of these debates to protect children are reflective of the present patriarchal aspects of Western society, positioning the state as an *actor* of regulation and as an arbiter of morality, good and bad.

As discussed elsewhere, the primary purpose of a library is to provide access to information and thus "cannot be accomplished through draconian governmental regulation" whereby open access is impeded (Houghton-Jan 2010:31). In this respect, Houghton-Jan offers insight into the censorship practices of American public libraries. She argues that the discourses surrounding these issues tend to focus on philosophical debates around what is acceptable for consumption within public spaces, rather than exploring the broader sociological implications of filtering technologies, which have a propensity to overblock or underblock published content online (see also Deibert et al. 2008).

Callister and Burbules (2004) present four concise and poignant arguments for why this form of content censorship may be detrimental to public interest despite what is being restricted: filtering software does not work, is anti-educational, damages the

fabric of knowledge, and there are effective solutions to the problem, such as education (as cited in Nantais and Cockerline 2010:51). Nantais and Cockerline (2010) iterate this notion, suggesting that blocking online content restricts opportunity to educate the public on safe, appropriate and ethical uses of ICTs. In other words, when an institution delegates their authority to an external body, government or otherwise, to regulate the activities of a community, the institution rescinds an opportunity to educate and implement best practice strategies themselves. However, each form of regulation—whether it be implementation of filters or educational strategies—a form of social control emerges, presupposing that the Internet is a dangerous network that cannot be managed for use without help from either state or non-state actors.

Perspectives on content censorship within American public libraries can be separated into two antithetical and philosophical terrains. On one hand, there are those who reiterate libertarian notions of online communities, suggesting that *information wants to be free* (Wagner 2003), thereby aligning themselves with the general ethos of the ALA's Library Bill of Rights and its defense for the right to access information. Meanwhile, there are those who swiftly argue that there is a legitimate reason and need to censor images and websites not suitable for consumption in a public space (Shea 1999). As Bastian (1997:n.p.) argues, "Tension and ambivalence between the censorship versus consumership model of the public library have existed since that institution's inception in the latter part of the nineteenth century" where there was a balance between public thought and public demand. This paper does not argue that one philosophical position (openness vs. censorship) is superior to the other, but rather it suggests that there are significant social and political implications around public knowledge *production* and *dissemination* as access to information becomes hitherto constrained. Further, it raises several questions around how Internet filtering technology has become repurposed since the early 1990s to restrict public access to *other* types of content. For example, states, corporations, individuals and groups implement filters and censorship strategies for various social and political ends outside of the context of libraries; hoping to strike some balance between openness and censorship. Accordingly, debate on *who* should be delegated authority to implement content restrictions, if at all, is imperative as censorship is inseparable from surveillance and social control.

To understand the debates and controversies on Internet filtering, the following section situates this topic in a brief historical analysis of the emergence of the Internet itself. This context is important as the Internet is the framework on which filtering ultimately takes place and becomes rooted.

Access Granted: Innovation without Invitation and Freedom to Build

A recurring debate over the architectural domains of the Internet relates to its governance, especially regarding its ability to create countless avenues for individuals to connect and engage in collective activities without a legally recognized or (de)centralized

authority. Origins of the present Internet are partly attributed to American military-related research and its exploration of the Advanced Research Projects Agency (ARPA). ARPA was developed in response to a need to create advanced military technologies for American defense applications, both domestic and abroad. It became the "lead agency for federal funding for most mathematics and computer-related research" (Rochlin 1997:39) shortly after its inception in 1958. As Gene Rochlin (1997:39) illustrates, ARPA was primarily tasked to develop a decentralized communications network that would be functional if the United States were to be attacked by nuclear weapons, thus causing damage to telecommunications infrastructure. This network became known as "ARPAnet". The visionaries behind the idea to create a decentralized wide network are credited to America's "foremost Cold War think-tank" (Rosenzweig 1998:1532) such as the RAND Corporation, and specifically engineer Paul Baran (Castells 1996:351). As Rosenzweig explains, Baran "theorized that a distributed network could sustain multiple hits and keep working through alternative channels" (1533). He continues,

> Crucial to Baran's distributed network was his second key innovation, using digital technology to break up messages into discrete pieces that could be sent individually and then reassembled at the end point—a feature that builds more reliability into the system and makes more effective use of communications lines than telephone circuit-switching technology.

In retrospect, urgency to create ARPAnet is substantive given the turmoil and tension during the Cold War period between Western and Eastern blocs for which it emerged. However, As Ed Krol (1992) points out, the supposedly primary purpose and reason for development of the network is still largely debated, as there was perhaps less fear around the potential for physical infrastructural damage from nuclear warfare than the possibility of structural damage emanating from electromagnetic pulses (as referenced in Rochlin 1997). Drive to develop such a network also appears to have originated from the pressure of then President Lyndon B. Johnson's administration, having considerable concerns around "confusion and lack of coordination among computer systems [of America's] three armed services" (Rochlin 1997:227). Despite uncertainty around the precise impetus for creating APRAnet, each case is nonetheless germane to developing a decentralized telecommunications network.

The development of this network, however, not only involved ARPA but a complex eclectic mix of human and non-human actors. Specifically, the programmers at Bell Laboratories were a major contributor to ARPAnet's infrastructure. Ultimately, collective concepts and infrastructure of ARPAnet became the quintessential element of the Internet's present form. In hindsight, this period of development is significant for many reasons. For instance, the notion that a physical system connected to the Internet could be subject to attack by 'electromagnetic pulses' has become a source of controversy taken up by many security intelligence communities. This controversy is increasingly evident as critical IT infrastructures become vulnerable to emerging cyber-

attacks as a result of recent and evolving social constructions of threat (see Tsoukala 2008). This period is also significant to wider computing communities as peripheral elements of a network (e.g. operating systems) eventually prompted a philosophical split between two camps of programmers that continues to this day.

In short, ARPA and its contractors were delegated responsibility to develop ARPAnet in 1969. In 1972, ARPA became known as the *Defense* Advanced Research Projects Agency (DARPA). A decision came from then President John F. Kennedy's administration, advancing secrecy in DARPA via a "wide mandate to pursue research that made it (by design) more independent than most military-related research organizations" (Rochlin 1997:227). In 1970, DARPA along with American research institutions contracted Bell Laboratories to develop an operating system (OS) for its computers. As Castells (1996:352) notes, "transmission capacity was not enough to establish a worldwide communication web". Bell's OS, UNIX, was used to enable "access from computer to computer".

UNIX was a proprietary system, meaning that its source code was hidden from users and protected under intellectual property law. As a result, its various elements could not be freely shared or distributed without the developer's permission. In this sense, its elements and components contain a network of black boxes (Latour 1999). The lack of sharing and user access to information concerned several programmers at Bell Laboratories. One employee in particular, Richard Stallman, took up an initiative to virtually replicate each software component of Bell's OS in order for it to be more freely distributed. For Stallman, he presupposed, "Software (and all nonrivalrous goods) simply *ought* to be free as an ethical manner" (Zittrain 2004:275, emphasis in original). Stallman (2013) has argued, "you should think of free as in 'free speech', not as in 'free beer'". This philosophical position is analogous to American librarians who fight for the public's access to information regarding intellectual freedom. Stallman's OS was completed in early 1992 with the help of computer science student, Linus Torvalds (Stallman 1998). This OS became known as GNU/Linux and has thereafter become a catalyst for the open-source software community. The antithesis between open-source software of GNU/Linux and proprietary system of UNIX is perhaps analogous to the period that the Internet itself was developed. Specifically, each is represented by the positions of "the 'closed world' of the Cold War and the open and decentralized world of the antiwar movement and the counterculture" (Rosenzweig 1998:1531).

Despite that the Internet is built on a decentralized telecommunications framework, authority and social control have always remained inherently centralized. Accordingly, *power* on the Internet has never been decentralized. Social control presents itself in many forms online as it relates to *who* creates user permissions, *what* freedoms become delegated, *where* user interaction extends to, and *when* user supervision (or surveillance) takes place and to what end. To this extent, the Internet has effectively provided the infrastructure to establish an abundance of public and private networks where citizens are liberated from geospatial politics and physical constraints. This

creates a number of barriers for upholding points of control. Further, it contributes to numerous obstacles around issues related to oversight as the Internet permits countless "sovereigns" to exist. In other words, developers and programmers of public and private spaces online are power holders since they have ability easily implement mechanisms of social control and regulate space without *generally* any higher authority or appeal to higher loyalty, such as the Law. In this regard, 'netizens'—or users of the Internet—have the right to enter, remain in and leave the Internet's 'space'. Thus, access to public and/or private space online invariably becomes a right coinciding with an ability to simply be connected. Although, given the way that Internet filtering is currently configured, equal access is *currently* neither guaranteed nor protected. Moreover, mobility online differs greatly from its "real world", offline counterpart in the fact that there are no enshrined cyber "rights", but rather users are *assumed* to be part of the Internet's ethos and seemingly ubiquitous presence in modern life. Although, recent calls for such rights have been made by Sir Tim Berners-Lee, contributor to the development of the World Wide Web, for a type of online 'Magna Carta' and digital bill of rights (Kiss 2014). These issues, in addition to debates around net neutrality (Nunziato 2009), prompt global discursive matrixes reifying issues that concern governance and access.

Filtering Modernity: Restricted Access in a (De)centralized 'Space'

The literary and historical narrative depicting access limitations and censorship in libraries with the implementation of Internet filters has disrupted traditional libertarian notions of the Internet, which characterize it as a 'free', open and archaic space (Barlow 1996; Stallman 2002; Coleman and Golub 2008). Indeed, the Internet's deep structures resemble a more highly controlled space, regulated by state and non-state actors. This narrative also deviates from traditional utopian ideals—which position the Internet as space for social connectivity—towards multiple systems of surveillance and power holders. Furthermore, confirmation of such a *surveillance-Internet-network* can be observed in recent 'revelations', which detail highly orchestrated practices around the symbiosis between public security intelligence communities and private sector partnerships. With the growing commercialization of the World Wide Web, a civil divide between citizens and governments is often exacerbated as perceived unregulated space for social interaction is filled with actors and mechanisms for obvious hierarchical observation and social control (Foucault 1977). This narrative can contest any conceptualizations of the Internet as a distinct cyber 'space' but rather reveals that it is very much within our physical grasp.

Since the primary application of Internet filters in American public libraries, these filters have increasingly been used as a tool to restrict user access to certain segments of the Web (Deibert et al. 2008). Scholars and computer security researchers of global Internet filtering practices identify four predominant types of content often subject to restriction: political, social, conflict and security-related, and Internet tools. *Political*

filtering occurs when an individual, groups, corporations or states block access to websites that challenge status quo political structures. Faris and Villeneuve (2008) illustrate that this practice is commonly observed in Middle Eastern states, such as Bahrain, where governments restrict access to key political opposition parties during general election periods. Despite arguments that some states in the Middle East have recently entered "a more liberal phase" (Wright 2010:13) there is significant evidence to suggest that many of these states continue to actively engage in online censorship practices with ease (Shirazi 2008).

The second predominant filtering type is *social filtering*. This form of filtering takes place when access to information is denied and where topics considered "antithetical to accepted societal norms" are blocked (Faris and Villeneuve 2008:10). In certain states, social filters have been implemented alongside the introduction of the Internet itself. For instance, despite early access to the Web in the Western world, the Internet was only introduced to Saudi Arabia in 1998. From its inception, heavily controlled firewalls and Internet filters were implemented to restrict access to materials perceived to "violate or encroach on the Saudi culture" (Al-Somali et al. 2009:132). In an Islamic society where modesty and shyness are emphasized, the Internet is perceived to threaten local and traditional notions of community, culture, and religion (Al-Saggaf 2004). To this end, one study found male and female Internet usage and participation in online communities made users more open-minded and outgoing (see Al-Somali 2009). Objectively, and through a Western cultural lens, such development may reflect positive aspects of the Net. As others explain, "while becoming less shy is perceived presumably positive by these researchers, this study revealed [it] may constitute a negative effect" (Al-Saggaf 2004:14). One reason for this is that Islamic societies view shyness as a means to regulate behavior (11). As such, content is filtered to protect social integrity of the state and to prevent potential for disruptions in cultural and religious practices, preserving an established power structure.

The third filtering mechanism relates to restricting access to content deemed *conflict and security-related*, such as that which is perceived to be a legitimate national security threat (Faris and Villeneuve 2008:10). This relates to content and websites hosting materials of "insurgents, extremists, terrorists, and other threats", which often garner "wide public support" to be censored (ibid). This type of content filtering differs from the first two, as the protection of national security is presupposed to be an interest upon which majority of citizens would support. Conflict and security-related filtering is akin to introduction of primary Internet filters in American libraries; seeking to remove any material that presumably "threatened" children or is inappropriate for consumption in a public space.

Finally, there are filtering practices that relate to restricting access to specific *Internet tools*. This method relates to networking applications, social and otherwise, as well as computer and mobile applications that facilitate open information sharing (Faris and Villeneuve 2008:9). Filtering Internet tools is germane to the first three restrictions

types such that tools *host* content. Tools and applications commonly restricted in this respect relate to anonymizing software, blogging services, social media websites, and language translation tools. As such, Internet filtering is a worldwide experience. One exemplar of this filtering practice is observed in the Chinese government who has obstructed its own citizens from gaining entry to popular social media platforms leading up to the twentieth anniversary of the pro-democracy protest movement in Tiananmen Square (see Branigan 2009).

In respect to these four predominant content filtering types by state and non-state actors, more than forty governments actively implement end-to-end Internet filtering today (Faris and Villeneuve 2008). However, there are countries where access to such data is obfuscated from empirical analysis. Accordingly, it is anticipated that the number of state-mandated filtering strategies exceed this figure. Many scholars view these practices as harmful to empowering citizens living in these states as access to information is denied (MacKinnon 2012). Further, there are reasonable arguments to suggest that state-mandated filtering is a "pretense for expanding government control of cyberspace" (Faris and Villeneuve 2008: 24). This raises questions around how power is delegated or structured online and how notions of sovereignty manifest. The next section explores these questions by drawing on actor-network theory and conceptual literature on 'network sovereignty'.

Filtered Actor-Networks: (Re)assembling the Net

Global Internet filtering in practice can be separated into various actors and domains: public, private and institutional. While each of these actors differ in the administration of censorship, how these actors succeed or fail to assemble is important when examining notions of power and sovereignty in cyberspace. To understand the variegated actors and networks involved in global Internet filtering practices, the following section draw upon the conceptual and theoretical approach of actor-network theory or ANT. ANT is an approach to examine the relationships among social and technical elements within a network. It is particularly useful as a tool to move beyond recurring debates in sociology and other closely related disciplines, which traditionally focus on either the social (human) or the technical (nonhuman) elements of society. ANT seeks to treat human and nonhuman actors symmetrically and presupposes that it is impossible to study social relations without accounting for each actor within a network (Johnson 1988:310). As Michael Strange (2012:49) argues, "The term 'network' serves to denote a form of social interaction distinct to both hierarchy and market, sitting somewhere between the respective rigidity and anarchy denoted by these alternative terms for describing social order". However, imperative to ANT is incorporating technical and social elements within the analysis of a network or, rather, an *assemblage*. This notion is iterated by Bruno Latour (2005), who suggests, "As soon as you believe social aggregates can hold their own being propped up by 'social forces', then objects

vanish from view and the magical and tautological force of society is enough to hold *every thing* with, literally, *no thing*" (70). Accordingly, ANT frameworks allow researchers and theorists to map out distributed networks of actors through empirically grounded case studies that explore *how* networks develop or fail to develop (Law 2009:141).

Drawing from the works of Deluze and Guatarri (1987), Latour (1996) argues ANT can be conceptualized as a "rhizome". Deluze and Guatarri (1987:7) note, "A rhizome ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences and social struggles". Given the resilience of the rhizome, "it can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation" (ibid:12). In other words, similar to the concept of the rhizome, ANT examines how seemingly autonomous actors are able to assemble, doing so in a "manner that is neither linear nor hierarchical" (Galloway 2004:33). This understanding can be applied to the architecture of the Internet and present Internet censorship practices as various actors rival to assemble or disperse user access to information. Although ANT is neither a *theory* as it is understood in the traditional social sciences, and it may not "offer [a] coherent framework, but [rather] be an adaptable open repository" (Mol 2010:265), it is a useful approach to explore power relations and notions of sovereignty online if we start to look at the administration of contemporary global Internet filtering practices. However, in taking up discourses of power, I will try not to anesthetize actors (Latour 2005:85) by moving beyond the concept in the discussion section.

The Internet is a network. Socially and technically, it is a network that comprises of human and nonhuman actors. Following its origins as a decentralized and complementary information and telecommunications network, it has evolved into a unique space for 'common' social interaction. It is a space marked by struggle and ideological differences, but it is a still a space dominated by control of governments, corporations, individuals and groups. Unlike the offline world, exerting state power and control over the entire Internet—and particularly the Worldwide Web—appears unfeasible in theory and practice. The Internet is a complex network of webs extending countless interests. *Technically*, it is a network that appears to be *out there*, somewhere in the ether and physically out of touch. But in *technical terms*, it is not. The Internet is *here*. It is the essence of massive database servers carefully tucked away across many regions and landscapes.

The Internet is an actor. It was created from the social ingenuity of those who were divers, ideological incentives and backgrounds. Since its inception, power (Foucault 1972, 1977)—and its relations—have been essential characteristic that dominated the Internet's architecture and network. Power relations, however, dominate nearly any relation—social or technical—and thus are not unique to the Internet itself. In the past two decades, power interests and authority actors have increased exponentially as global users continue to come online. Specifically, the relationship between state and corporate actors has extended, and is reciprocal and complementary to the other, as each play a

role in creating spaces. Moreover, each actor plays a role in Internet governance and its regulation (Mopas 2009). A relationship between public/private sector partnerships is increasingly fortified if we look toward Internet security and how each actor develops the symmetrical relationships to crowd-source surveillance and expand intelligence gathering efforts in response to reified, peripatetic cyber threats. This raises important questions for nation states around *how* social control will be maintained online and *what* acceptable terms of its use will be. To date, global Internet filtering practices have been one means to extend state interests online by delegating power to private actors who deliver connectivity (e.g. ISPs). This practice may drastically impact human rights and a user's access to information as we continue ahead in the Digital Age.

Internet filters, however, invariably depend upon the careful preparation and implementation of adequate and meshed infrastructural networks. Accordingly, each of these actors is co-dependent and has a shared give-and-take relationship. As Oshana (2004:143) states,

> A Web infrastructure contains many interacting components. Servers, Internet service providers, firewalls, several levels of servers, load balancers, and so on combine in different ways to achieve a certain performance level. There can be a significant performance difference depending on whether the user is accessing information from inside or outside a firewall, for example. With the growing popularity of wireless technology and the Wireless Application Protocol (WAP), the complexity will continue to grow. This presents significant challenges with respect to performance analysis and capacity planning.

This raises many questions around governance, control, censorship as well as surveillance of users, as actors present challenges in respect to normative notions of 'order maintenance'. The preparation of networks—technical or social—requires many steps to make and sustain subjects and objects within a relational network (Asdal, Brenna, and Moser 2007:29). Assembling global Internet filtering networks involves a broad, complex web of these elements. As Galloway (2004) indicates, the Internet and its protocols (i.e. technical standard operating procedures) "cannot be centralized" (11), it requires many distributed actors to facilitate data transmission. Its functionality depends on a variegated network of co-dependent actors including, but are not limited to: servers, hardware, software, semiconductors, programmers, hackers, investors, and users. Without bringing together actors that were not previously associated, the network—with its countless technical and social components—would continue to be displaced (Callon 1986). In relation to the Internet, Callon's (1986) four *moments of translation* can be useful to understand how global Internet filtering practices emerge or fail to emerge.

The first moment of translation is *problematization.* This occurs when actors define a problem in a social or technical element of society and delegates actors with roles to create a solution. This can be illustrated in the following analogy: the Chinese government (actor) proposes that the free flow of information online is a problem for

society and that state-owned China Telecom (actor) should be delegated authority to filter content preventing latent social harm (solution). As suggested elsewhere, problematization becomes a means for individuals or groups "to be governed in new ways" (Rose and Miller 1992:192). The second moment is *interessement* (Callon 1986:62). In this phase, actors *become* delegated with power and roles to move the network toward a clear goal. For instance, state-controlled China Telecom is given the authority to utilize their technical prowess and expertise to filter content deemed undesirable by the state. The next moment is *enrollment* (65), which occurs when actors accept their roles through processes of negotiation to construct a system of alliances in the network of actors. Finally, there is the moment of *mobilization*. This moment manifests when alliances and intermediaries within a network establish a spokesperson as a representative of each actor. Once the proposed solution is accepted, a network develops. Callon suggests that, "To mobilize, as the word indicates, is to render entities mobile which were not so beforehand" (71).

Discussion: Repurposing Algorithms to Execute Freedom

As previously discussed, the Internet is often conceptualized as a decentralized *space* that is "flattened out" and whereby hierarchies of authority or control are eliminated (Hands 2011:82). It is generally referred to as a technical commons or information commons, conjuring up images of open access and public ownership (see Lessig 2001; Kranich and Schement 2008). This narrative presents the Internet redolent to Agrarian Society times, a period that bolsters an ethic of choice and personal freedom. However, this perceived organizational structure situates this very space as being "ripe for exploitation and enclosure" (Hands 2011:79). Keeping with the perception of the Internet as common space, it is perhaps useful to conceptualize it as a making of publics. In other words, it has become a "new way of voluntarily connecting with others around culture, ideas, and tastes" (Kee 2011:426) by actively creating spaces; "new forms of association... not rooted in family, rank, or vocation" (Wilson and Yachin 2011:1). This does not suggest publics are "equally available" but rather—conceptualized in context of Internet filtering—are important to understand how "publics combine a variety of 'public spaces' in their action" (Iveson 2008:13). For instance, Facebook—a space for networking—can be repurposed as a space for protest, surveillance, news sharing or hate. Accordingly, networks move in-and-out of different roles. Although, it is questionable whether nonhuman actors have the agency to act upon their own accord when examined in isolation relative to actors of a network (Latour 2005).

Accordingly, Internet publics and technologies that permit *connectivity* may "not only lead to new arrangements of people and things" but also "new forms and orders of causality and, indeed, new forms of knowledge about the world" (Akrich 1992:207). Making of publics arises from the collective efforts of a community that "inscribes" purpose for how a space—or new technology—will be utilized (Akrich 1992:208).

However, users can develop "new practices and applications", which positions them as a "designer" as they repurpose space or technologies for uses not initially indented by creators (Georgieva 2010:1). It is important to understand that these spaces "develop and mutate in complex relation to each other" (Iveson 2008:13). Therefore, publics do not exist in any isolation nor do they replace old publics, but rather they help create *new combinations* (ibid) or, in ANT terminology, *new assemblages*. Indeed, publics are actors that are not fixed entities but are rather flowing, stabilizing, destabilizing, extending, shortening, and insist on "infinite pliability and absolute freedom" (Latour 1996:8-9). Missing from this narrative, however, is the discussions of power and governance. Such discussions are quite important when exploring how Internet filters and *code* become a way to execute freedom. In other words, it is imperative to understand and to examine how actors repurpose Internet filters from a means of censoring material not suitable for consumption in a public space to a means of surveillance, embedding systems of control within these perceived decentralized commons. It is this debate that this article will conclude. However, given abundance of discourses around power in social sciences, I position the debate around the concept of 'network sovereignty'.

Censorship is just one dimension of social control preempting conflict, prohibiting access to information and constraining online mobility (Oberschall 1973:58). Roszak (1986) engages with this discourse and his arguments are pertinent to present debates around some of the social and political implications of Internet filtering practices. He explains that the Internet increasingly "penetrates more deeply into the fabric of daily life" (45) and thus actors that permit access to its network, such as the computer, "hold possibilities of shaping our thought, or rather our very conception of thought itself" (46). As Castells (1996:5) notes, technology is *embodied* by society, it does not determine society. For Castells, modernity reflects an information society that by this very neologism "emphasizes the role of information in society" (21).

Global Internet filtering practices are one means to restrict the full dawn of the 'information society' through technology. Speaking to the big data and predictive themes, which are tightly woven throughout articles in the Disestablishmentarian Journal's special section, there is a clear sense in which a (un)regulated actors or institutions can open new doors to possible futures even as they may seek to foreclose another door. As a researcher who has spent several years working with third-party software vendors, government, academic professionals, or other bureaucrats, I have observed known or unintended consequences and costs that emerge when communities come together or fail to launch. For instance, we can imagine denial of access to information creates pacified beings, but this cannot be assumed *a priori*. In countries where broad filtering practices are implemented, citizens use counter technologies circumventing access to restricted areas (Rodan 1998; MacKinnon 2008). According to Castells (1996:423), the Internet's "architecture and design may be digging trenches of resistance for the preservation of meaning in the generation of knowledge. Or, what is the same, for the reconciliation of culture and technology". However, trends on global Internet filtering

practices (Deibert et al. 2008) suggest we are "entering an age of infinite examination" (Foucault 1977:187). These practices have significant impacts as networks of actors are ever more interdependent and as physical and virtual elements of society become more interconnected. Take the Cannabis Act as a last example: The Act allows/restricts individual ability to possess, produce and/or to consume cannabis within a federal and provincial network, functionally advancing acts occurring immemorial for social or medical reason. However, it has also created unfortunate infrastructures of surveillance on citizens who could be penalized for those same acts internationally while also promoting a monopoly of semi-sovereign entities (i.e. Licensed Producers) permitted to capitalize on resources in a space which was previously distributed differently–for better or for worse, online and offline. In the same sense that John Law (2009:147) has written about how *social* and *technical* elements are embedded within one another, distinction between online and offline spaces should ultimately diminish. Instead of referring to *human* and *nonhuman* actors, Law (2009) suggests each should simply be referred to as "actors". Accordingly, social scientists should challenge us to think of *online* and *offline worlds* as but one network or assemblage that contains many Internet-enabled elements. It is through such an approach to community and to governance where we may all begin to examine issues related to regulation and control in everyday life by creating and studying sources or outcomes of controversy.

As Joel Reidenberg (1996) notes, "Governance in the network environment suggests a need to recognize network systems as semi-sovereign entities" (928). He argues that networks have attributes redolent to sovereignty, suggesting users may have "constitutional rights through contractual terms of service" agreements (ibid). Further, he recognizes that networked communities do have a significant amount of authority to enforce participant rules of conduct (920). However, Castells (1996) notes that technology has become embodied by society, thus there are very fundamental struggles and questions around whether technology can even be controlled. Such debates have significant implications for our individual rights as we continue ahead and as netizens become subject to the rule of private industry, rather than any government system, which should have checks and balances evolving over centuries. Further, when examining governance in networks offline, the literature around global governance increasingly asserts how "governance has gone beyond the state by increasingly relying upon a longer list of actors" that are private or non-governmental (Strange 2012:50). Strange argues that previous conceptions of governance as a state-centric model becomes challenged since there is an increasing need to account and examine actors, which are often black boxed. Moreover, with ICTs promoting new avenues for many individuals to (de)connect perhaps new layers in international governance will emerge as interdependent spheres of life increasingly collide. Citizens are of course mediated by these actors and institutions every day, study and challenge to these structures must be ongoing, as balance cannot be stricken without constant connectivity and weight to support the opposing sides.

Significant questions on governance arbitration around which types or codes

of ethics should exist to mitigate potential oppressive governance has been discussed. These debates are paramount as the world continues to witness how governments have repurposed technology, such as Internet filters, as a means of assembling surveillance and security against a community of users. However, debates must proceed cautiously as characterizations may be problematic, presupposing Internet accessibility is (un)equal and may therefore necessitate an arbitrator to (un)support its fair use. The implications of this could be dire, as it would likely delegate authority to a governmental or other centralized body to 'keep the peace'. Accordingly, in recognizing that Internet filters emerged in the context of American public libraries, repurposing of this technology to act as mechanisms of social control has had broader political and social effects unintended by its original developers. As such, Internet filters have become actants within a technology, carrying potential to truly change "the fate of economics, military power, and social well-being" (Castells 1996:6). One question among many that remains in respect to issues of governance online is whether citizens desire to be governed by the sovereignty of public or private sectors (i.e. semi-sovereigns), if at all. Or, given the wide evidence of emerging public/private sector partnerships across the world, how will these sovereign relationships transpire and with what effect do we all give/refuse consent to the on/offline networks that define us all in the spheres of everyday life?

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Stasis: Search for Identity

Hiba Alhomoud

Stasis

In the spaces

Between railroad tracks

Silent

Are the unspoken thoughts

Trapped in a train

Of thought

That won't depart

Stuck at station

Gears not meshing

A mission

Of Self

Halted at intermission

Conception and death

In grey matter

Never left home

But does it matter?

For this is personal business

Though it's not personal

It's the business

Of the personalized

Self-

In-

Motion-

Career Change and Cultural Hegemony: An Integrated Approach Involving Transformation Through Writing

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Athabasca University

Abstract *Career change is a practical problem of everyday living, one that is now more complex and urgent due to disruptive and destructive forces in our social, economic, political, and environmental landscapes. By choice, chance or coercion, millions of individuals will need to make career changes in the coming decades. Current theories and models emphasize personal agency while the influence of cultural hegemony on the effectiveness of career change is overlooked both conceptually and empirically. This paper focuses on career as a cultural construct to show how The Canadian Dream organizes individual, institutional and cultural norms and values into a dominant social order that comes to stand for common sense: this is how life is best lived. This hegemonic force is analyzed to show how it actually impedes and impairs career change. An existing Model of Transformation Through Writing is reconceptualized for an experiment to improve the effectiveness of career change within a theoretical framework involving second-order change, one that may help to energize a public conversation around non-hegemonic visions of "the good life."*

Keywords *Career, Hegemony, Culture, Psychotherapy, Writing*

Introduction

After 20 years in private practice as a career advisor, I entered the Master of Arts – Integrated Studies program at Athabasca University to study how career change could be made more effective and efficient. I use a stringent definition of career change, one that involves a complete change in job title, employer, and job tasks. The focus of

my first research project (Dutch, 2016) was on the effectiveness of a particular "life-story" intervention meant to help midlife adults voluntarily change careers through a story development process of co-construction (to reveal), de-construction (to unpack), and re-construction (to rewrite) to move an individual from a first career identity to being empowered through a new career story. The lineage of this narrative approach is traced through the literature of career theory and method (Brott, 2001; Collin & Young, 2000; Del Corso & Rehfuss, 2011; Lengelle & Meijers, 2014; Savickas et al., 2009; Stebleton, 2010) and distinguished from common psychometric trait-factor assessments, such as the Strong Interest Inventory, the Holland Career Types, or the Myers-Briggs Type Indicator. My findings indicate a positive correlation between the intent of life-story writing to "uncover" a personal story, create a new career identity, and facilitate a positive career change.

Prior to this research, my clients and I focused primarily on the ontological question "who am I?" and the teleological question "what should I do?" As a result of my studies, I now better understand the implications of asking a hermeneutical question: "what stories am I already a part of?" Analyzing the links between identity, prevailing discourses, and power structures in society reveals the complexities and contradictions of ideologies and social systems that shape and influence everyday life, including career change. In this essay, I focus on career as a cultural construct and build on insights from my previous research: personal agency in the making of "self" is favoured by career theorists while the influence of cultural hegemony is overlooked both conceptually and empirically in the construction of an individual's career identity.

Most scholars recognize the critical role of certain social and economic forces on career development but a career change model that brings broader cultural forces into account is new to the field. I draw on Stuart Hall's writings that regard ideology as an unspoken, unacknowledged or unexamined foundation for all our explicitly held beliefs. Ideology brings certain things into our vision while hiding other things. Hall maintains individuals are summoned by ideologies and recruited as their 'authors,' their essential subjects. Because ideologies are embedded within social formations and within the structures of language, they are resistant to change and thus to the introduction of alternative perspectives. In this way, the values of a dominant social order are internalized by its subjects and reproduced through cultural practices that act as a structural constraint against alternative perspectives to the degree that they may be seen as violating the common sense of a culture (Grossberg, 1996, pp. 157-161).

In particular, I analyze *The Canadian Dream* (hereafter referred to as TCD) as a structural constraint or form of cultural hegemony–the structuring and ordering of individual, institutional and cultural norms and values into a dominant social order that comes to stand for *common sense*: this is how life is best lived. In this context, career change is framed by a wider and deeper discussion concerning "the good life"–what it is, how we can get it, and how we can realize it together. I argue that TCD constrains this conversation through an ideological prescription for the good life–one that impedes

and impairs the opportunity for efficient and effective career change, when that change is measured as an individual's ability to achieve a complete change of job title, employer and job tasks in a timely manner. Would an understanding of how TCD operates as cultural hegemony assist individuals with career change by helping them negotiate or resolve the tension between personal agency and hegemony?

My thesis re-conceptualizes an existing Model of Transformation Through Writing (Lengelle, 2014, p. 26) to accommodate a theoretical framework that takes into account the assumptions embedded in TCD. I integrate theories from humanities (literary theory/narrative studies) and social sciences (psychology/identity formation, sociology/career development) with a cultural analysis of TCD based on an interdisciplinary approach used in cultural studies[1] to present a novel model—the Model of Transformation Through Writing for Career Change—and a hypothesis to guide an experimental test of this model.

A Theoretical Framework

Research is about the production of knowledge that is used to rationalize or justify certain personal, social, economic, or political actions. But all research is a story; that is, each research project is made up of ideas, beliefs, and assumptions about the nature of facts, reality, or Truth. Consequently, the two basic theoretical frameworks of research –one to legislate on the Truth (the positivist approach), the other to interpret Truth and encourage debate, insight, and understanding (the constructivist approach)—produce different rationales for similar actions.

With the return of soldiers after WWII, Canada and the USA settled into a period of recovery and reconstruction, led by the centralization of human and capital resources in large corporate, government, and university organizations that offered cradle-to-grave job security in or near major metropolitan areas. During this time, the positivist approach—rational philosophy combined with empirical science—dominated scientific orthodoxy in two main disciplines, psychology and sociology. Both of these focused predominantly on an individual's external world or actions within a coherent intellectual movement often referred to as modernism, a movement usually associated with a general consensus that an affluent society is good for everyone—a rising tide floats all boats—and the expectation that individuals adjust to the social structure that produces affluence. The central research question for career professionals influenced by modernism is "how do we best match individuals and occupations?"

A central debate between psychologists and sociologists concerns the primacy of either agency or structure in human behaviour. Since WWII, the study of careers in the USA has been dominated by psychology, with a focus on individual behaviour and the

1 Since its inception at the University of Birmingham in 1963, theorists in the academic field of Cultural Studies have institutionalized the idea of culture as contested terrain involving the struggle for power between social forces to dominate the production of cultural practices related to everyday life, such as religion, fashion, media, sports and work.

development of theories to explain why individuals make decisions (Walsh & Savickas, 2005); in the UK, sociology has dominated the study of careers, with a focus on social policy and how institutions affect the career decisions of individuals (Arthur, Hall, & Lawrence, 1989). However, both disciplines continue to participate in a scientific discourse involving concepts of objectivity, causality, linearity, control, and reason to capture and define an *essential* self, with static traits and factors that fit into a stable work environment. A corresponding ethic of social conformity has produced lockstep arrangements for education, career, family, and retirement, which, in turn, shape a life story: good school + good grades + good job = good life.

I refer to this structural arrangement of material conditions as TCD because it is very similar to its American counterpart as a national biography of individual autonomy and career success that became a way of life organized in its most simplistic form around a citizen's potential to get a good education, secure a stable job, buy a house, grow a family, and follow a life script of working and buying as a reward for the virtues of initiative, personal responsibility, and hard work (Gulette, 2003; Hochschild, 1995). In America, self-interest was harnessed to public progress in Turner's (1893) frontier thesis, which catapulted the notion of *The American Dream* into the public's imagination. He glorified the individual pioneer (predominantly white and male) who stood on the edge of a wilderness and hewed through adversity with sheer will and determination to construct a manifest destiny of life, liberty, and the pursuit of happiness. An ideology of rugged individualism, based on self-reliance and personal independence, was mythologized in American popular culture during the twentieth century, often personified in the iconic cultural figure of "the cowboy" as outlaw or lawman transforming the Wild West into civil society[2]. This national biography was adapted by other countries, such as Canada, where TCD now operates as a "grand narrative" or cultural meme that transmits an ideological consensus about the nature and purposes of career—everyone should have an equal opportunity to get ahead. Some surveys suggest that 95% of the population is committed to this ideal[3].

This linear logic of conformity, regularity, and predictability orders our external world but it also dominates the way we think through centering movements of coherence, continuity, and unity that are valorized through cradle-to-grave job security. Figure 1, for example, depicts an urban setting common throughout the West, a landscape of ordered life: we go to school to learn knowledge and skills for work in downtown buildings in order to buy homes and fill them with stuff until we can retire peacefully with a comfortable pension before we are buried. In the photo, houses and schools populate

2 In the academy, this mythological figure is often transformed into a public intellectual with an oppositional discourse to the status quo, one who extols the virtues of a self-transformative enterprise. In my opinion, this bias towards self-making exhibits the trappings of a "sacred secularism," with certain public intellectuals as its high priests.

3 Putnam's (2015) *Our Kids: The American Dream in Crisis* contains a plethora of charts with statistically significant data pointing to this ideal and tracing the increasing complexity of class polarization in America.

the gap between the symbols of prosperity in a downtown core and headstones that signify a life well lived. Theoretically then, in this ordered span of life, change is achievable in a linear, causal, and deterministic fashion from internal (psychic) and/or external (environmental) forces in a mechanistic universe. It is simply a question of pulling the right levers at the right time in order to attain predictive results. However, the economic pillar of job security that supports this coherent picture of peace and order is now crumbling due to tectonic forces—social, economic, and technological—operating in our current neoliberal historical moment. These forces are contributing to the formation of a new class of workers called the *precariat* (a word combining the notions of *precarious* and *proletariat*), a description for a broad spectrum of temporary, project-based, contingent workers. Standing (2014) provides an overview of costs and possible benefits of this workplace trend that now represents about 40% of adults in Canada, a number that expected to increase to 50-70% in coming decades (Standing, 2015). Many individuals respond to this seemingly unavoidable employment trend and attendant erosion of economic security with existential angst and practical concerns, which contributes to the fact that depression is the number one workplace disability in North America (World Health Organization, 2016, Fact Sheet, Depression).

Figure 1: Logic of cradle-to-grave conformity is embedded in values of TCD
SOURCE: Courtesy of Photo © www.deceasedonline.com, family history website

Career change then is not a luxury for a privileged few but an increasingly urgent and necessary skill for millions of individuals who–by choice, chance, or coercion–are stuck or suffering in a career story. These individuals may no longer have access to TCD due to disruptive socio-economic forces, they may consciously or unconsciously reject the dominant social order as represented by TCD, and/or they may find that their attempts to align themselves with TCD create psychological, emotional, or spiritual problems for them. These individuals do not discover their "self" in the positivist model of reality; instead, their aspirations for authenticity and autonomy are stifled by their career experiences within a society organized around mass production and mass consumerism as enabled by the major institutional engines of job security–business, government, and unions.

Rather than view individuals as static, fully-formed identities, scholars in both psychology and sociology are reconceptualizing career as scripts that belong to the individual, not the organization, and call for an epistemological position that is interpretive rather than normative, being concerned with elucidating meaning rather than with determining causality (Morgan, 1983). Individuals are not *passive* receivers of expert assistance but *active* agents in constructing their own lives, including career stories (Savickas et al., 2009). The central research question for these scholars is the following, "how can individuals best design their own lives in the human society in which they live?" What matters is how an individual explores questions about both the nature and meaning of "the good life," a much more subjective approach to career.

Hegemony

A new language of postmodern concerns–including discourse analysis, deconstruction, interpretation, domination, feminism, genre, narrative structures, otherness, ethnography, semiotics, subversion, textuality, and tropes–has injected instability and uncertainty into knowledge claims and practices about the human subject as the central agent of social development. Agency values the power of individuals to make choices and is sometimes criticized for overemphasizing individual autonomy in career (Collin & Young, 2000), as if a career is developed solely through individual effort irrespective of social supports and limitations. But some postmodern scholars emphasize the agency of the collective whole rather than the individual actor. Using Gramscian notions of ideology and hegemony, Hall (1999) and other cultural theorists (e.g., Fiske, 1989, 1996, 2004; Grossberg, 1996; Horkheimer & Adorno, 2004) show how knowledge is transformed into consent to secure the domination of some groups of people by others. They reject the notion of objectivity as it is used in social sciences to justify a social order, and the power dynamics that keep it in place, as an inexorable result of social progress.

TCD contributes to a justification for the status quo through a subtle and complex interplay between idealism and materialism, a relationship that is both contradictory

and complementary in the context of career change because the freedom to choose a particular career becomes linked with access to a certain lifestyle. Normative employment discourses are bound up with concerns related to location, mortgages, family, social networks, status, and prestige, as well as age, race, and gender. The coupling of livelihood and lifestyle makes career change problematic for many individuals, who may end up in a double bind, "damned if I do and damned if I don't." They feel stuck because they assume changing careers means losing or lowering a lifestyle that they have worked hard to achieve while suffering in a career for the sake of that lifestyle. This pattern is like a rocking chair: movement forward eventually leads to movement backward so no real gains are made. In other words, structure determines behaviour.

The structure of TCD reinforces the double bind for individuals because the material order of conformity overwhelms an ideological vision of "the good life." This material order organizes our external and internal worlds to assume that TCD is not only the best way to live but the *only* way to live–an ideological form of social control or cultural hegemony. The purpose of a career change intervention is to resolve this aforementioned double bind: I will now interrogate a Model of Transformation Through Writing and analyze its capacity to do the same.

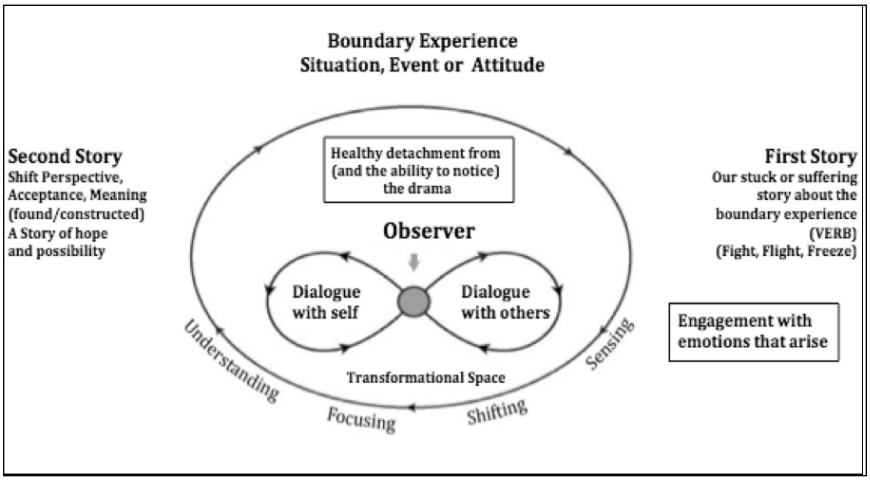

Figure 2: Transformation Through Writing, © Lengelle (2014, p.26).
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Model of Transformation Through Writing

Since 1986, research from more than 200 studies shows that creative, expressive and reflective writing about thoughts and feelings in a structured safe space helps individuals gain control over a negative life event. Writing for personal development has become a way for people to learn new life skills and feel better (Bolton, 1999;

Hunt & Sampson, 1998; Pennebaker & Chung, 2011; Wright & Chung, 2001). This general aim fits neatly into the model for "transformation through writing" (see Figure 2) developed by Lengelle and Meijers (2009) and revised by Lengelle (2014), which involves the four cognitive stages of understanding, focusing, shifting and sensing that help individuals think, feel and write their way through a boundary experience (i.e. when an individual remains stuck in a negative event, situation, or attitude, such as a job loss, death of a loved one, or bitterness). The purpose of this model is to help individuals get *unstuck* from a "first story" organized around a fight, flight, or freeze response to a negative event; a response that typically involves a rigid schema of beliefs and behaviours, such as victimizing, entitlement, resisting, or blaming (V-E-R-B)[4]. An individual then uses structured writing exercises (such as journaling, autobiographical reflections, poetry, proprioceptive writing, inquiry writing, or others) to change, rewrite, reframe, or remove barriers. Based on postmodern theories and methods–such as autobiographical reasoning (Hunt & Sampson, 2006; McAdams, 1993; Randall, 1995), self-determination theory (Ryan & Deci, 2000), career construction theory (Del Corso & Rehfuss, 2011; Savickas et al., 2009), and dialogical-self theory (Hermans, 2014)–these exercises are meant to empower individuals with the knowledge and skill to produce insights, acceptance, or meaning for an *expanded* or multi-dimensional self that results in a "second story," one with a more life-giving perspective that helps them feel better by resolving internalized conflicts and moving forward with actions (Lengelle & Meijers, 2009, pp. 57-60). At the heart of the Transformational Space in this model is the dialogical engine of the model shaped as an infinity symbol to emphasize the ongoing conversation with self and with others that drives the understanding, focusing, sifting and sensing phases of the process. Lengelle offers evidence that this model facilitates personal development and there is anecdotal evidence that it supports job change but no empirical research on its capacity to do the same for career change (as a complete change of job title, employer and core job duties).

People often become stuck because they operate from unquestioned assumptions about the nature of reality. Writing exercises can prompt them to examine those assumptions. In Figure 2, Lengelle uses the larger circle to capture the need for feedback from others (such as teachers, therapists, facilitators, counsellors, family, or friends) in the Observer role who assist an individual to detach from the first story to "notice" the drama and shift perspective. How the shift occurs–from First Story on the right side of the figure to a Second Story on the left of the box–is somewhat of a mystery involving cognitive and intuitive acts of understanding, focusing, sifting and sensing (Lengelle & Meijers, 2009).

I contend that individuals can be better equipped for effective career changes if their unconscious adherence to TCD is challenged deliberately and directly by a counsellor/facilitator before using writing exercises to interrogate their assumptions.

4 For a full explanation of V-E-R-B, see Baker & Stauth's (2004) *What Happy People Know: How the New Science of Happiness Can Change Your Life for the Better.*

I will now reconceptualize Lengelle's model by expanding the transformational space to include this counsellor-led challenge.

Reconceptualizing the model

Although individuals might think or feel that TCD is the only way to live, mass culture is available to be interpreted and used by people in different ways: from inside hegemony; from an adapted or negotiated position; or, through an oppositional discourse (Hall, 1999, pp. 515-517). TCD is a cultural device for organizing the material conditions of a dominant social order and *not* a timeless feature of the physical universe because culture is plastic, malleable, and therefore susceptible to challenge and change. For example, the net of assumptions embedded in TCD could be exchanged by an individual for a different set of values and norms, so that their experience of "reality" becomes qualitatively different.

As Hooley and Rawlinson (2011) argue, individuals are "free" only to the extent that they can choose work within structures and values prescribed to them by cultural machinery which is ubiquitous and powerful in using career as a process for turning an ideological form of social control into an individual desire. Writing prompts might include questions that help individuals explore and challenge this connection between social control and individual desire such as the following, *what is TCD for me? Did I choose it consciously or adopt it unconsciously? Why am I living this way? What messages have I absorbed about "the good life" from significant people in my life? Who am I trying to impress or keep up with? Who am I competing against and what am I competing for? Why work at all? Does my net worth determine my self worth? What kind of a society do I want to live in?*

Answering such questions is part of a learning process to resolve tension between personal agency and cultural hegemony. People discover that their personal goals and values are obstructed by the walls of structural forces, as represented by the cultural hegemony of TCD. A deep self-conscious awareness of how one is dominated by a social order is not enough to guarantee a personal or collective reorganization of that order. But, according to some postmodern scholars and psychotherapists (Harvey, 1989; Hochschild, 2012; Holt, 2002; Norcross & Beutler, 2014; Rifkin, 2001), if the forces of domination can be recognized, then they can also be resisted, revoked and replaced. Disengaging conceptually is a first step towards breaking down the walls of TCD and constructing an alternative reality.

If a client's "problem" is altered within a rigid schema of personal beliefs, it is referred to as a *first-order change* because if things go wrong again, that person does not question the assumptions underlying their actions, goals and perceptions but simply tries to refine their strategies or actions in accord with those same old assumptions (Todd & Bohart, 2006, p. 352). In short, only the schema's parameters change, not its structure; the underlying assumptions continue to hold the schema rigidly in place.

Second-order change, by contrast, would subvert the assumptions that make career change difficult due to an unconscious adherence to TCD. It involves a transformation that moves a career change from a reality adjustment to a reality replacement. It means exchanging the belief that TCD is the *only* way to live for the very real possibility that there is a *better* way to live. Second-order change involves a commitment to step outside the framework of TCD and see "reality" in a new way–to make a genuine, deliberate, intentional effort to imagine a different way of living, a different way of organizing work and other economic resources. To draw a simple analogy to demonstrate the order of changes: if a drug addict completes a successful treatment but returns to the same external conditions of place, people, and purpose (or lack thereof), then they are likely to return to their previous lifestyle, or entrenched pattern of behaviour, or worse. Successful drug addiction treatments help individuals change the structure of their lives because structure influences their behaviour. Without this structural change in lifestyle, the risk of relapse is very high. Similarly, an individual is unlikely to realize a successful career change (a complete change of job, employer, and job duties) if the structure of their lifestyle as well as their livelihood does not change.

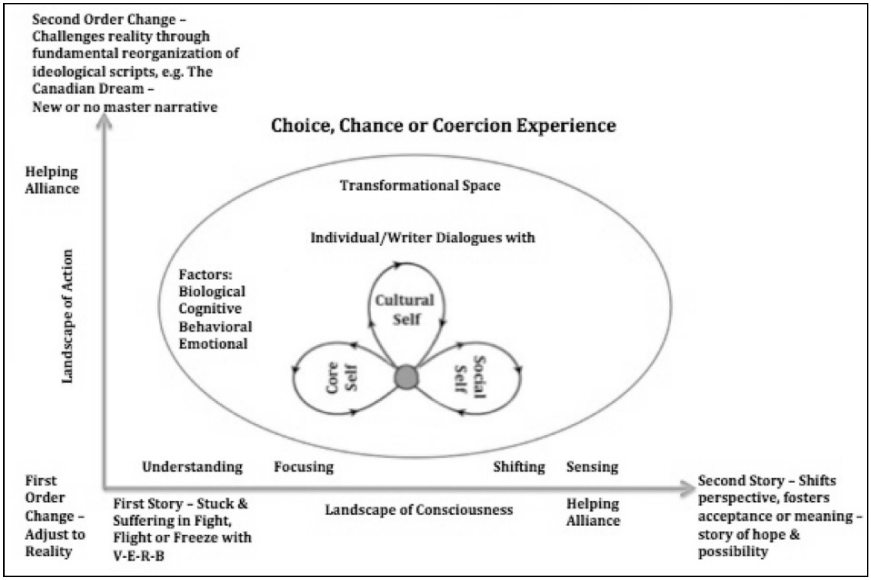

Figure 3: Model of Transformation Through Writing for Career Change

In Figure 3, I have reconceptualized Lengelle's model. An individual enters the Transformation Space by choice, chance, or coercion. Writing exercises are used to help them explore their core, social, and cultural self in a helping alliance that involves a

structured intervention. Their *core* self refers to their understanding of how they might operate in everyday life with a whole, indivisible, essential self. Their *social* self refers to roles in life, such as parent, child, sibling, citizen, student, employee, friend, and so on. Their *cultural* self refers to their understanding of how they might be "made" by the structure of TCD or other master narratives. How they experience these different but related domains of life can be uncovered with simple prompts related to their thoughts, beliefs, and self-talk (cognitive); their feelings, moods, and emotions (emotional); their actions (behavioural); and their physical, physiological, and genetic (biological) traits and factors, and the dynamic relations between them.

Using concepts from narrative therapy (Seligman, 2001), I furthermore reconceptualize Lengelle's model to include a matrix that indicates a degree of change from first to second story along the horizontal axis and a degree of first- to second-order change along the vertical axis. A transition from first to second story is indeed a significant accomplishment in and of itself since many individuals will shift their landscape of consciousness while they continue to approach TCD as representative of "the good life." They might achieve a shift in perspective about their life along the horizontal axis but not a shift in the structure of their life. In some cases, a shift in perspective may lead to a job change and, possibly, a career change.

It is my hypothesis that individuals can achieve a career change in a more efficient and effective manner by moving from a first order to a second order of change that involves an alteration in the structure of their lives. If they de-construct the values and norms embedded in TCD then take actions to construct a different master narrative (or, perhaps, no story at all), a career change is expected to occur only along the vertical axis subject to time, effort and other variables. In either case–when individuals experience a transition from first to second story or from first- to second-order change–they will encounter varying degrees of help or assistance along the way as they work through the processes of understanding, focusing, shifting, and sensing the meaning of written exercises. But this helping alliance is crucial to the exploration of a new or no narrative along the vertical axis, because it is an intervention that challenges assumptions and develops capacity for reconstructing TCD. For example, it may be important for individuals to see how members of the precariat (such as contract workers, artisans in the service economy, and provisional workers in theatre, film, television, digital arts, and other entertainment sectors) are reconfiguring work from inside the dominant social order to support a stable lifestyle. As this class of workers becomes normative within society, certain social organizations (such as professional associations representing these groups) will help their members negotiate (through lobbying and advocacy activities) benefits similar to those taken for granted by employees enjoying job security, while public intellectuals continue to draw attention to ongoing structural inequities and injustices associated with cultural hegemony.

We are moving rapidly into a fragmented, somewhat incoherent but networked order of material relations that requires alternative visions to our current economic and

political order[5]. For example, we can uncouple livelihood from lifestyle. If automation can indeed replace much human labour–including that of doctors, lawyers, and other professionals–we might reorder society around a guaranteed income that emancipates individuals from "wage slavery," away from competition and individualism and towards collaboration and "the commons" as a form of wealth that belongs to all. This is a formidable challenge that requires a collective response, one that is political (in the sense of politics as a struggle between values and, more specifically, *which* values will dominate the public sphere). Career changers might represent a new group of workers who collectively help to subvert–through considerable imagination and political action–the existing entrenchment of values organized around private property and private wealth within a corporate, consumer, capitalist economic framework. But these facts remain: culture is plastic, change is inevitable, and alternative structures to TCD are possible. Perhaps creativity and non-conformity represent the new security?

Further Research

Todd and Bohart (2006) explain how a client's life story contains a rigid schema of beliefs, assumptions, concepts, or "fictions" that shape their version of reality. When individuals attempt to solve problems, they operate out of the unquestioned assumptions that make up their version of reality, without realizing they are assumptions.

Are hegemonic assumptions embedded in TCD limiting the capacity of individuals to make effective career changes? I propose to answer this question by testing my Model of Transformation Through Writing for Career Change in a Two Group Experiment. Both groups will undertake proven writing exercises for career change but an experimental group will learn how cultural hegemony shapes their first career story; a control group will not. My hypothesis is this: participants in the experimental group will construct a self-reflexive second story that helps them navigate quickly through cultural controls to achieve effective career change. If results are positive, then this research may help to forge new forms of security and solidarity for career changers.

Conclusion

At this particular historical moment, there are many disruptive forces undermining job security as a foundation of TCD and causing millions of individuals to make career changes by choice, chance or coercion. These individuals become the 'subjects' of TCD by virtue of internalizing an ideology involving assumptions, such as private property is the only rule, profit the only metric, competition the only game, efficiency the only yardstick, winners and losers the only outcome, and hierarchy and inequality the only form of organization. Most career development practices today help individuals conform

5 For a detailed and stimulating discussion about alternative visions to our current material economic order, read Mason's (2015) *Postcapitalism: A Guide to Our Future.*

and adapt to this cultural hegemony. Such practices may be impeding the ability of individuals to make career changes in a timely and effective manner.

A career change model organized around certain writing exercises (see Figure 3) that question those assumptions is new to the field of career change. It might subvert hegemony and offer alternative visions of "the good life," such as the following: *what are humans for? How shall we live? How should society then be ordered?* Answering such questions in a structured career change framework might lead to a more effective career change for individuals, involving a satisfactory adjustment to TCD, or perhaps resistance to or attempts to change it. Outcomes are open and unpredictable and therefore conducive to research.

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