Cyber-physical Systems, or, the Cultural Logic of Techno-Neoliberalism

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Acknowledgments

I wish to emphasize the settler colonial history and continuing colonial legacies of the lands on which we are situated. McMaster University is located on the lands of the Haudenosaunee and Anishnaabeg nations. This land has been Indigenous land since time immemorial, and the majority of us are uninvited occupants of and guests on this land.

Abstract

We live in a world characterized by digital networks, blurred boundaries, pluralized workplaces, hybrid identities, and highly contested ideological agendas driving complex interactions between diverse local and global discourses. In contemporary capitalism, faith, trust, loyalty and solidarity are all casualties to the algorithmic diktat of big data, the foundation to a new logic of capitalist accumulation. When knowledge is capital and information is a commodity, wisdom is the capacity to forecast earnings from data. The big data stockpiles that cyber-physical systems generate make up the building blocks of the information economy, combining technology, commercial interests and social operations. Since information is increasingly perceived as a profit-laden entity that produces exchange value, the new commanding heights of power and control are being drawn up by techno oligarchs.

I will articulate in my research the totalizing effect capital and technology have on contemporary digital subjectivities by arguing how the fabric of society is being irrevocably changed by the installation of cyber-physical systems. Cyber-physical systems bring together the 'cyber' workings of analytics software and automation hardware infrastructure with the 'physical' materialities of ubiquitous human interaction. For the purpose of this paper, cyber-physical systems will be classified into audit culture industries and affect-audit culture industries. Audit culture industries are made up of new managerialist operators implementing measurements of progress (e.g. metrics, rubrics, benchmarks, performance indicators etc.) to affect the behavior of consumers, workers and citizens. Affect-audit culture industries function as infrastructures of consent, amassing data, auditing the affective interactions of their user base and generating revenue for the techno-oligarchical corporations through the sale and commerce

of data analytics. These industries are always-already engaged in data acquisition processes making them an integral part of the surveillance apparatus of the neoliberal state procuring data for both state and market surveillance. Audit culture industries provide data for the structural surveillance apparatus and the affect-audit culture industries feed data to the phenomenological surveillance apparatus.

The processes involved in transforming individual data-points, e.g. geographic coordinates, music playlists, blood sugar levels, pedometer readings, news feeds, dating profiles, video game scores, search histories, smart grid energy meter readings, etc. into aggregated, tradable digitized commodities are shrouded in mystery. The opacity and inaccessibility of these commodities markets highlight the absolute power differential between techno-oligarchical corporations and digital subjects. Cyber-physical systems, I contend will set in motion the expropriation of human agency and restructure work and society in the process through the deployment of disruptive technologies such as process automation, machine learning, artificial intelligence and wearable technologies.

Keywords: affect-audit culture industries, big data, cyber-physical systems

As citizens, consumers, activists, and publics immerse themselves in a culture of digital connectivity, computational processes are affecting their behaviour by datafying information[1], work, and society. Datafication of work and society takes place as cyber-physical systems ubiquitously gather instrumental knowledge willingly and unwillingly, consensually and non-consensually, purposely and accidentally, about human interactions through an endless array of audits, extractions and transactions. 'Transnational information capitalists' (Fuchs, 2009, 2011) have ingratiated themselves into the fabric of society via analytics software and automation hardware. In this paper I contend that the cyber-physical systems infrastructure systematized into audit culture and affect-audit culture industries has always-already datafied and protocolized social, cultural, and political life in contemporary society. By engaging in a critical technocultural discourse analysis[2] of cyber-physical systems, I would like to develop a nuanced understanding of the master narratives that are at work in the discursive regime of technology[3]. As information, work, and society become subsumed by the vectors of datafication, it is imperative to gain a critical appreciation for the stigmata of technoculture[4], the wounded attachments[5] of technopolitics and the epistemic violence inflicted upon society by the big datascape. Big data as an analytic paradigm facilitates algorithms to predict outcomes without understanding them, thereby privileging the computational turn in media, culture, work and society. This paper will address how cyber-physical systems forged in the fires of techno-neoliberalism are in the process of occupying the 'commanding heights of the economy' (Yergin & Stanislaw, 1998).

I argue that the cyber-physical systems apparatus is constituted by the administrative mechanisms of the audit culture industries and the knowledge structures of the affect-audit

culture industries. First I describe how audit culture industries function as an ensemble of administrative measures, regulatory bodies, and jurisdictional bodies that protocolize new managerialist ideologies by operationalizing measurements of progress (e.g. metrics, rubrics, benchmarks, performance indicators, etc.) to affect the behavior of consumers, workers and citizens. Secondly, I explicate how affect-audit industries function as infrastructures of consent, amassing data, auditing the affective interactions of their user base and generating revenue for the techno-oligarchical superstructures through the sale and commerce of that surveillance data. Then, I describe the processes by which the conjoining of audit culture industries and affect-audit culture industries results in the formation of cyber-physical systems. Cyber-physical systems, I contend, will set in motion the expropriation of human agency and restructure work and society in the process through the deployment of disruptive technologies such as process automation, machine learning, artificial intelligence and wearable technologies. Cyber-physical systems forge the bond between metrics and power. Twinning metrics and power is a primary move in the establishment of algorithmic value derived from the application of datafication technologies, and negotiating the economic value generation opportunities that will be derived from the installation of the cyber-physical systems infrastructure.

A central feature of contemporary capitalist society is that the emancipatory potential of knowledge and wisdom now resides squarely in the purview of big data, predictive data analytics, and information management. When knowledge is capital and information is commodity, wisdom is the capacity to forecast earnings from data. The big data stockpiles that cyber-physical systems generate make up the building blocks of the information economy combining technology, commercial interests and social operations. Just as flora convert carbon

dioxide exhaled by fauna into oxygen, data processing plants convert the data exhaust made by people into information commodities that are traded in the market economy in pursuit of profit and power. Mobilizing Bernhard Siegert's ontological reconceptualization of media as "a network of operations that reproduce, displace, process, and reflect" (Siegert, 2015) social, cultural, political and economic discrepancies is vital to articulate how information about consumers, workers and citizens are being collated, correlated, and corroborated into the surveillance infrastructures of cyber-physical systems (Esposti, 2014; Lyon, 2014; Tsapkou, 2015).

Through the accumulation of information about people's material and subjective lives data tomb raiders are amassing wealth and morphing into computational power houses as the commons and public sphere deteriorate. Friedrich Kittler's claim that, "What remains of people is what media can store and communicate" (Kittler, 1999), clarifies the cultural logic of cyber-physical systems. In an increasingly datafied society, balancing the competing needs of security and privacy requires that the functions and features of cyber-physical systems are critically interrogated carefully evaluated and regulated to foster egalitarian and democratic values. As our lives become mediatized, institutions become financialized and governments become algorithmicized the risks, opportunities and ethics of adopting of cyber-physical systems must be thoroughly understood, including the predictive capacity of artificial intelligence, the veracity of machine learning algorithms and the programmability and configurability of wearable technologies.

We live in a world characterized by digital networks, blurred boundaries, pluralized workplaces, hybrid identities, and highly contested ideological agendas driving complex

interactions between diverse local and global discourses. Neoliberalism's devastating disparities, inequities and prejudices, are social, cultural, economic and political phenomena that can be observed within the contemporary ethnoscape, and again as they are reincarnated within the technoscape. Neoliberal governance is designed with political affordances skewed in favour of the ruling elite's economic self-interest. Under the auspices of neoliberalism, society is being transformed from one comprised of human-resources to one composed of human-capital. Neoliberal policies pursue an agenda that fosters free trade, free markets, innovation and economic entrepreneurship. The self-interested neo-liberal subject is expected to find the appropriate social technologies to propel her/him towards self-actualization. Unlike the labouring subject of the Fordist welfare state who expects the governing bodies to provide her/him with the infrastructure of social welfare, the entrepreneurial subject of neoliberalism is expected to fulfill her/his emancipatory potential via access to market capital. The ideological shift that has been operationalized under neoliberalism is the redefinition of the role and responsibility of the state. The state's primary objective is no longer the social and economic welfare of the citizenry but rather ensuring that a free market can function as efficiently as possible, allowing market forces to self-regulate trade and commerce. In this sense, neoliberalism is by no means antagonistic to state economic planning or strictly *laissez-faire* in execution, but rather requires direct intervention into public life in order to design affordances (Davis & Chouinard, 2017), followed by a commensurate mobilization of state and public sector productive capacities to support this practice. Therefore, neoliberalism can be best understood as a *dispositif*[6] that is rendered possible by the tripartite convergence of "consciousness, state, and market" (Traykov & Timcke, 2013).

The neoliberal *dispositif* has consummated capital with the fecundity of technology to be fruitful in the capitalocene[7] and fill the technosphere[8]. Implementing various austerity measures and starving the beast[9] is all the while the neoliberal state's modus operandi in the face of post-recession social inequalities, looming environmental catastrophe, and systematic oppression of women and persons of color. Techno-neoliberal labour is inculcated to acquire transferable skills and become lifelong learners[10] because the ideological discourse of innovation and change hypernormalize[11] precarity and flexploitation (H. Dean, 2008; Morgan, Wood, & Nelligan, 2013; Ross, 2010) in the transnational information capitalist economy while it minimizes human interconnectedness and detaches agency from values (Carneiro, Looney, & Vincent-Lancrin, 2015). Magnificent mausoleums where talented technologists expel their creative energies on fantastic projects of their choosing, at work hours of their choosing, in attire of their choosing is the popular mediated/mediatized portrayal of techno-neoliberal corporations. The fun, frolic and *joie de vivre* of brogrammers in their spectacular gated communities conceal the corporate malfeasance that festers in these cybernetic empires due to the lack of financial oversight from regulatory bodies. The governing dynamics of neoliberalism prescribe that corporations, commodities, capital, and people be operationalized by new managerialist technocracies that use audit as the disciplinary technology. New managerialism spawns a bureaucratic system in which moral concerns and ethical judgment are relinquished and replaced with sales and marketing discourse of market efficiencies, profitability and competitive advantage. New managerialism privileges all that is metricated and quantified as it downplays - if not abandons - all those legacy practices that do not fit into the rubrics.

As the *Dire Straits* lead vocalist Mark Knopfler belts out the line, "*That ain't workin', that's the way you do it*" (Knopfler 1985) in *Money for Nothing*[12] he is rightly pointing the listener to the birth of the audit culture industry, the love-child of Reaganomics[13] and Thatcherism[14]. The rock anthem establishes that work, as manifestly understood by those who move refrigerators, microwave ovens, and colour televisions, bears closer semblance to the conceptual understanding of work as force exerted on an object to move it over a distance than it does to work done by celebrities on television, politicians in office or the quantitative analysts in high finance. The song takes the point of view of a labouring proletarian subject who is in shock and awe at the lifestyles of the rich and famous. The capacity of the bourgeois to engage in the invidious consumption of Veblen goods without engaging in 'real' work baffles him. He laments how he too could have cultivated his artistic talents and pursued a career in the creative community in order to surround himself with lavish accoutrements and lead an ostentatious lifestyle. Knopfler's lyrics articulate the *différance*[15] between the "grammars of worth" (Boltanski & Thévenot, 2006) of the cultural elite and those of who eke out a meagre existence. The spectre of labour's self-worth in contemporary society haunts the feigned contempt for the trappings of luxury in the *Dire Straits* text. The cultural affordances that once enabled socio-economic mobility of working peoples are being foreclosed upon by "undoing the demos" (Brown, 2015). Knopfler's text invites a hauntological[16] reading of how "work, worth, and justice" (Stark, 1990) are experienced by labour as well as an interrogation of how the reification[17] of labour has produced the contemporary "sociology of worth" (Boltanski & Thévenot, 2006) vis-à-vis the audit culture industry.

The audit culture industry's discourses and practices clearly spells out the contemporary logic of financialization. Financialization works on the basic Malthusian premise of capitalism, which has always been about touting the rhetoric of scarcity. As Steven Shaviro opines, "The classical justification for capitalism is precisely that it generates maximal returns from its presupposed initial conditions of scarcity. Scarcity is equivalent, in theological terms, to original sin. We can never know abundance, because we have been expelled from the Garden of Eden" (Shaviro, 2005). The efficacy and efficiency of this logic are evident in the neoliberal society, where "producers must always battle over limited resources" because "consumers must always decide how to allocate limited means" (Shaviro, 2005). Audits are disciplinary technologies of power enforced upon techno-neoliberal labour. The audit culture industries weaponize the idea that abundance like that in the Garden of Eden can never be experienced again by working peoples and that austerity is the new norm in the neoliberal era. Metrics, rubrics, benchmarks, performance indicators, etc. are the buttons, knobs and gauges on the dashboards of the instruments of production tweaked and turned to manipulate how citizens, consumers and workers engage with each other in society. As Cris Shore writes, "Audit culture is a phenomenon closely linked to what sociological theorists have termed the 'risk society' (Beck et al. 1994) and the 'political economy of insecurity' (Beck 2000: 2). The increasing use of audits arises largely because of growing concerns about 'quality assurance', 'operational risk', and the 'crisis of trust' that is said to afflict most professions today"(Shore, 2008). Credit is the disciplinary social technology deployed by the audit culture industry to ascertain the worthiness of working peoples.

Information economics and cybernetic governance technologies ensnare the human capacity to imagine and aspire by tethering them to credit scores. Under the auspices of

neoliberalization, the working and middle classes have been taking on ever so much debt as they were deemed creditworthy. By doing so, the audit culture industry has managed to portray the accounting practice in the zeitgeist as a mere method of recordkeeping or measuring, exnominating[18] or naturalizing the ideology of accounting that serves as the infrastructure for extending profit generation to previously non-commodified realms. The neoliberalization of the economy has resulted in the decimation of accounting for the public interest since the profession has been unburdened of its regulatory powers.[19] Under the diktat of techno-neoliberalism, accountancy can no longer be associated with accountability[20] since stochastic modelling and probabilistic forecasting algorithms are employed by contemporary accountancy firms to enable decision-making under uncertainty[21] and by extension to generate profit for stakeholders.

The idea of 'techno-neoliberalism' comes from the marriage of neoliberal and techno-scientific ideologies. Neoliberalism inculcates the idea that a free and unregulated market with little to no state intervention works best. Techno-scientific discourse puts forward the ideological myth that societal problems can be solved by applying scientific know-how in an ethically unbiased and politically neutral fashion. Technocrats by extension are technically trained bureaucrats who believe in fixing social issues through technological solutions. Hence, techno-neoliberalism is an assemblage of the political power of state, the market power of corporations and the scientific know-how of technocrats (Pellizzoni & Ylönen, 2012). For techno-neoliberalism to thrive, a distinct set of social, cultural, political, and economic behaviours, traits, processes and practices have begun to emerge and inform techno-subjectivity just as contactless smart card fare payment systems and key fobs have changed how people interact with public transit workers, doormen and valets. The techno-neoliberal subject has been

infused with and inculcated in the ways of the transnational corporations, finance capital and technocratic bureaucracies. Techno-neoliberal subjectivity is rendered through hypermediatized exchanges that promote "ultrasociality and hyper-individualism" (Duroy, 2017:1). Social media interactions have been eroding the techno-neoliberal subject's concept of active citizenship, collective social responsibility, ethical concern for the other, and most important agency. The techno-neoliberal subject does not exercise agency in its true form; rather, s/he exercises what may be best described as faux-agency, i.e. neoliberal agency.

Mary Wrenn writes, "Neoliberal agency constructs and instructs the superficially empowered individual and perpetuates the illusion of autonomous decision making" (Wrenn, 2015). Neoliberal agency reconfigures the conceptual understanding of change as primarily residing within the purview of the individual and secondarily as the mandate of the private domain. Hyper-competitive self-interest, self-governance and the mantra of self-care distinguish the extreme individualism of neoliberalism as distinct and different from that of earlier capitalist subjectivities. The techno-neoliberal subject lives in a market society that caters to her/his personalized and customized user experience. This individualism blocks the avenues for collective action and long- lasting social change. The neoliberal subject's event horizon is always already anchored in self-improvement projects, so her/his mandate does not engender the possibility of envisioning systemic change. The techno-neoliberal subject exercises her/his faux-agency to make pedestrian market- oriented decisions. Neoliberal agency enables the subject to make decisions informed by her/his credit worthiness, decisions that project her/his class status within the existing social hierarchy.

However, neoliberal agency is an illegitimate and corrupt manifestation of agency, one that privileges the ouroboric empowerment narrative as it legitimizes the fetishization of power. As Mary V. Wrenn explains,

> The difference between agency and agency within the context of neoliberalism is that the latter is not self-actualised agency. The gap between these two creates space for the machinations of neoliberalism. The bloating of the individual's self-perceived agency in turn reinforces the neoliberal agenda; it is the mischaracterisation/misunderstanding of the true nature of authentic agency that reproduces neoliberalism (Wrenn, 2015).

In essence, neoliberal agency operates by convincing people that the neoliberal agency that s/he exercises is true agency. True agency expects the subject to be self-reflective of the distinction between 'class consciousness' and 'class awareness' and how prescriptive the scope of power s/he has to exercise within the techno-neoliberal social order happens to be (Wrenn, 2015). Neoliberal subjectivity promulgates the idea that economic fairness is enclosed within the idea of meritocracy, where material success is bestowed upon those with the vigour, vitality, and gumption to work hard to overcome their social situations. Newman et al. argue that,

> Theories of ideological hegemony and false consciousness collectively argue that members of the lower class possess representations of reality that conceal or obscure their own subordination, exploitation, and domination. Such representations reflect the internalization of beliefs held and disseminated by, and to the benefit of, the dominant classes in society (Newman, Johnston, & Lown, 2015).

Faith in ideas that further the interests of the privileged class inevitably validates and reproduces social, cultural, political and economic arrangements that generate inequality, injustice and material deprivation for the lower class. Socio-economically underprivileged peoples espouse an ethics of possibility. Arjun Appadurai defines the 'ethics of possibility' as "those ways of thinking, feeling, and acting that increase the horizons of hope, that expand the field of imagination, that produce greater equity in the capacity to aspire, and that widen the field

of informed, creative, and critical citizenship" (Appadurai 2013: 295). Countering the experiences of those on the lower rungs of society are those socio-economically privileged peoples who, Appadurai suggests, aspire to the 'ethics of probability'. The ethics of probability are those modalities that profit from "modern regimes of diagnosis, counting, and accounting" that are "tied up with amoral forms of global capital, corrupt states, and privatised adventurism of every variety" and have schematically profited from "disaster, insecurity, and emergency as a new branch of capitalist speculation" (Appadurai 2013: 295). The primacy of individual rights and freedoms is the mainstay of the neoliberal narrative. In this process, neoliberalism obfuscates what it means to experience poverty, which is narrativized as a choice experienced by those who fail to pull themselves up by the bootstraps. It is the responsibility of the neoliberal subject to do her/his part by engaging in the market as a brand and as an entrepreneur to reap the rewards of his or her own effort. Techno-neoliberalism thus usurps the idea of civic polity and deconstructs the commons through the audit culture industry. The latter is able to generate atomized actuarial value for solipsistic techno-neoliberal subjects who are reaffirmed as hyper-individuated subjects who do not share the same worth. Within techno-neoliberal dogma, the subject is addressed first and foremost as a customer and then as an individual. It is the consumer culture discourse that drives the accumulative drive of neoliberalism.

"*How much a dollar really cost? The question is detrimental, paralyzin' my thoughts*," (Lamar 2015). The opening verse of Kendrick Lamar's song animates Arjun Appadurai's assertion that "the capacity to aspire is a cultural capacity" (Appadurai 2013: 290)," a capacity that ought to be fuelled by the 'ethics of possibility' and not overrun by the 'ethics of probability'. The song is about Lamar's encounter with a homeless person in South Africa, who

asks him for alms. Lamar refuses to give the man *baksheesh*, assuming that he would use the money to buy crack cocaine. Later Lamar feels regret for having judged the man, when he realizes that he had run into an incarnation of God. Lamar's latent anxiety-laden question hints at his perceived inability to find his bearings as a subject concomitantly navigating the contemporary neoliberal political economy and the social technologies of media, communication and culture. Questioning how listeners value the dollar themselves, Lamar urges his audience to engage with his speculative poetry and by extension its art and politics of estrangement. For readers to compute the currency's worth, they must first appreciate that Lamar's query cannot be answered with the 'deodorized discourse'[22] of tolerant post-political neoliberal multiculturalism. Lamar's lyrics are instead meant to challenge listeners' acculturation and enculturation into the schemas of capitalist neoliberal democracy. Kendrick Lamar's query poignantly addresses how proximity to the social, political, economic strifes and struggles of others has been sublimated into cultural differences such that the civic polity cannot fathom how political differences and socio-economic exploitative behaviours can be overcome. Rather, these differences are often understood as uncanny and at best to be tolerated.As Slavoj Žižek aptly surmises, "[t]olerance is their [the neoliberal subject's] post-political ersatz" (Žižek, 2008).

However, the Žižekian premise that liberal multiculturalism is a hegemonic practice that merely tolerates the presence of the other (Žižek, 1997) should be further qualified: such tolerance is given if and only if the other is a disciplined labouring body functioning within the infrastructural circuitry of techno-neoliberalism. Techno-neoliberal society establishes a dialectic of corporeality, which entails extracting the fruits of labour from the working body sans regard for their embodiment, all the while overdetermining[24] the worker's subjectivity within the

contours of the 'post-political' cultural logic of differences of race, gender and sexuality. Kendrick Lamar's lyrics capture the ethos of neoliberal subjectivity and sheds light on how precarity has made the contemporary polity accepting of repressive desublimation,[25] in which the pleasures of consumption and immediate gratification distract us from critically examining or challenging pressing social inequalities. Byung Chul-Han opines that the contemporary neoliberal subject is a hyperactive, hyper-productive, hyper-communicative, hyper-medicated, hyper-emotional self who resides in the dictatorship of 'Yes We Can!' positivity. This subject's social, political, economic, cultural, and familial life experiences are littered with collapse, depression and anxiety. Han describes this social condition as the burnout subject (Han 2015). Lamar's text reflects upon the burnout subject's ethical quagmire negotiating her/his space/time within the contemporary society. The changing social mores are highlighted in the song's contradistinction of how those who espouse an ethics of possibility view risk, liability, ambiguity and uncertainty as opposed to how they are perceived by those who espouse an ethics of probability.

The ethics of possibility reveals the discursive regime of the working people; it is a discourse of magic, hopes and dreams, urging the subject to reach for her/his emancipatory potential. Poet Emma Lazarus' verses '*Give me your tired, your poor, Your huddled masses yearning to breathe free, The wretched refuse of your teeming shore*', etched on the Statue of Liberty have been the siren call for generations of working-class immigrants aspiring to a better life whereas the ethics of probability appeals to the monied people, for it is the discourse of accounting. The actuarial logic is impervious to affective investments; rather, it is finely calibrated to securitize monetary investments through exotic econometric instruments that ensure

exposure to market turbulence is minimized, all the while delivering maximum financial return on investment for the stakeholders' banking, insurance and asset management portfolios.[26] Curiously enough, both of these discourses are always-already concerned with articulating notions of chance, worth and risk, although they make informed decisions through disparate means and use different kinds of information. In that sense, the kind of information one has access to shapes one's power within these systems. Clifford Geertz's postulate about the bazaar economy,[27] that "[t]he search for information one lacks and the protection of information one has is the name of the game," still holds water today (Geertz, 1978).

Kendrick Lamar's song suggests that the calculations undertaken by those 'in the know' are distinct from and superior to those 'outside the know'. To be 'in the know' is the cultural logic of techno-neoliberalism. To be in the know is to be certain when it is a safe bet to take a chance, to comprehend that calculation, as Appadurai defines it "a hazy amalgamation of optimization, maximization, choice, quantification, prediction, and agonistic individualism" (2012:11). To be in the know is to be sure that it is worth the hustle, a hustle that involves calculating efficiencies and engineering control systems. To be in the know is to be able to quantify and datafy risk, and possess the actionable intelligence to engage in risk mitigation strategies. Datafication enables 'hierarchies of worth' to be calculable in the economics of information[31] (Boltanski & Thévenot, 2006). Knowledge mobilization in the information economy is always-already invested in the enrichment of corporate wisdom through the optimization of data extraction processes and ever more expansive data procurement efforts.

The datafication of 'modes of consciousness' (Williams, 1977) such as language, information, communication, art and culture has affected the behaviour of citizens in all aspects

of their lives, and has had a profound effect on work and society. Horst Holzer (2017) argues that, because of the co-development of capitalism and the means of communication when analyzing the relationship between the economy and technology, it is important to realize that no contemporary technological advancement happens outside of capitalism. Technological progress is stimulated by economic, political and ideological agendas. In turn, contemporary society is conditioned by technological innovations and society does not actively participate in determining the uptake of technological innovations. Mediated and mediatized interactions connect the individual with her/his virtual assemblage where the social lubricant that keeps the community together is the shared narrative around fetishized objects of consumption. The semiotics of the fetishized commodity performatively brings to life shared values, ideas and culture. The techno-neoliberal subject's identity formation is closely interpellated[28] to her/his consumer behaviour profile. Consumer preferences collocate the individual within her/his peer social group in the virtual space so much that the quantified discursive spaces and commodified practices of superficial subjective interactions even reach into the depths of countercultural practices and anti-capitalist narratives, which themselves have been co-opted into the hegemonic domain.

Benjamin Grosser exemplifies this idea in his discussion on how Facebook taps into the user's innate desire to get social approval and codifies that *jouissance*[29] through the Like button, whereupon users have reconfigured their relationship with friends on the basis of the number of likes they receive (Grosser, 2014a, 2014b). The Like and Share buttons, while establishing sociality in the digital domain, have mutated the need for positive feedback into an insatiable appetite for more. These conditions require techno-neoliberal subjects to perceive of themselves and their online relationships in quantitative terms and imbibe the datafied mindset. The million

people who 'checked-in' at Standing Rock on Facebook to support the Dakota Access pipeline protesters criminalized by the U.S. government also illustrate how the datafied mindset operates. The techno-neoliberal subject legitimately believes that by changing their Facebook status message and performing their show of support on the social media platform they are engaging in activist politics. Hence they use the red, white and blue filter on a profile photograph and tag it with #JesuisCharlie and #PrayforParis to perform empathy for the victims of the Charlie Hebdo attacks in 2015, a rainbow filter and #OrlandoStrong to denote solidarity with the gay men killed in the Orlando nightclub shooting in 2016. The ease with each these filters can be applied, the pace with which they are replaced by the next filter as the next social injustice cause célèbre appears on the timeline, the emptiness of the *coups d'hashtag*[30] is lost on the techno-neoliberal subject. Also it should be noted that such filters and hashtags are mobilized only for the privileged victims of the global north; when atrocities of equal or greater magnitude sweep the global south, they rarely cause much uproar in the social mediascape.

The chrono-economically stressed[31] techno-neoliberal subject is stifled, stultified, squelched and sequestered by the lack of time, money, energy and resources available to her/him to invest into the projects that deserve her/his attention and focus. Chrono-economic stress experienced by workers is a result of the trifecta of the commodifying logic of capital, the instrumental rationality of techno-deterministic systems and the pervasiveness of globalization. The temporality of techno-neoliberalism is determined by information and communication technologies. Furthermore, the "informationalization of knowledge" (Chow, 2005) fundamentally changes the use value of knowledge attainment, distribution and preservation codifying and preformatting it to generate exchange value based upon the velocity of knowledge

acquisition, the variety of knowledge mobilization efforts, and volume of knowledge conservatories. Global organizations, production processes, and distribution systems are all governed by the instrumental logic of information and communication technologies. The 'instrumentalization of knowledge' transforms knowledge into information. Information requires codification. Codification entails the operationalization of a determinate systemic logic. Therefore, the instrumentalization of knowledge strips knowledge of its subjectivities and renders information accessible through means of communication only after imposing its own disciplinary schematics (Malik, 2005). Through the 'instrumentalization of knowledge', transnational information capitalists have machined practices and processes to generate only productive information thereby turning datafication into a disciplinary technology.

The fee model used by the airline industry is an example of how the disciplinary technologies of the audit culture industry are operationalized by what Tim Wu describes as "calculated misery" (Wu, 2014). The operational logic at work in 'calculated misery' involves systematically slashing the basic services provided to the customer, trimming services down to the bare minimum possible, including installing smaller sized seats and reducing the angle of recline of the seat (McGee, 2014). The airline industry then uses hedonic pricing models[32] to offer the lowest level of service and amenities possible to economy customers. The economy flying experience is made as unendurable as possible for the flyer, such that s/he will pay for the add-on services to mitigate the distress of flying. There are also far more optimal ways[33] to board airplanes such as the windows-first method, which takes far less time than the traditional to rear-to- front method (Steffen, 2008:5). However, airlines refuse to switch from these less stressful boarding methods because it would deny them the option to charge first boarding fees.

This suggests that airlines are not interested in operational efficiencies as much as they are in generating profits. Creating a multitude of options at various price points ensures that even those who travel in economy class in the aircraft do not share a 'class consciousness' because each customer has paid a different service fee to receive her/his individuated atomized service. Therefore, not only is one's worth as a customer on full display in the theatrical performance of boarding an aircraft, but also, as Rachel Hall describes, passengers are pressurized, "to perform 'genuine' calm collectedness or to look like they are not trying to perform nothing to-hide" (Hall, 2011). In light of the passenger disembarkation incident, at Chicago O'Hare International Airport on April 9, 2017 involving Dr. David Dao, who was violently removed from a United Airlines flight[34] for not willingly giving up his seat on an overbooked flight (Bromwich 2017), it is worth considering upgrading Tim Wu's idea of calculated misery to algorithmic schadenfreude[35].

The techno-neoliberal subject who purchases airline tickets on the Internet considers only the price point that their vendor provides them with. The passenger's threshold for putting up with state and corporate surveillance suggests that their perception of 'worth' has been singularly dictated by the airport authority and by extension the airline. Lisa Park describes the airport checkpoint "as a discursive space where the state, the airlines, workers, imaging and sensing technologies, and travelers converge to orchestrate and reproduce a set of protocols designed to ensure what the TSA (Transportation Security Agency) describes as 'freedom of movement'" (Parks, 2007). The airport checkpoint is a space where passengers can expect to be searched, exposed, probed, questioned, surveilled and harassed, yet within the discursive regime of techno-neoliberalism the airport and air-travel are understood in terms of 'freedom of movement'. Instead, the airport checkpoint should be understood as the transgressive border

where the chimeric glimmer of techno-neoliberalism refracts back the authoritarian span of its surveillance apparatus. Along with the myriad of consumer options available to the traveller in the neoliberal marketplace of duty-free stores are state of the art surveillance equipment and the armed personnel of neoliberal governance. The "asymmetrical transparency" of techno-neoliberalism is cleaved open at this junction (Hall, 2015). Airports serve as the belly of techno-neoliberalism, and moving through its bowels the internal logic of segregating subjects[36] along class, nationality, religion, age, race, gender, dis/ability lines becomes distinctly clear.

The audit culture industry's ethos of risk management is the common thread that runs through both the neoliberal market and neoliberal governance infrastructures. The passenger defers the airline ticket-purchasing decision-making capacity to the Internet service with a machine-learning algorithm that offers her/him the lowest-cost ticket (Groves & Gini, 2015). The machine-learning algorithm gathers data from several sources to compute the optimal time to execute the trade and purchases the ticket on the passenger's behalf (Liu, Tan, & Zhou, 2016). This suggests that the premise of the Geertzian bazaar economy (i.e. leveraging access to information to generate profit) is not only true today, but it has been codified and baked into the algorithm as well. By choosing the Internet service, the customer has exercised her/his neoliberal agency to let market efficiencies work in her/his favour. The airline industry uses algorithms to develop more robust yield management strategies, gain consumer insights, and improve business process efficiencies. In the same vein, the neoliberal governing bodies also employ risk management technologies to perform the security narrative vis-à-vis surveillance technologies.

Neoliberalism has programmatically reformatted people's reliance on social structures as sources of assistance, support, knowledge, etc. and terraformed those infrastructures within the

free marketscape. The deregulation of financial markets and the outsourcing of industrial production set the stage for the hyper-individualist thrust of neoliberalism to capture people's imagination. At the same time as the rhetoric of market-mediated economic norms and value for money has fused accountability with accountancy in the hegemonic discourse, the financescape has been awash with creative and imaginative accounting practices, giving birth to accounting irregularities of ever-increasing size and scope. Examples include the unscrupulous and fraudulent business practices of reprobate actors such as WorldCom, Enron, Arthur Andersen, Bear Stearns, Lehman Brothers, Raj Rajaratnam, and Bernie Madoff, among others that have plundered and pillaged corporations just in the first two decades of the twenty-first century. The unethical conduct of corporations, however, is not a topic that evokes legislative change in the age of techno-neoliberalism. Rather, the narcotizing dysfunctional effect[37] it has had on the public has set the stage for the "codified discourse of accounting" to always-already impose its disciplinary technologies upon the labour force vis-à-vis data-driven decision-making practices (Llewellyn & Milne, 2007).

The common thread between the audit culture industry and the 'affect-audit' culture industry is that they both work to forge the bond between metrics and power. The audit culture industry is characterized by the managerial practices of performance reviews, quality assurance, service level agreements, benchmarking, etc. as a set of disciplinary technologies both within firms and between them. 'Affect-audit' culture industries, on the other hand, are newer entities which are finding their bearings in the epicentre of power. Adorno and Horkheimer (Horkheimer, Adorno, & Noeri, 2002) use the concept of the culture industry, to describe the way that standardized cultural goods – film, music, television – are produced in factory-like

ways and used to manipulate a society into passivity. In the contemporary context, social media companies can be understood as part of an 'affect-audit' culture industry, albeit the cultural good being produced is 'insight' into consumer preferences or desires, political values and behaviours, etc. The primary objective of these corporations is the commodification of their user's judgments, perceptions, and affective experiences for generating corporate profit and exerting their influence and control on society. For example, scientists at Dolby Laboratories are developing audio and imaging technologies that take into account the viewers physiological and perceptual systems. The physiological data acquired from viewers about how a film-text made them perspire, fall asleep, caused their heart to pound etc. will be gathered and fed back to content creators to engineer media-texts that elicit affective responses that have been computationally inserted into the narrative text (Evangelista, 2016). Affect-audit culture industries such as Alphabet/Google, Amazon, Apple, Facebook, and Microsoft are the techno-oligarchical corporate juggernauts that own the computational infrastructure and operate the phenomenological surveillance apparatus[38] to contour, control and curtail the qualitative, interpretative, experiential, emotive and generative mediated interactions of the civic polity.

Affect-audit culture industries are actively pursuing market opportunities to create computational products capable of transducing individual human interactions and lived experiences into discrete mediatized digital signals that are processed by algorithms, stored in data centres and sold as consumer insight in the business analytics market. As David Berry (Berry, 2011) suggests, "These subtractive methods of understanding reality (*episteme*) produce new knowledges and methods for the control of reality (*techne*)." Since knowledge is always-already understood in Geertzian terms, the computational turn in neoliberalism suggests

that affect-audit culture industries are drawing up new methods of control from their privileged position at the commanding heights of the techno-neoliberal economy. Moreover, for knowledge to be reified as profit-laden and fetishized as information technology that produces exchange value, it has to be turned into digital information by the computational infrastructure of the affect-audit culture industries thereby anchoring affect-audit culture industries' psychopower[39] while exnominating the privacy concerns of its users. Privacy is neither a right nor a privilege under techno-neoliberal governance;: rather, it is a reified product that possesses all the qualities and character traits of a commodity in the market polity.

Industry 4.0 and Retail 4.0 are disruptive rhizomatic assemblages of technology and capital on the horizon; intent on datafying the phenomenological experience with more advanced and intrusive techniques to quantify risk. Industry 4.0 refers to the coming together of manufacturing, information and communication technologies, in the form of cyber-physical systems comprised of networked actuators, sensors, data acquisition and storage devices. For example, Google Glass is an augmented reality enabled heads-up display unit that will change the way assembly line workers will be interacting with parts and equipment in the manufacturing process. Retail 4.0 is a term used to signify the amalgamation of the offline and online consumer experiences. The consumer will be able to context-switch between the brick-and-mortar and virtual experience seamlessly. As the supply chain infrastructure is computationally optimized for speed/distance/time needed for seamless transactional experiences and ubiquitous commerce the plight of the un-, under-, and precariously employed workforce is rarely, if ever, addressed. The implementation of these cyber-physical systems appeals to both the cost-conscious consumerist subject and the transnational informational capitalists who are actively engaged in

reducing the footprint of the labour force as they invest capital in the techno-neoliberal infrastructure. By fetishizing the audit culture industry's rational instrumentality of achieving maximum benefits at minimum operating costs, the managerialist notion of accountability has burrowed itself into the zeitgeist.

The decline of the Fordist economy and the rise of the precariat, compounded with the slashing of welfare programs and gutting of pension funds, set the groundwork for the uptake of the neoliberal packaging of the financialization of society. Investing in the high-octane speculative markets of the dot com economy and the real-estate housing market were communicated in the zeitgeist as lucrative opportunities to secure one's nest egg with the high financiers of neoliberalism. The economic coda to Francis Fukuyama's end of history spiel was that the era of seizing the means of production was over; instead, the self-directed, hyper-individualistic entrepreneurial citizenry should consider investing in technologies that would allow them to seize the "means of prediction" (Ascher 2016). This mantra was merely a ploy to instrumentalize working- and middle-class debt into financial investment vehicles that could be leveraged by investment bankers for capital accumulation (Kapur, 2011).

A key example of the process of both creating neoliberal subjects and of transforming their debt into sources of profit-making is home ownership. As Shawn Shimpach elucidates, the financialization of home ownership was made possible in part thanks to the midwifery of the HGTV media narrative, which prepared neoliberal subjects to conceive of their domestic dwelling not fundamentally as a home to raise their family but rather as a lucrative investment property (Shimpach, 2012). By associating HGTV's mediatization of the "effacement of risk" and mediation of the "crisis of the subprime," the popular cultural text serves as an example of

how the audience-consumer-citizen subscribes to the ethics of possibility even though the producers of the film-text are invested in the ethics of probability (Shimpach, 2012). Interestingly, capital has long known that homeownership is a key element in the formation of workers' subjectivity and the disciplining of their behavior: mortgages were a way to get the transient industrial working class to settle down and become dependent upon Fordist factory jobs, despite their alienating effects. Home ownership becomes both materially and ideologically important to the neoliberal phase of capitalism. The asset of a home is compensating techno-neoliberal labour's wage compression and allowing for debt-fuelled consumption to continue as people borrow against the future value of their house. The metrics of creditworthiness are desiccating existing human economies of worth as their aspirational capacities become datafied in an algorithmic culture.

Algorithmic culture facilitates the acceleration of the techno-neoliberal project not by the flick of a switch but rather by inflicting us with a myriad of obsessional ticks and quirks that are dutifully archiving our affective, behavioural, cultural, economic, geographic, political, religious, sexual encounters to algorithmize and predict our lives. Google PageRank, Twitter Trending Topics, Facebook Newsfeeds, Amazon Prime, Netflix Recommends, etc. represent the "privatization of cultural-decision making" (Striphas, 2015). As people's browsing and purchase histories are accumulated, archived and mined for corporate benefit, the phenomenology of capital changes. Mark Andrejevic calls the fetishization of algorithmic culture "the apotheosis of instrumental pragmatism"; as it takes hold in the contemporary imagination, it facilitates the further recession of the Symbolic Order collapsing onto the Real, further exacerbating the "decline of symbolic efficiency" (Andrejevic, 2009; Žižek, 2009). The Žižekian claim of the

decline of symbolic efficiency can be understood via Andrejevic's clarification as "a mistrust of what is said in favour what can be detected" (Andrejevic, 2002) and through Jodi Dean's reading as the fragmentation of meaning because the same signifiers signify different meanings in different contexts (Dean, 2005).

For example, the term 'process automation' signifies how by way of robots, machine learning algorithms, artificial intelligence, etc. jobs currently performed by the human worker will be rendered obsolete. As the zeitgeist is being encaptured by this discourse, it is worth taking note of the jobs that humans are still expected to do in the technoscape and the social, political, economic, psychological cost to themselves and to the society. By suturing the prefix 'faux' onto the word automation, the neologism fauxtomation coined by documentary filmmaker Astra Taylor promptly identifies the hauntological[40] presence of labour in the machine learning narrative of the information and communication technology infrastructure problematizing the symbolic efficiency of the term automation in and of itself. The term fauxtomation refers to the idea that "workers get rendered invisible to maintain [the] illusion [that] machines & systems [are] smarter than they actually are" (Taylor 2017). By articulating the faux proclivities of automation, Taylor's term functionally establishes the provenance of labour in the technocratic regime of automation and affirms the notion that social context and social relations are always-already a part of technology. Fauxtomated jobs like content moderators on social media platforms, turkers performing human intelligence tasks, and drivers on ride sharing services are case in point examples of how social and cultural truths are obfuscated and far removed from the realm of the labouring subject. Artists Aaron Koblin, Andrew Norman Wilson, Eva and Franco Mattes, and filmmakers Adrian Chen and Ciaran Cassidy have created provocative art

installations to inform, engage and activate the public of the predicament of digital labourers in the contemporary techno-neoliberal society. The in-your-face artworks make threadbare the processes, infrastructures and master narratives that are at work in the discursive regime of techno-neoliberal society. Their work sheds light on the plight of digital labour, the stigmata of technoculture, the wounded attachments of technopolitics and the epistemic violence inflicted upon society by the big datascape.

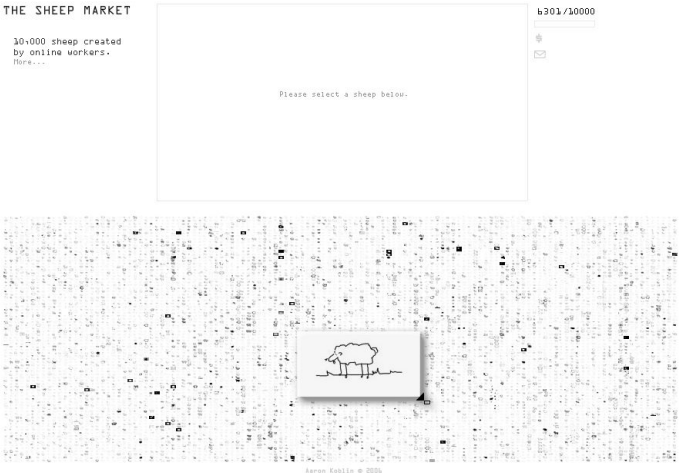

Figure 1. Aaron Koblin's Sheep Market

Aaron Koblin's art installation 'The Sheep Market' showcases a collection of 10,000 sheep drawn by workers on Amazon Mechanical Turk who were paid US $0.02 for drawing a sheep facing left. Amazon Mechanical Turk was launched in 2005 to allow companies to outsource human intelligence tasks (HIT) to the platform which would in turn have a plethora of humans casually employed and paid paltry sums of money to engage in tasks such as transcribing, writing, adding metadata information, tagging images, etc. Amazon Mechanical Turk is named after the eighteenth-century chess playing robot, the Mechanical Turk. The chess playing robot was actually hiding a real human chess master inside the structure. The Mechanical

Turk was faking its autonomy. The digital workers who work for Amazon refer to themselves as Turkers. Koblin's work combines crowdsourcing with data-driven storytelling to provide critical social commentary on work in the digital age.

Figure 2. The Beaux Strategm - 2 from Andrew Norman Wilson's ScanOps Collection

Andrew Norman Wilson's art projects 'ScanOps' and 'Workers Leaving the Googleplex' illustrate how Google operationalizes fauxtomation. 'ScanOps' refers to Google's internal book scanning facilities at their headquarters in Mountain View, California. Several thousands of casual workers spend inordinate amounts of time painstakingly scanning books by hand in-order to populate the Google Books archive. Wilson's photographic project documents the errors committed by the 'ScanOps' workers as they leave behind images of their fingers/digits in the scanned images (Springer and Turpin 2016; Zeffiro 2017). Wilson's artwork suggests the ScanOps 'digital' workers meticulously laid the groundwork for big data to take form. Google's

corporate mantra is to provide access to all the world's knowledge, and the technology giant pulls off the illusion of absolute information knowability on the backs of an army of precarious workers.

Figure 3. Abuse Standards Violations (2016) by Eva and Franco Mattes

At Facebook it is not algorithms but humans who work as content moderators i.e. digital janitors who do the thankless job of keeping the website free from videos of beheadings, bestiality, sexual abuse images, suicide attempts, revenge porn, etc. The New York based artist duo Eva and Franco Mattes bring light to these workers and their working conditions in an art project called Dark Content. ProPublica reportage reveals how Facebook's content moderators are trained to differentiate between legitimate political commentary and hate speech. The generalizations and orientalist rhetoric used in the internal training documents are problematic to say the least (Angwin & Grassegger, 2017).

Figure 4. *The Moderators* (2017) by Adrian Chen and Ciaran Cassidy

The 20 minute short film *The Moderators* (2017) by Adrian Chen and Ciaran Cassidy explore how content moderation as an activity has been outsourced to companies in India. These digital workers painstakingly remove libel, cyberbullying, pornography, gore, violent images, terrorist videos, etc. from various sites. This work can be extremely psychologically draining and traumatic. Major technology companies like Microsoft and Google have opted to offshore content moderation work to the Global South in order to avoid paying workers in the Global North mental health care coverage due to repeated exposure to graphic content.

Just as scientific management, process automation, and computerization challenged and limited workers' control in the Fordist economic production process, so too does the dispersed, virtual and ubiquitous digital apparatus of cyber-physical systems reinforce neoliberal capital's ubiquitous control over the labouring techno-neoliberal subjectivity. The digital apparatus of cyber physical systems are a metaphysical amalgam of technologies, social machinery and institutional forces that concomitantly act as an operating system upon the techno-neoliberal subject. The audit culture industry's modus operandi of data acquisition and digital surveillance

is central in the creation of the techno-neoliberal subject and her/his identity formative experiences. Thus, data is the talisman that is held up to justify the cuts, clawbacks and lay-offs that the working class experience, as the bourgeoisie claim performance bonuses, gratuities and annuities for themselves using the very same data. And by extension, as will be further discussed, the reification of big data provides the rationale for operationalizing and institutionalizing austerity measures.

The big in big data has more in common with the big in 'Too big to fail' than it does with the big in 'Big Bird'. The decline of symbolic efficiency suggests that the word does not communicate its meaning in what it says; rather, the reader has to look into what is left unsaid. For example 'Too big to fail' is not supposed to be understood in terms of bigness; rather, the reader must understand it as 'Too Complicit to Regulate'. The bigness of big data comes first from the acceptance of human retentional finitude, an idea proposed by Bernard Stiegler that memory cannot contain itself, but needs to be supplemented with memory aids or else it will be lost (Stiegler, 2008). Second, the bigness of data is a result of the instrumentalization of knowledge. The 'instrumentalization of knowledge' transforms knowledge into information. Information requires codification. Codification entails the operationalization of a determinate systemic logic. Therefore, the instrumentalization of knowledge strips knowledge of its subjectivities and renders information accessible through means of communication only after imposing its own disciplinary schematics (Malik, 2005). Third, the bigness of big data is brought to life by always-already accessible global 'mnemotechnological apparatus'(Stiegler, 2008). Mnemotechnologies as Stiegler conceives of them, are made up of both technology and power. They can be defined as "the embedding of memories within technological systems that

systematically order memories according to their own logics" (Mitchell & Hansen, 2010). For example, when understood as a mnemotechnological device, a contemporary smartphone is made up of more than a collection of telephone numbers, as was once the case of a cellphone from a few decades ago. The contemporary 'smart' communication device is all but an extension of the techno-neoliberal self-concept through the mnemotechnological apparatus. The rapid uptake of non-ownership consumption, through software as a service (SaaS) licensing and delivery options made available through media outlets like Netflix, Spotify, Apple Music, etc. and cloud computing infrastructure platforms like Azure, DropBox, iCloud, is taking place in the hyper-reflexive context of communicative capitalism where techno-oligarchical corporate empires like Google, Amazon, Facebook, Microsoft, IBM, Oracle are in the process of folding communication, culture, media, work and society into their organizational vectors of datafication and industrializing memory.

As techno-oligarchs proselytize the emancipatory potential of their computational technologies, their infrastructural circuits of socialization, interaction and identification are profoundly warping the concept of real/virtual life and real/virtual relations. The datafication of the economy will culminate in the digital transformation of business, manufacturing, healthcare and education models as traditional industries morph into technology service providers. Faith, trust, loyalty and solidarity will all be casualties expropriated and replaced by their overdetermined algorithmic variants. As information progressively gets commodified, it is worth noting how the affect-audit culture industries engage in the exnomination of privacy. Information is acquired from the assemblage of data. The term 'data', derived from the Latin noun datum, meaning 'something given', implies that information was given with consent. Using the term

'capta' instead, meaning "that which has been captured or gathered" (Drucker, 2011), makes the data acquisition enterprise's colonialist ethos of "accumulation through dispossession explicit" (Thatcher, O'Sullivan, & Mahmoudi, 2016). Global information network protocols are aiding and abetting data acquisition and surveillance technologies embedded into the technoscape, collecting the techno-neoliberal subject's digital fingerprints, codifying her/his preferences and sorting her/his habits, either wittingly or largely unwittingly, to bolster predictive analytics, which result in new forms of economic value generation. Therefore, 'affect-audit' culture industries are acquiring information about digital beings sans without regard for their consent, civil liberties, personal freedoms and/or permission under surveillance capitalism, in order to accumulate affective computing data stockpiles, i.e. promote the *blitzkrieg* of big data.

Disruptive information communication technologies usurp the traditional schemata of work and society vis-à-vis the schema of digital ontotheology[41] of big data. Big data can be defined as a financial diuretic[42] that accrues earning potential as it flows through the 'affect-audit' culture industries. It can only be drained by future financial technologies that will optimally harness the innate profit-ladenness of the data. Mark Andrejevic argues that 'big data' discourse undermines critical discourse because the conventions of big data analysis privileges computational analysis, namely correlation and pattern recognition, over causal, semantic or discourse analysis (Andrejevic, 2009). Viewing this disposition through a Žižekian lens becomes indispensable to evaluate the operational logic of big data and to uncover the ideological impetus behind the hegemonic discourse extolling the virtues of predictive analytics and data-driven decision making. Paul Taylor mobilizes the notion of "explicitness without understanding" which Slavoj Žižek unpacks by pointing to goods available in the contemporary consumer

marketplace stripped of their malevolent qualities like decaffeinated coffee as coffee sans caffeine, non-alcoholic beer as beer sans alcohol, diet cola as cola sans sugar, so on and so forth (Taylor, 2007). By extension big data analysis facilitates algorithms to predicting outcomes sans understanding them. It is essentially the emancipation of critique. As an instrument, big data does not have to disclose how it comes to the resolution that it does, what sort of operations were used to ascertain the results as they are presented nor how to finally reflect on the results to which it was applied. Maciej Ceglowski refers to this operational paradigm as deep fried data[43]. The combinatoric deanonymization processes (Narayanan and Shmatikov, 2010) involved in transforming individual data-points - for example, geographic coordinates, music playlists, blood sugar levels, pedometer readings, news feeds, dating profiles, and video game scores into aggregated, tradable commodities are shrouded in mystery. The opacity and inaccessibility of these commodities markets highlight the absolute power differential between techno-oligarchical corporations and the solipsistic techno-neoliberal digital subject.

As Jonathan Taplin prognosticates that "data is clearly the new oil" (Taplin 2017) it is worth noting that the original sin of capital is once again being committed by transnational informational capitalists. David Harvey elucidates,

> "As in the case of labour supply, capitalism always requires a fund of assets outside of itself if it is to confront and circumvent pressures of overaccumulation. If those assets, such as empty land or new raw material sources, do not lie to hand, then capitalism must somehow produce them" (Harvey, 2005: 143).

The commodification and privatization of the information infrastructure followed by the appropriation and cooptation of people's social relations, knowledges, habits of mind, beliefs are happening within the infoscape as they have once before in the ethnoscape. Algorithmic

svengalis, data tomb raiders, and techno-oligarchs are engaged in capital accumulation by dispossession through long-established cannibalistic, predatory and fraudulent practices. Data accumulation through dispossession occurs each time an End User License Agreement (EULA) is signed or checked-off as 'yes' by the digital being, since EULAs serve as the demarcation point from which the unpredictable behaviours of the irrational user can be rendered predictable by codifying and quantifying user behaviour into data entries (Thatcher et al., 2016). Lev Manovich opines that snippets of the digital being's sentiments cannot be misconstrued as the equivalent of the person's thoughts and emotions (Gold, 2012). Ceglowski reasserts that it is important to be aware of and critique the ideologies baked into big data systems since they capture economic value from subjects' phenomenological interactions, which up until this point had not been quantifiable and therefore not monetizable. It is not the singular techno-neoliberal subject in her/his digital exchanges that generates value but it is when his or her routines can be algorithmically tracked and becomes predictable, that they become valuable commodities to marketers, disciplinable workers, and ultimately a docile civic polity.

Affect-audit culture industries use of combinatorics and optimization algorithms enable the metrification of user behaviour and establishment of peremptory control over the user's cognition reifying digital beings in overdetermined networks of *jouissance*, production, and surveillance. Surveillance data acquisition technologies are centrifugal forces driving the 'affect-audit' culture industries user information collection apparatuses. This development is inherently connected to a pronounced development of algorithmic power and new forms of economic value generation, suggesting that society is moving towards a new economic system, one that Shoshana Zuboff calls 'surveillance capitalism', the aim of which is to "predict and

modify human behaviour as a means to produce revenue and market control" (Zuboff, 2015). The premise of surveillance capitalism as operationalized by big data is that, through intense quantification, it is possible to create ever more precise segments of the target market. This translates to tightening the noose on the means of social control when enacted by the techno-neoliberal state apparatuses (van Dijck, 2014). This suggests that, much like an earlier generation of ideological state apparatuses, this iteration also is very much interested in knowing what goes on in their subject's thoughts and in their words, in what they have done and what they have failed to do[44]. The algorithmic black box is merely a technological update of the confessional box. Both these boxes speak a *lingua franca*, thanks to the unfettered access to privileged information they have. Information is then leveraged by these apparatuses to establish their dominion, power and control over the masses, once again validating the Geertzian claim of the use/exchange value of information (Geertz, 1978). The process is akin to how the ideological state apparatus of religion was able to institutionalize the social machinery required to legitimate the presence of an omniscient, omnipresent, deity in charge of a theocratic surveillance regime by manufacturing dogmatic sycophants. Similarly, the digital apparatus of transnational informational capitalism generated a phenomenological surveillance regime and by extension obsequious digital natives through the use of affect-audit culture industries. These industries function as infrastructures of consent, amassing data, auditing the affective interactions of its user base and generating revenue for the techno-oligarchical superstructures through the sale and commerce of that surveillance data.

As the creative endeavours of the techno-neoliberal subject become increasingly integrated with augmented, virtual, and new media technologies of communication and culture,

affect-audit algorithmic trackers are preformatting the corpora of users to be data acquisition ready, which will occur ubiquitously and seamlessly across several intermeshed networks. Their subjectivity, affectivity, digital phenomenology has been reduced to a collection of discrete data entry points from their hyper-mediated interactions, thereby turning them into 'specific traffic commodities' – "that is, the combination of traffic information that is algorithmically computable and possible to identify as a target point" for either state-sponsored espionage or consumer advertising (Bolin & Schwarz, 2015). The 'specific traffic commodity' is an assemblage of quantitative trackers, which in and of itself cannot be rendered intelligible, but when rendered through a data *mise en place*[45] process becomes saleable information commodities. Commercial upstarts are short-circuiting the user's cognition and generating a docile user base that is always-already seeking gratification.

The Internet of things introduces into the cyber-physical systems infrastructure human digital interfaces with disparate and distributed devices offering ambient computing intelligence based on the user's behavioural patterns and psychological cues. The pervasive computing power at the disposal of affect-audit culture industries will bestow upon them the digital affordances to correlate data from a rhizome of data-gathering sources. They will swath the datafied end-user in a fog[46] of information. This development is inherently connected to the establishment of algorithmic power derived from the application of datafication technologies, and negotiating economic value generation opportunities that will be derived from the deployment of wearable technologies, the installation of the Internet of things infrastructure, and the inception of the phenomenological surveillance apparatus as neoliberalism takes its computational turn.

Neoliberalism's stranglehold on "social policy, cultural practice and public administration" will intensify thanks to big data, the handmaiden of the audit culture industry (Gilbert, 2013). Virginia Eubanks writes about how public services are becoming increasingly algorithmic and how marginalized communities are often beholden to the technocratic surveillance regime in order to receive social services from the government. Socially underprivileged families are often forced to give up the data in order for to qualify for and have access to social welfare programs. The surgical precision of the cybernetic processes and protocols employed by affect-audit culture industries facilitates the subject's digital phenomenological experiences to be coupled with technologies of biopower such as predictive policing, predicting recidivism and social risk modeling to forge new modes of social control under a technocratic compliance regime (Eubanks, 2011). Affect-audit culture industries will be seated at the right hand of the throne of the disciplinary regime of information management. The master narratives at work in society shall be penned by the governmentality of data analytics technologies as the contemporary labour force gets subsumed by the vectors of datafication and gets sublimated into the workforce, it is worth admixing the Lacanian epistemological axiom, "the weight of knowledge is unconscious" (Vighi, 2010) into the discourse. Labour subjectivity is concomitantly thwarted by technology and neoliberal capitalism. On the one hand, the techno-neoliberal subject is becoming increasingly integrated with burgeoning new media, information and communication technologies. On the other hand, their real/virtual interactions are being collated and correlated by algorithmic trackers, making them susceptible to exploitation via data gathering technologies, employed by both the surveillance state and capital-market interests. Unlike the structuralist surveillance apparatus of audit culture industries

engaged in deterministic textual encounters, the phenomenological surveillance apparatus of affect-audit culture industries wield both biopower and psychopower. For example, the AI 'Penny' designed by researchers at Stamen Design and Carnegie Mellon University using GBDX DigitalGlobe's analytics platform uses machine learning algorithms, neural networking and artificial intelligence technologies to predict the income levels of neighbourhoods in New York City using satellite imagery.

The use of mnemotechnologies denotes a pronounced change of surveillance technologies from the tradition of the Foucauldian panopticon to what Siva Vaidhyanathan has defined as the cryptopticon (Vaidhyanathan, 2011). Vaidyanathan explains that, along with the paradigm shift from mass marketing to niche marketing, from mass media to niche media, from broadcasting to narrowcasting, these communication and media technologies have inadvertently made targeting individuals rather pedestrian. Vaidyanathan defines the cryptopticon as the update to the panopticon. However, in the case of the panopticon, we were aware that we were being watched, and who was watching us. In the case of the cryptopticon, we are unaware of who is watching is, when or where, but we do know that we are being watched, by both state-surveillance apparatuses and market-surveillance apparatuses, and often times the firewall that exists between those two entities is extremely porous (Vaidhyanathan, 2015). The cryptopticon does not select corporeal bodies and collect certain data about them. Rather, the proliferation and advancement of information and communications technologies means that the cryptopticon is automated, dispersed, virtual and ubiquitous among several intermeshed networks continuously monitoring and recording human behaviours. What the cryptopticon renders possible is for affect audit culture industries to employ mnemotechnologies (i.e. the tools

of surveillance capitalism), to exert their dominion over the digital beings of the transnational informational economy. The technologization of human social activity transfers the provenance of power into the algorithmically driven and automated processes of the cryptopticon. With each automated interaction, the machine learning algorithms are tweaking and enhancing their own decision making capacity, and the human interaction with the user in the present moment is archived in corporate data repositories to be referred back and tweaked to generate future value for the techno-oligarchy through improving the predictive analytic capacity of the algorithm. The cybernetic governance/surveillance apparatus capturing information about the subject's mediated social network interactions may find it lucrative to engage in the sale and commerce of this trove of user data, i.e. specific traffic commodities to the highest bidder intent on generating computational propaganda. For example, Suwajanakorn, Seitz, & Kemelmacher-Shlizerman, (2017) have created a video manipulation algorithm that will make it seem as if the speaker is actually speaking the script in the video although in reality the script was seamlessly stitched and hobbled together by computer scientists using neural networking and artificial intelligence software. Computational propagandists can impregnate the social networks with ideologically charged and politically motivated messages. Access to the social media networks can be sold to rogue actors to manipulate the user base, corrupt the media ecosystem and/or disseminate false information. Montreal based AI startup Lyrebird is able to recreate a person's voice with only a minute of sample audio using its voice imitation algorithm. The software not only mimics the voice of the person but also the affectations and cadence of the speaker as well. The detrimental effects on the public sphere of having techno-neoliberal subjects exposed to algorithmic propaganda is yet to be determined. However, according to the *Google Academics Inc.* report

(Project, 2017) released by the Campaign for Accountability (CfA) between 2005 and 2017 Google was offering extensive financial support to academics and policy analysts working on public administration policy affairs that would directly benefit their corporate interests and thwart regulatory efforts. Computational social scientists employed by political actors and/or techno-oligarchs to distort and disseminate dissenting opinions and amplify information germane to the ideologue in power or vying to be in power is already becoming a part of the political messaging lexicon. The case of Cambridge Analytica the data analytics firm that was hired to generate psychographic profiles and political messaging for the Brexit vote in the U.K. and Donald J. Trump's US Presidential campaign, is instructive and gives a sense of things to come. Filter bubbles[47] are created out of econo/socio/psychometric datasets which are then weaponized by politically motivated actors in order to spread highly targeted manipulative content on the social media networks.

Affect-audit culture industries are information force multipliers[48] that are transceiving actionable intelligence from within the digital computing network infrastructure. Queering/querying the military jargon further it is telling[49] that the affect-audit culture industry's capacity to derive power comes from the 'industrialization of memory' (Stiegler 1998). As the art of memory (mnemotechniques[50]) gets dispossessed from the hands of artisans to global storage area networks the scenario will be what Nathan Van Camp likens to that of the transmigration of memory that took place during the industrialization of production techniques (Van Camp, 2012). Along with losing control over their means of production, artisans will find their tradecraft and technical knowledge also rendered obsolete. In the contemporary hypermediated milieu of social networking, the industrial technologies of memory

externalization, i.e. digital hypomnemata[51] as Bernard Stiegler defines them, include infrastructural affordances to access instantaneous computational capabilities, data processing power, and superior network connectivity, thereby pushing the premise of competitive advantage to stochastic dominance. For example, travellers do not chart the course of their journey on a map prior to the journey; rather they feed their destination address into their smart device, which renders the result instantaneously. Starbucks customers can place their coffee order on the Starbucks app as they approach the store so that by the time they enter the store premises the barista will have their coffee ready to go. The logical progression of this sort of consumer affordances as Jodi Dean rightly points out is that, "[t]he disciplined worker and consumer-citizen of the social welfare state are reformatted under neoliberal ideology as the shopaholic and incorrigible criminal" (Dean, 2008).

Techno-neoliberal labourers are inherently denied the option to lay down roots, grow, and develop a sense of belonging within their place of work. The neoliberal workplace by extension) which expects labour to be adaptable, efficient, flexible, agile and most importantly chaos-tolerant. The delayed gratification that comes with paying one's dues is a non sequitur. The fleeting nature of work (i.e. agile employment opportunities) renders the techno-neoliberal subject pliable for precarious servitude. Moreover, affect-audit cultural industries can collate information about users' hopes, dreams and aspirations by correlating and suturing information from sources as varied as their media consumption services e.g. Netflix and Spotify, their job searches on LinkedIn, their dating profile information, their cellphone GPS information, their social engagements and commitments from Facebook. The plethora of data acquisition venues make it possible for predictive analytics algorithms to produce results with all the more

precision and accuracy. Bivens and Haimson (2016) opine that in the techno-neoliberal society social disciplinary technologies are determined by advertisers actively pursuing consumer behavioural data through computationally deterministic feedback control systems.

A manifest example of such precarious servitude would be the blossoming of coworking spaces. Precarious digital workers pay into coworking spaces where they are provided with the amenities and ambience of a workplace sans work itself. The coworking space sends invitations to exclusive office parties, speaker series and other social events, promises to offer workplace culture, climate and values, but since they do not offer any worker benefits or insurance policies, the coworking space is the workplace sans the benevolent exigencies of labour unions, rights, protections, or what have you. Here we can learn from the anti-metaphysical lesson put forth by Slavoj Žižek in his example of the Kinder Surprise Egg. Just as a child consumes the chocolate egg not for the chocolate, but for the toy that comes with it, the precarious techno-neoliberal worker who subscribes to the coworking space does not do so to be a part of a workers' collective or a labour union, but rather for the *jouissance* that comes from 'hanging out' with fellow co-workers (Žižek, 2003). The coworking space serves as an example of the *objet (petit) a*[52] of how the objective of late capitalist discourse is perpetuated, vis-à-vis desire, the desire for newer commodities, in this case for newer human experiences. Žižek's case in point here is that the Lacanian logic of desire and the logic of late capitalism are mutually responsible in shaping techno-neoliberal subjectivity. Also the coworking space serves as an example of how 'liquid consumption[53]' is operationalized and how the non-ownership consumption model is legitimized in consumer culture. The lure of the coworking space is how it offers a turnkey solution to the romantic idea of hanging out a shingle. It is the professional office and space with all of its

trappings sans the maleficent exigencies of having to deal with the myriad housekeeping responsibilities that come with a traditional rental property. The coworking space offers a solution that quells the existential anxieties of the precariat through its product i.e. the office-as-a-service.

By examining the corporate actions of Uber, the ride hailing app, one can also have a better glimpse at how the 'affect-audit' culture industry functions in moulding techno-neoliberal subjectivity. Looking at it once from the driver's side and once again from the corporate side one can see how the ethics of possibility and the ethics of probability are operationalized. As a digital platform, Uber has done for the 'bazaar economy' (Geertz, 1978) what Google has done for the 'information economy'(Kangal, 2016). Digital platforms operate at the borderlands of legality and illegality, posing concerns for regulatory bodies and the legal system; in doing so they hasten the precaritization of the workforce and embolden the gig economy. The 'uberization of everything' operates in ways very similar to phenomenon that Vaidhyanathan raises with his concept of the 'Googlization of everything' (Vaidhyanathan, 2011). Through the 'uberization of the economy' established players in the market are being undercut and undermined, effectively sideswiped, specifically ventures that operate their businesses, play by the rules, and adhere to the laws and their regulations (Pasquale & Vaidhyanathan, 2015). A transnational techno-neoliberal software platform such as Uber Technologies Inc. cannot be labelled and categorized as a 'sharing economy' venture. The term 'sharing economy' must exclusively refer to community exchanges that are local in nature, benefit the local community and offer a social service. For example, the practices of the community based informal sector of the economy deserve to be categorized under the label of the sharing economy. These practices can and may

have adopted the medium of information and communication technologies, but nonetheless, the technologization does not take away the ethos of these spaces, which is based in personal relationships and trading encounters with roots in practices like bartering and exchange. In contrast, as Stephen Dubner articulates, Uber has created a form of business intelligence that gives it the capacity to lay its finger on real-time consumer surplus. Uber computes the supply of drivers and the demand of riders at any given moment in space/time to determine what price Uber ought to charge the consumer (Dubner 2016). By introducing surge pricing, Uber is then able to create actionable information about real-time consumer surplus, which is information other businesses are willing to purchase (Chen & Sheldon, 2015). The economics of Uber, involves understanding how dynamic demand curves and surge pricing work, and how rational instrumentalist purchasing choices are computed using new economic models (Berger, Chen, & Frey, 2017). What Uber as a social media platform makes unmistakably obvious, is how the economy and social relations are embedded in each other. Rather than the economy being embedded in social relations, manufactured social relations are fostered on social media platforms that are primarily instantiated for generating a revenue stream. The Uber car is by design a non-place[54] in which the driver is always-already in a subservient social location. Yet the drivers and riders are expected to nurture their single serving friendships by ranking, rating and scoring each other and the experience they shared together on the app. The ratings assigned by riders are the metric that functions as the disciplinary vector of technology to shape and mould the code of conduct of the workforce.

In other words, dynamic pricing in a tight labor market, makes Uber drivers work within a hysteresis loop[55] where self-scheduling (Gurvich, Lariviere, & Moreno, 2016) and the driver's

agency to choose the next rider have been outsourced to the dynamic type-matching algorithm. This is problematic because, in this loss of agency, the driver has ceded her/his control over the means of production to the algorithm. Precariously employed people retain the memory, uncertainty, angst and trauma of what it meant to be unemployed and how they are psychologically attuned to try to not go back into that schema if they can avoid it. Hence they are willing to work harder and for longer hours to remain employed. Uber taps into the precariously employed driver's angst and pushes the driver an alert for the next ride just as s/he is about to complete a ride-transaction. The driver is psychologically compelled to respond to the buzzing/ringing smartphone. Through Pavlovian conditioning the driver has ceded her/his control over the labour process to the algorithm. Noam Scheiber's reportage suggests that this critical outlook was warranted as it was found that company enlisted social scientists to perform behavioural research and data scientists to come up with algorithmic strategies to coax drivers into working longer and harder (Scheiber, 2017), and used violation of terms of service (VTOS) software Greyball to collect data on how to identify and sidestep law enforcement officials in cities where the service was not welcome (Isaac, 2017). Uber also willfully and deliberately collected unique hardware information about Apple iPhones, breaking the rules of the App store in the process. Finally, Uber's corporate employees were taken to court for using the software app to track people even after they had disembarked from the vehicle (Isaac, 2017).

Defining Uber's economic paradigm requires locating a preferred definitional foothold in the slippery marsh of options, a task that validates Bertrand Russell's claim that, "Everything is vague to a degree you do not realize until you have tried to make it precise." Maryanne Gobble (2017) brings to the light the various rhetorical moves that authors engaged in trying to define

the term sharing economy operationalize. The plethora of terms used to describe the economic disruption caused by Uber include but are not limited to terms such as access economy, circular economy, collaborative economy, empowering economy, instant gratification economy, gig economy, peer economy, people economy, sharing economy, so on and so forth. We must recognize that these terms are undergoing rhetorical homograph attacks . A homograph attack is a cybersecurity term that refers to the process by which hackers create a counterfeit URL address by replacing one of the Latin characters in the URL address with Greek or Cyrillic characters instead. For example, although the URL address http://www.mcmaster.ca looks identical to the URL address http://www.mcmaster.ca, the former is a link to McMaster University's website whereas the latter is a counterfeit website made to look like the original by using the Cyrillic character 'a' (Unicode character U+0430) instead of the Latin character 'a' (Unicode character U+0061). Although the links to the two websites look identical to the naked eye, they are not one and the same. I believe the same phenomenon is taking place in the discourse surrounding the sharing economy and would like to propose defining the bait and switch operation being performed by companies such as Uber as a 'rhetorical homograph attack'. Specifically I argue that the techno-oligarchs mobilize terms such as share, collaborate, like, smart, and so on to advance their corporate agenda. Words themselves have different meanings on social media platforms, where they been corrupted into marketing jargon – Uber's use of the word "share" bears no resemblance to the preschooler's definition of the word "share". How a kindergartener comprehends the term "like" is not reflected in how Facebook operationalizes the word in the techno-social interactions on its media platform. A rhetorical homograph attack is thus the first

step taken by ‘sharing economy’ corporations to hobble working people’s capacity to articulate their displeasure with their employers.

Flexploitation is the lived reality of every Uber driver. The allure of flexibility and the capacity to be in charge of one’s own schedule propels drivers forward, slogging it out every shift, working long hours and being exploited in the process. The information economics are asymmetrically skewed against the labouring bodies in the access economy. The Uber driver is ignorant whether s/he could ‘probably’ or ‘possibly’ be hailed as of when s/he signs on. On the other hand, those in the commanding heights of Uber’s governing infrastructures are computationally aware of the Bayesian probability of what the ridership in the route looks like and can predict with accuracy and precision how much profit they can generate from this particular driver. Uber has been found to use psycho-technological means to manipulate the workforce as well (Scheiber, 2017). Capital has managed to use combinatorics and optimization techniques to tighten the shackles of labour. The Uber driver’s labour is being used twice by capital, once in real space/time as s/he transports the rider from one location to the next and once in virtual space/time as hacker where s/he is providing critical insight to improve the mathematical and computational means of production (Scholz 2017). Having the agency to pick one’s own schedule is a value that workers have traditionally held near and dear to their hearts. Unlike regimented factory work or service sector work or shift work nature of driving a taxicab, Uber’s use of the term flexibility essentially operates as a rhetorical homograph attack. The technologization and datafication of time have made documenting worker efficiency and productivity much easier for the technocratic surveillance regime. As Trebor Scholz emphasizes, the techno-neoliberal project would prefer to do away with all regulatory frameworks and

replace them with user reviews written on social media platform services to quantify trustworthiness, quality of workmanship and various other performance review metrics (2017).

Uber's algorithmic surveillance of both drivers and riders takes place in the cryptopticon (Vaidhyanathan, 2015). Workers were being surveilled by their supervisors, whereas taxicab drivers used to interact with the taxicab dispatcher. The dispatcher was the authority figure perched on top of the panopticon. Drivers and riders are aware that their smartphones are always-already transceiving information about their geospatial coordinates to the data centres. It is this constant polling of information that enables Uber to enforce its surge pricing algorithm. What Uber's surge pricing model is able to do is determine what price each customer will accept dependent upon her/his individual circumstance. For example, by collecting information about local weather Uber implements surge pricing when there is inclement weather; by incorporating census data information into the GPS information, Uber is able to determine the charges that a rider would be likely to pay based on their average household income, the crime-rate of the neighbourhood, etc. and so on. Uber is engaged in the sale and commerce of the data exhaust left behind by its users. Data brokerages leverage this consumer information to tighten their grip on the techno-neoliberal subject's agency.

On March 26, 2012, an Uber employee posted a blog on the corporate website on how he was able to discern the Uber customers who were using the ride-hailing service to commute to and from a recent sexual rendezvous. The Uber employee stated that with the advent of the ride-sharing service Uber, people had progressed from the 'walk of shame' to the 'ride of glory'. This exemplifies how data from sources as varied as location-based real-time dating apps and ride-hailing service apps can be harvested and correlated to determine the techno-neoliberal

subject's sexual encounters and dating behavioural traits of the userbase. Every mediated interaction is being co-opted by the infrastructure of consent; where upon technology can no longer be conceived of as being methodized outside the corporeal body, rather technology must now be understood in terms of codices used by which the self is aggregated.

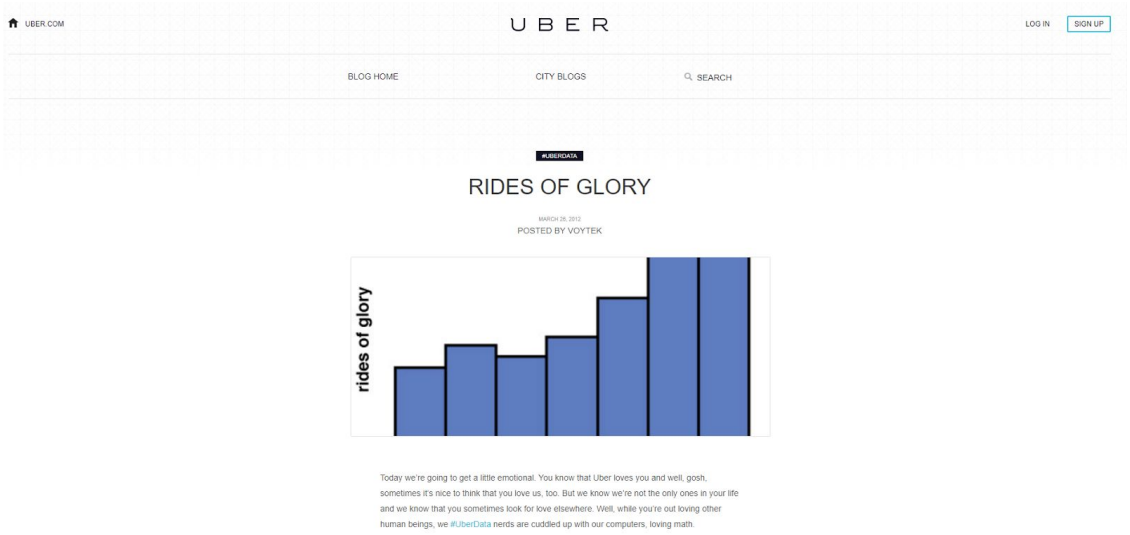

Figure 6. Uber Rides of Glory from March 26, 2012

URL: <https://web.archive.org/web/20141118192805/http://blog.uber.com/ridesofglory/>

The market innovation that Uber Technologies Inc. has effectively pulled off with the introduction of their disruptive technology is changing how pricing models are effectively understood. Uber has managed to take fare pricing models from the palanquin[56] bearers' pedestrian understanding of distance travelled in space/time, and the charges exacted for performing the task thereof, to its upfront pricing model which is draped in digital affordances enabled by hypermediated locative media technologies. Uber's new route-based pricing uses predictive analytics to aggregate information as disparate as the average household income of the neighbourhood from where the ride was hailed, the car's make and model, and the

passenger's/driver's race and gender (Newcomer, 2017). The passenger's demographic data is of paramount importance for Uber's machine learning algorithms in order to answer Kendrick Lamar's question, *How much a dollar really cost?* The upper limit on the demand curve and the passenger's probability to accept the price that Uber charges is calculated based on a rhizome of sociometric coordinates and an assemblage of consumer profile information.

Attempting to answer Kendrick Lamar's 'detrimental' question makes evidently clear how the consumer-debt ridden techno-neoliberal subject has capitulated twice, once to the tyranny of the audit culture industry in return for debt forgiveness, for which he/she has made a Faustian deal to return to work only to find structural unemployment become a mainstay of the social order, precarity as a way of life and the hegemonic economic model reconstituted in the gig economy. Austerity and precarity are two sides of the same coin linked by social rights and social debt, i.e. the logic of "debt morality" (Lazzarato, 2012). Under austerity measures, social benefits such employment insurance, child welfare, health coverage, etc. become payments that need to be audited and to have data collected on/about them in order to verify operational efficiencies. The subject has therefore capitulated once more to the tyranny of the affect-audit culture industry (Forkert, 2014). Kendrick Lamar's question "*How much a dollar really cost?*" can be polysemically read by the audience as, 'How much are we willing to give up? How much are we willing to forgo? How much do we really care about ethical principles? What is the toll paid to retain a spot on the moral high ground? At what cost to our personal and professional well being do we endure 'the inequities of the selfish and the tyranny of evil men[57]' to eke out a meager living?' The thought paralysis that Kendrick Lamar experiences sheds light at how the

moral fabric of our being may have perhaps begun to fray at the edges as well as the cost of speaking truth to power[58].

Cyber-physical systems are universal machines that are concomitantly means of production, means of circulation and means of consumption. As cyber-physical systems disrupt labour markets with sensing, acting and thinking technologies that maximize human utility society needs to understand the ethical, environmental, economic, legal and social implications of these schematizations. By privileging the decision-making capacity of cyber-physical systems, techno-neoliberal subjects accept fact sans meaning, knowledge sans truth, power sans authority and personalization sans subjectivity, suggesting that if computational propagandists can affect the behavior of citizens in all aspects of their lives, institutions, and governments, this moment can essentially be pronounced as the dawn of the digital dark ages. Big data has ushered in a mode of digital subjectivity that is always-already connected, yet socially isolated. The quantified self who is producing and consuming more information than s/he can comprehend has outsourced her/his capacity to remember, retrieve and rationalize information to the computational infrastructures of memory. Cost effective machine learning, cloud computing and crowdsourcing solutions offered by the ubiquitous data infrastructure have ushered in big data's dominion over decision making in the regime of transnational informational capitalism. Those services, tools, and applications are the real stewards of communication, media and culture - probably the only data/information/knowledge/wisdom that society will access in the future.

The social disciplinary ethos of cyber-physical systems will become evident as social affordances, such as healthcare, public transit, sanitation, utilities, pension plans, public education, will be rendered only to those consumers, citizens and workers who have subscribed

to behavioural tracking and social control technologies. The algorithmic schadenfreude of 'calculated misery' has to give way to a more consensual, communal and collaborative understanding of wealth generation and risk management (Mazzucato, 2013). Labour organizers have to be involved in actively calling out how the algorithmic intermediation efforts are lopsided and skewed in the favour of transnational informational capitalists who are merely moving the means for social control into the digital domain. Orly Lobel is right to suggest that disruptive digital innovation technologies cannot circumnavigate the jurisdictional and regulatory framework of employment standards and labour law (Lobel, 2017; Lobel, 2016). The workers labouring to rewrite the master narratives of techno-neoliberalization have to be 'in the know' to replenish their collective social, economic, political and cultural power as they invest time/space/energy to iron out the relationship between innovation and inequality, technical design and social norms (Codagnone, Abadie, & Biagi, 2016; Codagnone, Biagi, & Abadie, 2016).

Techno-neoliberalism is making data surveillance a commonplace operation that workers, consumers and citizens must come to accept as part and parcel of the scheme of cyber-physical systems. Data surveillance technologies affect the behavior of peoples in all aspects of their lives, institutions and governments inadvertently moulding the ethics and values that are considered acceptable within contemporary society (Lupton & Michael, 2017; van Dijck, 2014). Contemporary citizens, consumers, workers, and publics are not data literate, media literate and computationally aware enough to suss out the information economics so as to ensure they are, adequately remunerated for the duties that they have performed for the techno-oligarchical corporate enterprise. Since it is informational insight generated by the techno-neoliberal subject

that generates values for the bourgeoisie the interactive/productive labour of the workers ought to be respected as such, recognized and remunerated accordingly. The algorithmic power of metrics has to be regulated and curtailed in order to ensure the functioning of a healthy civic polity. Workers and society are faced with a moral urgency to be the ethical bulwark against techno-determinism and instrumental reason, to be in possession of minds without fear[59], to speak truth to power, to bear witness to negativity and to mobilize the conscience of the world.

End Notes

1. Information can be defined both ontologically and epistemologically, that is in terms of how we find out what exists in the world as well as in terms of what we regard as existing in the world. Information always-already contains both subjects and objects, social actors and materiality. Advancements in information technologies have not correlated with a definitional understanding of what is information. A Wittgensteinian understanding of information suggests that we appreciate how information is used and what it is used for. The Wittgensteinian model suggests that to know if we are to understand what makes something information without wrestling with a definition of information is, the question that ought to be asked is, what do the signs and signifiers describe of the object or does this assist in understanding the subject formation? (Boell and Cecez-Kecmanovic 2015). Information economics understands and treats information as a commodity. Information economists define information as the commodity that helps reduce uncertainty (Babe 2012). Stigler opines that the 'value of information' in the 'face of uncertainty' is the amount by which the buyer is able to reduce the price of the item by virtue of being in possession of the information. In an information scarce landscape it is the marketability of information held by the economic agent that generates value for the agent (Babe 2012). If and when information is understood as a commodity, it must be acknowledged that every social interaction is an economic interaction, when the interaction is mediated through an information and communication technology (ICT). Each ICT interaction generates objects of consumption, i.e. information-artefacts. Since information-artefacts are understood as profit-laden entities that produce exchange value, new commanding heights of power and control are being drawn up data brokers and information harvesters. Andrejevic et al. (2015) advocates that just as how agricultural workers had to establish property rights over land the digital user/player/worker has to establish property rights over information. Since it is the information generated by the techno-neoliberal subject that generates value for the media corporation, the interactive/productive labour of the techno-neoliberal subject must recognized and remunerated accordingly. As information stockpiles in the hands of private enterprise and state-surveillance agencies grow, the techno-neoliberal subject is inadvertently losing his/her agency and capacity to freely engage in the polity. The techno-neoliberal subject must engage in critical conversations on how to articulate new privacy and consent legislations in a space/time where personal information is always-already being harvested used by corporations to generate revenue.
2. André Brock defines Critical Technocultural Discourse Analysis (CTDA) as a "multimodal analytic technique for the investigation of Internet and digital phenomena, artifacts, and culture. It integrates an analysis of the technological artifact and user discourse, framed by cultural theory, to unpack semiotic and material connections between form, function, belief, and meaning of information and communication technologies (ICTs). CTDA requires the incorporation of critical theory—critical race, feminism, queer theory, and so on—to incorporate the epistemological standpoint of underserved ICT users so as to avoid deficit-based models of underrepresented populations' technology use" (Brock 2016).
3. Ian Roderick defines technology as "a material confluence of knowledges, practices, beliefs, and expectations that are unevenly distributed among social actors (Roderick 2016)."
4. Debra Benita Shaw defines technoculture "as an enquiry into the relationship between technology and culture and the expression of that relationship in patterns of social life, economic structures, politics, art, literature and popular culture" (Shaw 2008).
5. Wendy Brown writes how it is problematic that the emancipatory potential of politicized identity is not only dampened by the political discourses in circulation but also "by its own wounded attachments" (Brown 1993).
6. Michael Foucault's term *dispositif* is vaguely translated into English as the apparatus. The term *dispositif* captures the spectrum of Foucault's analytical paradigm, i.e. his theory of history, theory of power, and his Nietzschean ontology (Bussolini 2010).
7. Jason Moore upgrades the concept of the anthropocene, (i.e. the age of man) to what he coins the capitalocene (i.e. age of capital) where markets and capitalism is included into how we understand the web of life (Moore 2014; Moore 2017).

8. Peter Haff defines the term technosphere as "the interlinked set of communication, transportation, bureaucratic and other systems that act to metabolize fossil fuels and other energy resources, is considered to be an emerging global paradigm, with similarities to the lithosphere, atmosphere, hydrosphere and biosphere" (Haff 2014; Haff 2014).
9. The term 'starving the beast' was coined by fiscal conservatives, as "a popular metaphor for using tax cuts to reduce waste and profligacy in government spending" (Bartlett 2007).
10. As Carnerio et al. remark, "Lifelong learning is less about individual fulfilment and more about the need for the individual to keep up with constant changes and challenges in jobs, technologies, social networks and environments" (2015).
11. Russian anthropologist Alexei Yurchak defines the term hypernormalization as the process by which discourse in USSR after the death of Stalin deleted the external editorial voice, deeming the voice no longer necessary thereby producing ideologically congruent texts that were milquetoast "cumbersome, citational, and circular" (Yurchak 2006:75).
12. The Canadian Broadcast Standards Council (CBSC) had banned the airplay of the *Dire Straits* song *Money for Nothing* in January 2011 when a listener from St.John's, Newfoundland had complained to the radio station CHOZ-FM that s/he was offended by a homophobic slur contained in the lyrics of the song. The rock anthem was deemed in breach of the Human Rights Clauses of the Canadian Association of Broadcasters' (CAB) Code of Ethics and Equitable Portrayal Code. In September 2011, Canada's broadcast regulatory body, the Canadian Radio-Television and Telecommunications Commission (CRTC) overturned the CBSC's decision citing additional information that clarified that the composer Mark Knopfler did not possess malicious intent. It can be argued that the CSBC's original verdict privileges the 'polysemic reading' of the text, i.e. in this case the listener feeling offended by the derogatory language and the CRTC's lifting of the ban privileges the 'authorial intent'.
<http://www.cbsc.ca/decisions/20-0910/20-0910-0818_PD_E.pdf/>
<http://www.cbsc.ca/the-canadian-broadcast-standards-council-varies-in-part-the-decision-of-the-atlantic-regional-panel-re-the-song-money-for-nothing/>
13. The trickle-down supply-side economic policies implemented by U.S. President Ronald Reagan.
14. The deregulation of national industries and the systematic dismantling of the welfare state by the Prime Minister of UK, Margaret Thatcher.
15. Jacques Derrida defines *différance* as difference and deferral of meaning. *Différance* plays with the fact that in French the term *differer* means both to defer and to differ.
16. Jacques Derrida coins the neologism hauntology to refer to the always-already presence of the absent in the text. Derrida conceives of this term in his work *Spectres of Marx*.
17. Axel Honneth's update on György Lukács' term reification addresses the human behavioral traits that objectify intersubjective socialization. Reification in this context refers to how those in power do not interact with labouring subjects within the moral and ethical infrastructure but rather treat locate them outside of it and in the process consider them expendable 'things' and/or replaceable commodities (Honneth et al. 2008).
18. In *Mythologies*, Roland Barthes defines the term exnomination as the process by which bourgeois ideology is erased and "the bourgeoisie is defined as the social class which does not want to be named" (Barthes 1972). Barthes writes that through a system of myths and mythologies bourgeois class interests and values are represented as universal and natural.
19. The repeal of the Glass–Steagall Act of 1933 by the U.S. Congress in 1999 meant that the firewall that existed between investment banks and savings banks had come down. The culture, climate and values espoused by investment bankers had now begun to trickle down into the savings bank marketscape where the bankers and accountants who were expected to be the fiduciaries of their clients' savings accounts were now behaving the same way commercial bankers would. The regulatory authorities i.e. accountants working on financial oversight initiatives were defanged. "Corruption is government intrusion into market efficiencies in the form of regulations". This quotation misattributed to Milton Friedman from the film *Syriana* (2005) had truly become the rallying cry of the new financescape.
20. Abraham Briloff writes in *Unaccountable Accounting* (1972) how 'generally accepted accounting principles' are used and/or misused to elicit responses from financial statements that reaffirm the

administrative diktat and reflect management's version of the financial narrative (Brewster 2003). The accountant's rationale for switching from one bookkeeping practice like Last in First Out (LIFO) to another like First in First Out (FIFO) can make a substantial difference in how the financial audit reports the value of goods and services.

21. Decision making under uncertainty (DMUU) is a topic studied in game theory. When the task of decision making under certainty has been assigned to machines that are expected to learn from prior test cases in order to produce optimal results, the premise of DMUU as Ribeiro et al. poignantly call the "trusting a prediction" problem becomes rather glaring (Ribeiro et al. 2016). Algorithms are optimizing how financial decision making takes place with respect to pricing, hedging, and asset management. Machine learning algorithms are engaged in predicting how a real world test dataset will respond based on a training dataset on which it modelled. If the algorithm is optimized on the training dataset it will not be able to perform well on the test dataset because it has memorized the training dataset and cannot see the trend it and make the decision under uncertainty. This executive decision making power was not something previous generations of algorithms have had. Overfitting and underfitting are the issues that a machine learning algorithm can wrestle with based on how it grasped the training dataset.
22. Cornel West writes in *Black Prophetic Fire*, "The central role of mass media, especially a corporate media beholden to the US neoliberal regime, is to keep public discourse narrow and deodorized. By "narrow" I mean confining the conversation to conservative Republican and neoliberal Democrats who shut out prophetic voices or radical visions. This fundamental power to define the political terrain and categories attempts to render prophetic voices invisible. The discourse is deodorized because the issues that prophetic voices highlight, such as mass incarceration, wealth inequality, and war crimes such as imperial drones murdering innocent people, are ignored" (West and Buschendorf 2014: 135).
23. In Freudian psychoanalysis, the term sublimation refers to conversion of sexual energies and desires into creative and intellectually stimulating productive work. Jacques Lacan builds on the Freudian concept of sublimation to refer to human's desire to fill the void of her/his life with experiences, relationships, etc. that are inherently the unattainable object of desire.
24. Louis Althusser updates the Freudian psychoanalytic definition of overdetermination to describe how the contradiction between labour and capital does not exist merely in the economic domain alone it is over-determined by the confluence of histories, politics, ideologies, etc. (Smith 1984). The Althusserian idea of overdetermination makes the case against essentializing a contradiction, suggesting that there always a myriad of factors at play.
25. Herbert Marcuse defines the term 'repressive desublimation' in One-Dimensional Man (Marcuse 1964) by bringing the Freudian concept of sublimation and suturing it with his own reading of Marx. Marcuse argues that in the capitalist society the prevailing consumer culture and its marketing of goods and services to the polity distracts subjects from realizing the repressive conditions under which they live. By providing immediate gratification through mediatized interactions the energies required for social critique are being snuffed out by the market forces (Bowring 2012).
26. In the film *Big Short* (2015), an adaptation of Michael Lewis' book by the same name, the scene where Wall Street bankers are trying to negotiate a deal where they will be able to capitalize on the impending housing market crash of 2007-08 illustrates the bourgeoisie engaging in the sale and trade of 'collateralized debt obligations', 'credit default swaps' and 'mezzanine tranches' to ensure that they can derive a profit out of the transaction. The socio-political fallout that such a transaction may cause is not a matter of concern to the bankers. Instead, what steers the conversation is how the cabal can use the know-how they have on hand to amass more wealth for themselves.
27. In order to study peasant market systems of Morocco in 1978 Clifford Geertz brought together ideas from the fields of anthropology and economics to coin the term bazaar economy. In his ethnographic research of the Moroccan bazaars Geertz noticed what made these economies unique as opposed to traditional formal marketplaces in the bazaars/souks information about the goods and the prices at which they were being traded was in and of itself scarce, and the local merchants were well aware of the customer's information illiteracy (Geertz 1978).
28. Interpellation is the mechanism by which the subject comprehends her/his self-identity and position within the dominant ideology as conceptualized by Louis Althusser (Althusser 2014).

29. Jacques Lacan defines *jouissance* in *Seminar I* (1953-4) in terms of the Hegelian master-slave dialectic. Lacan uses *jouissance* the French word for enjoyment to refer to the work done by the slave providing objects of enjoyment for the master.
30. In his song *Carmen* from the album *Racine Carée* (2013), Stromae uses the phrase *coups d'hashtag* as a play on the French phrase *coups de hache* which translates to blow of an axe. Stromae's neologism effectively captures the essence of the performance and performativity of neoliberal agency. <https://open.spotify.com/track/1pRvlcrVxqdDAyYT1Ym3Wq/>
<https://www.youtube.com/watch?v=UKftOH54iNU/>
<https://genius.com/3896087/>
31. William Millard defines the term chrono-economic stress as "the psycho-linguistic effects of [one's] awareness of the limits to the time, bandwidth, money, attention, and any other resources that he or she can devote to any given piece of discourse" (Millard 1997: 159). Kimberly 'Sweet Brown' Wilkins statement, "Ain't nobody got time for that!" from her media interview for KFOR-TV on April 8, 2012 captures the sentiment behind Millard's concept quite pithily.
<http://kfor.com/2012/04/08/okc-apartment-complex-catches-fire-5-units-damaged/>
<https://www.youtube.com/watch?v=ydmPh4MXT3g/>
32. As Alderighi et al. (Alderighi et al. 2016) explain the airline pricing model should be calculated along two dimensions, namely the temporal dimension and the capacity dimension. The temporal dimension informs us that the price of a ticket must be reduced closer to the date of the journey because the airline would rather fill-up the seats at whatever price they can get rather than hanging on to empty seats. The capacity dimension informs us that since there are only a finite number of seats on the plane, as the seats get taken the remaining seats become a scarce resource and therefore fetch a premium price. The combination of these two dimensions creates a myriad of options at which the airline ticket price can be computed including the velocity with which tickets are bought and sold the average traffic that is usually seen on that route in that timeslot, etc. Escobar-Rodríguez and Carvajal-Trujillo (Escobar-Rodríguez and Carvajal-Trujil...) report that the customer's user habits and online behaviours can determine their purchase intention.
33. Ramamurthy Mani uses the Mathematical Simulation and Model-Based Design software packages MATLAB® and Simulink® to figure out "What is the most efficient aircraft seating strategy?" The rear-to-front method is seen to be the slowest method, whereas the windows-first method which seats passengers with window seats first, middle seats second and aisle seats last does make for faster boarding times. On Discovery Channel's Mythbusters the various methods were performed by participants on the show and the conclusion was that the methods in use by most commercial airlines are not effective or efficient.
<http://blogs.mathworks.com/simulink/2015/05/20/what-is-the-most-efficient-aircraft-seating-strategy/>
34. Dr. David Dao was violently removed from United Airlines flight at Chicago O'Hare International Airport on April 9, 2017 for not willingly giving up his seat on an overbooked the flight (Bromwich 2017). I read Dao's forced removal from the aircraft and was reminded of how the incident shared similarities to one that took place in 1893. M.K. Gandhi also had to face a forced removal from a mode of transport. Gandhi, who was in possession of a first- class train ticket, was also much like Dao forcefully removed from the vehicle by the authorities. Gandhi writes in his autobiography that being thrown out of the train by the White South African train ticket examiner in apartheid- era Pietermaritzburg, South Africa was a defining moment in his life. This was the incident that led the young barrister to take up the cause of fighting for racial equality and to dedicate his life to social justice. Jayse D. Anspatch's video footage of Dr. David Dao forcibly being removed from his flight: <https://twitter.com/JayseDavid/status/851223662976004096/>
35. On April 21, 2017, an American Airlines employee did not have the empathic capacity to allow for a mother travelling with two infant children to check-in the baby stroller on board. There was an altercation between the employee and the woman, where she was hit by the stroller, following which the mother and children were removed from the flight and the airline employee continued with his shift. Airports are spaces where I am hyper aware of my own racial, class, gender subjectivity, how they are scrutinized and how I have to be vigilant of my performativity in how I may come across to authorities and those around me. The limits to one's agency are very much felt and state-power is experienced first-hand at airports.

Schadenfreude is a German loanword for the pleasure derived from someone else's pain. In this case it seems to be the removing a mother and her infant children in order for an algorithmically prudent seating chart to be actualized, which seems rather problematic to say the least.
<http://www.cbc.ca/news/business/american-airlines-stroller-confrontation-1.4081314/>
On July 29, 2017, a passenger travelling on EasyJet flight 2122 from Nice to Luton was assaulted by an airport worker in Nice, France. The Samsic airport services employee punched the passenger who was holding a baby. The passenger's flight was delayed by eleven hours, because of a flight refueling incident. The passengers were stressed and distressed and could have been treated fairly. These incidents have always been a part of the wayfarer's experience in the global south. Airports have always been toxic places in the global south where consumers, workers and publics are treated poorly. Those norms and practices seem to being adopted in the global north as well.
Surain Adyanthaya's video footage of the American Airlines incident:
<https://www.facebook.com/surain.adyanthaya/videos/vb.778784017/10155979312129018/>
Arabella Arkwright photograph captures the EasyJet Nice Airport incident:
<https://twitter.com/ArabellaArkwri1/status/891407362678018054/>

36. Riz Ahmed and Himanshu Suri's rap duo Swet Shop Boys make a profound socio-political statement in their track T5 as they document the experiences of being a person of colour travelling through an airport. The humiliating experiences of being a person of colour travelling through an airport in the global north that they satirize in the song struck a chord with me since I myself have experienced being 'randomly' selected at airports quite regularly over the years.
<https://www.youtube.com/watch?v=q4Yb8AWXgLI/>
37. Constant exposure to financial scandal narratives in popular media and culture has desensitized people and sapped the audience/public of their capacity to conceive of another way of being. This idea is best explained using Paul F. Lazarsfeld and Robert K. Merton's concept 'narcotizing dysfunction' which explains how public apathy arises from being exposed to ever more information (Lazarsfeld and Merton 1948).
38. In the film *Spiderman: Homecoming* (2017) the friendly neighbourhood Spiderman's suit is incorporated with augmented reality enabled vision, artificial intelligence interface, and a plethora of weaponry from Stark Industries. In technologizing the super suit, the film-text has veered significantly from the canonical comic book representation of the suit or how the suit was designed by the superhero himself in earlier film adaptations. Stark Industries has incorporated a drone and several tracking features into the suit. Peter Parker at one point questions if it is okay that the military defense contractor is surveilling a teenager. The AI interface built into the suit develops an affective connection with Spider Man, acting as his confidant, navigator, sidekick, etc. the AI even suggests to when to kiss his high-school crush. The superhero film fantasy narrative mobilizes the popular culture narrative and its hopes, dreams, and aspirations. By turning Spider Man's suit into a wearable technology and a data-companion the film-text points at the functioning of the phenomenological surveillance apparatus.
39. Bernard Stiegler coins the term psychopower to complement Michel Foucault's concept of biopower. Psychopower is the power exerted by the marketplace to turn subjects into consumers (Stiegler 2008).
40. Mark Fisher mobilizes Jacques Derrida's concept of hauntology to write how 'tele-technologies' have usurped conventional ideas of space and time (Fisher, 2012). Derrida coins the term hauntology to describe how ontologies can be haunted, i.e. it is not the presence of what is being said, rather the absence of the being in the text the one ought to being paying attention to.
41. Ontology is the study of being, and theology is the study of God, therefore ontotheology is the ontology of God and/or the theology of being. Martin Heidegger defines ontotheology by questioning the beingness of God, and the existence of a God-being through his critical inquiry that reduces everything into an object/being (Thomson 2005). The iconoclastic crux of the Heideggerian argument is how the metaphysical roots of philosophy in ontotheology disallow it to distinguish between the Supreme Being and beings. The governing dynamics of the philosophical project confine themselves to only those objects/beings that can prognosticate and those objects/beings that the philosophical project can exert its control over. In the process ontotheology wrongs both the God-Being and the beings. Since ontotheology aborts the possibility of conceiving Derridean différance in ontology I would argue that the digital ontotheology of big data

engages in a similar act. Big data does as much injustice to our conceptual understanding bigness as it does to our understanding of data. The rhetoric of bigness mollifies the digital apparatus and the infrastructural labyrinth at work much as how the religious apparatus and its infrastructural network keep the myth of theology in play.

42. In the song Cabinet Battle #1 of the Hamilton Broadway Musical Alexander Hamilton played by Lin-Manuel Miranda uses the term financial diuretic to refer to the establishment of the federal reserve. In the annotation to the lyrics of the song Miranda writes, "A diuretic is any substance that aids in urine production. Figuratively, Hamilton is arguing that centralized debt will ease the flow of capital through the new nation—a veritable golden shower" (Miranda). <https://genius.com/7926389/>
43. Mark Ceglowski in his talk 'Deep-fried Data' to the Library of Congress says, "In our case, the deep-fryer is a toolbox of statistical techniques. The names keep changing—it used to be unsupervised learning, now it's called big data or deep learning or AI. Next year it will be called something else. But the core ideas don't change. You train a computer on lots of data, and it learns to recognize structure. These techniques are effective, but the fact that the same generic approach works across a wide range of domains should make you suspicious about how much insight it's adding. And in any deep frying situation, a good question to ask is: what is this stuff being fried in?" (Ceglowski 2016).
44. The text used here is a nod to the *Confiteor* recited by the congregation during the Penitential Rite that takes place at the start of the Catholic Liturgy.
45. The preparation of 'raw data', vis-à-vis metrification, datafication, codification, collation and correlation with other algorithmic commodities in order to be rendered into quantified marketable 'profit-laden' data.
46. As the number of techno-neoliberal digital beings and their digital symbolic interactions increase the existing cloud computing infrastructure will have to give way to and be retooled for a more agile infrastructural paradigm. Fog computing is a term coined by Cisco to refer to bringing the data, computing, application and service infrastructure to the edge of the network close to the end-user. The fog network infrastructure is capacity building for when the Internet of everything will be up and running, one in which the network topologies will have to account for a new networking, computing and data processing layer closer to the end user. <https://www.cisco.com/c/dam/en_us/solutions/trends/iot/docs/computing-overview.pdf/>
47. Eli Parser coined the term Filter Bubble to refer to the information sources that people are exposed to based on their previous user behaviours as recorded by the algorithm. The algorithm selects news sources and articles for the user based on her/his likes, age, sex, gender, marital status, education, political beliefs, religious affiliation, etc. Users are only likely to see information from like minded people on the social media network in the process not being exposed to dissenting voices creates apathy and incivility in public discourse (Pariser, 2011).
48. Force Multipliers at its most basic is the capacity to do more with less i.e.expelling minimal energies to get maximum returns. When the military coopts the term into their discourse force multiplication refers to the use of superior military technology that generates results several orders of magnitude greater than previously possible (Forte 2015).
49. An allusion to *Don't Ask, Don't Tell* the official policy of the USAF from 1993-2011 regarding LGBT military personnel.
50. Bernard Stiegler defines mnemotechniques as "the artificial storage of individual memories that characterizes hypomnesis from ideogrammatic writing to the print revolution" (Mitchell and Hansen 2010).
51. Hypomnemata refers to Plato's epistemological and psychological theory that recognized the new status of writing as a technology of artificial memory.
52. In Lacanian psychoanalytic theory *objet (petit) a* is defined as the unobtainable object of desire. Slavoj Žižek explains the concept of the *objet (petit) a* using Coca Cola as his corpus of analysis (Žižek 2000). Žižek sutures the Marxist concept of surplus-value with the Lacanian concept of surplus-enjoyment, i.e. *jouissance*. Coca Cola as Žižek argues is the perfect example of the reification of *objet (petit) a* as commodity. Žižek refers to the Coke slogan from 1980 'Coke is it' to make his case, but I would point to the more recent Coke slogans which make a stronger case, i.e. 'Real' (2003), 'Make it Real' (2005), 'Open Happiness' (2009-2015), 'Taste the Feeling' (2016-present). The 'it' as Žižek writes or the 'Real',

'Happiness', and 'Feeling' in the latter cases point to the *jouissance* that the consumer desires. With Diet Coke the consumer gets the 'Feeling' sans the sweetness, and with the latest edition to the Coca Cola ensemble, Coke Zero, the consumer has been bequeathed with the ultimate vanishing signifier. To update the Žižekian example it is in Coke Zero I would argue one finds a more appropriate manifest example of the reification of *objet petit a*.

53. Bardhi and Eckhardt define liquid consumption as "ephemeral, access based and dematerialized, while solid consumption is defined as enduring, ownership based and material. Liquid and solid consumption are conceptualized as existing on a spectrum, with four conditions leading to consumption being liquid, solid, or a combination of the two: relevance to the self, the nature of social relationships, accessibility to mobility networks, and type of precarity experienced" (Bardhi and Eckhardt 2017).
54. French anthropologist Marc Augé defines the term 'non-place' as the dialectical opposite of anthropological space. Non-places favour transactional encounters between subjects, who are by and large anonymous and lonely.
55. Ferromagnetic materials maintain residual magnetic qualities even after they have been removed from the magnetic fields, I was reminded of this concept from magnetism, when thinking about precariously employed workers, who retain the memory and trauma of what it meant to be unemployed and how they are psychologically attuned to try to not go back into that schema if they can and will work harder to remain employed when presented with the opportunity to do so.
56. Palanquins are box like structures with poles attached to it that were commonly used by Aristocrats in Ancient India to be carried around by four to six men. *Palanquin Bearers* is the name of a poem by political activist Sarojini Naidu (1879–1949), the first woman to become the president of the Indian National Congress in 1925. The poem suggests that the indentured labour who carry around the palanquin are grateful for the opportunity to serve at the pleasure of their master. I am of the opinion that very much like the palanquin bearers of the past the contemporary Uber driver having to put up with passengers egregious behaviours in return for the promise of a positive rating is slowly but surely being turned to a life of indentured servitude.
57. Samuel L. Jackson's character Jules Winnfield misquotes the Bible verse Ezekiel 25:17 in Quentin Tarantino's film as, "The path of the righteous man is beset on all sides by the inequities of the selfish and the tyranny of evil men" (*Pulp Fiction* 1994).
58. One speaks truth to power not because power is ignorant of the truth and must be enlightened. Rather because much like the backstory of the phrase 'speak truth to power' suggests that erasure and censure are the means of production of epistemic violence. From 1955 to 2010 the American Field Service Committee willfully and deliberately omitted Bayard Rustin's name from the book *Speak Truth to Power: A Quaker Search for an Alternative to Violence* on account of his being arrested for committing a homosexual act in 1953. The true author who coined the phrase was erased from his rightful place in history because the hegemons were uncomfortable with his racial politics as a civil rights leader, with his sexual politics as he was openly gay, and with his stance against the military-industrial complex as he was a pacifist.
59. Imogen Heap and Vishal-Shekhar wrote the song *Minds Without Fear* based on Rabindranath Tagore's Bengali poem চিত্ত যেথা ভয়শূন্য *Chitto Jetha Bhoyshunyo* (1910) translated into English as *Where the Mind is without Fear* (1912). The verses '*Where the mind is without fear and the head is held high*' and '*Where the clear stream of reason has not lost its way Into the dreary desert sand of dead habit*' suggests that Tagore is prescribing the aspirational values that a free citizen in a democratic society ought to live up to. The poem appears in Tagore's Nobel Prize winning collection of poetry titled '*Gitanjali*'.
<https://open.spotify.com/album/4m0AUXT7KGU9JIuw3rjMiy/>
<https://genius.com/Imogen-heap-minds-without-fear-lyrics/>

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