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The TraceTogether Matrix Has You – Surveillance, Rationalisation and Tactics of Governance in Singapore's COVID-19 App

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Abstract

In the heat of the COVID-19 pandemic, Singapore rolled out TraceTogether; a contact-tracing mobile app that uses proximity sensing to track the movements of its population. TraceTogether was initially voluntary, and used solely for contact tracing. By December 2020, the system became mandatory. This sparked a mass adoption that made TraceTogether possibly the most successful application in Singapore's Smart Nation initiative. When it emerged in January 2021 that the data had been used by the police for criminal investigation, images of a totalitarianism sprang to mind, where technology permits the state an invasive awareness of the movement of individuals. In this paper, we defer from common arguments that Singaporeans are intrinsically trusting of the government or have been conditioned to accept 'Big Brother' modes of surveillance. Instead, we argue that the success of TraceTogether reflects a Singapore society that, through the rationalisation of surveillance, willingly participates in their own surveillance. In uncovering the genealogy of media discourse that surrounds TraceTogether, we highlight that it is the regular practice of voluntary surveillance, of subscribing oneself to the apparatuses of state control, rather than specific technologies, that characterises the Singapore surveillance state. We describe a matrix of reason, layered-on and normalised through media discourse, that exemplifies what Foucault has termed 'governmentality', which asserts a government's power of control not over, but within, citizens.

Key words

Singapore, Surveillance, COVID-19, Governmentality, Media Discourse, Genealogy.

Introduction

In the early stages of the COVID-19 pandemic, Singapore won international acclaim for its efforts at containing the SARS-CoV-2 virus, which causes the COVID-19 disease, through a rigorous process of contact tracing. In February 2020, as the number of infections began to increase around the world, Singapore was lauded in a Harvard University study for setting the 'gold standard' in detecting COVID-19 cases within its population (Ng, 2020). The ability to detect close contacts of infected individuals allowed the government to impose isolation measures in a bid to prevent the virus from spreading to the rest of the population. This 'gold standard' was honed from Singapore's success with SARS-CoV-1 in 2003, where the SARS epidemic infected 238 people and killed 33. Singapore was the first of the affected nations, mostly in Asia, to recover from SARS. The onset of COVID-19 in 2020 suggested that the political leadership wanted a similar feat to be replicated – the mantra of tracing and isolating infected individuals became de rigueur.

To bolster contact tracing efforts, usually done manually by human contact tracers, the Singapore government took the next step of using technology, rolling out the TraceTogether mobile application in March 2020, at the height of the first wave of COVID-19 infections. The app uses Bluetooth technology to automatically create a 'digital handshake' between app users who come into close contact with each other, creating a database that contact tracers can use to track down and alert potential cases, and get them to test and isolate to prevent further community spread. The roll out of a wearable token version using the same Bluetooth tracing technology was announced in June 2020. The government claimed that this database of contact points was stored only in the users' mobile phones or tokens and can only be extracted by the Ministry of Health for contact tracing purposes, and only with the permission of the user, a feature that was meant to address privacy concerns. In the spirit of technological innovation, the government made TraceTogether open source (Baharudin, 2020c), which meant that the app could be copied by other countries seeking a similar solution, with Australia quick to repurpose it for its COVIDSafe app. Doing so also opened the app to scrutiny by technology buffs who have concerns ranging from privacy to technical functionality.

Despite these efforts in transparency, the development of TraceTogether raised concerns about excessive surveillance by the state. Some level of discomfort and unease about the app led to slow adoption (*Al Jazeera*, 2020), although the initial download figures for TraceTogether easily surpassed downloads for similar apps implemented in other countries. The level of detail that such surveillance technology subjects citizens to – pervasive and complete visibility of an individual's interactions with others at a particular place and time – conjures up images of humans perpetually plugged into a 'system' that monitors their every move, not dissimilar to the dystopia portrayed in the *Matrix* movie trilogy. That such surveillance technology is paired with mobile phones – that ubiquitous extension of the self that most citizens of the developed world would not leave home without – only served to exacerbate the sense of unease felt about the use of such technology. The wearable token version sparked even more discomfort about location tracking, which prompted the government to issue clarifications to assuage privacy concerns (Baharudin, 2020b). Such concerns became even more prominent after it was revealed that TraceTogether data was use by the police to solve crime (Han, 2021).

In spite of these misgivings about privacy, the more noteworthy aspect of TraceTogether has less to do with its potential as an invasive piece of technology – it clearly is – and more to do with the way the app was promoted and rationalised to the public. The app eventually reached an adoption rate of more than 70 percent of the Singapore population within its first year of operation (Meah, 2020). There is reason to believe that the high adoption rate was due to a mix of government mandate and the promise of easing restrictions (Stevens, 2020), and it is this dual mode of coercion-persuasion that deserves attention. In this paper, we propose a need to shift critique on surveillance apps like TraceTogether. The archetypal dystopia of George Orwell's novel *1984*[1] (2016), where individuals are subject to an invasive and relentless web of technological surveillance, would likely become the convenient reach for studies seeking to understand the pervasive influence of TraceTogether. However, we propose to examine the genealogy of TraceTogether as a discursive *matrix of reason* – reminiscent of the rationalised dystopia in *The Matrix* pop-culture series[2] – where scaffolds of rationalisation, here enhanced by media discourse, encourages the internalising of surveillance as lived reality by the population as something that is both personal and productive. This matrix of reason grants sovereignty to the Singapore government to fashion the use of TraceTogether as it saw fit, while simultaneously empowering the Singapore public to exercise some degree of agency in the conduct of its own surveillance.

To examine this matrix of reason, this paper will start with a brief overview of Singapore's Smart Nation initiative, which sets the context for how the government uses technology as a tool of governance. We demonstrate that, far from being a top-down effort in policing behaviour, the Smart Nation initiative exerts far greater impact by getting citizen to buy in to some of its most draconian measures and in empowering them to be involved in the surveillance process. Such a practice of seeking to enable citizens rather than subjugate them by force has been in place even before, but has been enhanced and magnified

Volume 9.2, ANZCA Special Issue: pp. 77 – 91

by, the COVID-19 pandemic. We will then move on to an exploration of the narrative evolution of TraceTogether and how media discourses created scaffolds of rationalisation, which turned it from a tech gadget to a critical piece of surveillance infrastructure that is enabled by legal instruments. We then move to the core of this paper, which is an analysis of the public narratives surrounding the app. We contend that it is not the technology that make TraceTogether powerful, but the discourses that entrench a system of governmentality. Applying Foucault's triumvirate of discipline-sovereignty-government, we demonstrate how this mirror's TraceTogether's development in narratives of necessity, trust and nationalism. We conclude by taking stock of how resistance towards surveillance might be realised as counter-practices, rather than technological avoidance.

The Smart Nation Initiative – Beyond Buzzwords

It is useful to note that TraceTogether was not developed by the Ministry of Health but by the Government Technology Agency of Singapore, or GovTech. The agency is responsible for developing and implementing info-communication technologies that can be used by the government as e-services and to improve public adoption of such technology. GovTech is also the execution arm of the Smart Nation initiative, reporting to the Prime Minister's Office, and its key function is to enhance the digital competence of Singapore as a nation (Government Technology Agency of Singapore, 2022). While GovTech could roll out various government technology programmes that do not relate to the Smart Nation initiative, it is worth noting that TraceTogether features prominently in the Smart Nation website as a key technology for combating COVID-19 (Smart Nation Singapore, 2022). That the app is heavily influenced by Smart Nation directives is evident from the fact that it was launched and fronted by Vivian Balakrishnan, the minister-in-charge of the Smart Nation initiative.

The use of technology to enhance life is a recurrent theme in the Smart Nation blueprint and matches Singapore's aspirations for becoming a global info-communications hub. With its small geographical size and intensively connected digital infrastructure, Singapore is the ideal test bed for city-wide deployment of digital capabilities. Being a highly connected city was not enough, as Singapore craves to be a leading technology adopter worldwide. Becoming a Smart Nation is necessary for its economic survival in a digitally connected world, as it provides a necessary platform for global technology investment and for the nation to access information and financial systems around the world. In this conceptualisation of its digital nationhood, the Singapore government is acutely aware that having the physical infrastructure of a heavily-wired country alone is insufficient. It also becomes necessary for the Singapore population to serve as the proof point of the country's digital prowess (T. Lee, 2016). By extension, simply being able to roll out technological innovations was not enough; the government needed the people to adopt info-communication technology and use it to enhance their lives. Acceptance and adoption of the digital lifestyle – even if these are parochial and do not engender any real innovation or social progress among its population (T. Lee, 2016) – become key to its global media hub status.

The role that surveillance plays in the Smart Nation agenda can be viewed via a similar lens: it is critical for digital surveillance to be seen as being embraced by the population and enhancing their lives, regardless of the stated intent of the surveillance technology being implemented. Indeed, some of the most invasive technologies implemented by the Singapore government are enshrined with similar pastoral qualities. In 2017, Singapore's Prime Minister Lee Hsien Loong unveiled the 'smart lamp post', a Smart Nation initiative that sought to install a surveillance system on every lamp post in Singapore. Lee's words suggested a distinctive bent towards law enforcement that seeks to monitor the population for transgressions using a pervasive network of visual surveillance:

When the Little India riot[3] happened in December 2013, we were caught a little flat-footed. There were too few CCTV cameras monitoring Little India. We had to rely on footage posted by the public on social media. Since then we have made progress. We are building an integrated national sensor network.

We are making "every lamp-post a smart lamp-post", meaning it can mount different types of sensors on any of the lampposts. We are installing more CCTV cameras in public places. We are combining inputs from different sources – police, LTA [Land Transport Authority], hotels and commercial buildings, even handphones, which are effectively sensors on the ground. (H. L. Lee, 2017, no page)

However, when the concept of the smart lamp post was extrapolated to media reports on his speech, the use of such surveillance cameras took on a distinctively pastoral slant. No longer was it meant to capture evidence for prosecuting rioters, but to aid in traffic management, protect citizens from loan shark activities, monitor storm drains for flooding, and other similar uses to improve general quality of life. Nested among the clarification of these other uses was the concern that "Singapore is lagging behind other cities" in integrating its surveillance networks (Tham, 2017, no page). The concept of Singapore's smart lamp posts, regardless of their status of development or success (I. Tham, 2021), described a situation where surveillance has been "normalized as an expected feature of public space" (Fussey & Coaffee, 2012, p. 203). Such a system of surveillance had the effect of decentralising responsibility for safety and security while also encouraging "community cohesion rather than solely functioning to persecute particular sub-populations" (Fussey & Coaffee, 2012, p. 206). For example, the Prime Minister's allusion to handphones as 'effectively sensors on the ground' was realised in the use of the mobile devices as a facial recognition tool for accessing government services and bank accounts, which was connected to the government's national identification system (McDonald, 2020). Citizens are encouraged to participate in such surveillance because it grants them benefits in terms of the services they can access, the security that comes with synchronising such services with surveillance, and the representation of technological advancement befitting a Smart Nation. Technologically enabled development of everyday surveillance suggests that the state's use of pervasive technologies of surveillance must go beyond the punitive connotations of social control, but also include considerations of social cooperation and empowerment within the surveillance process.

The use of TraceTogether mirrors these values of social cooperation and empowerment, to the extent that the stated success of the app becomes secondary to the socio-cultural practice of integrating surveillance as an essential component of everyday life. In the context of the Smart Nation utopia, that TraceTogether *could* have immense potential as a tool of intense invasion of privacy is perhaps less critical than "a broader desire by the Singapore government to realise its long-term ambition for Singaporeans to embrace smart digital technologies" (T. Lee & Lee, 2020, p. 54). TraceTogether embodied the essence of the Smart Nation initiative that went beyond the mere implementation of technology. It was the first app of its kind to be invented during the COVID-19 crisis, checking the box for Singapore's prowess as an innovative tech hub. It used Bluetooth technology that claimed to protect user privacy, bucking the trend that technology must necessarily be invasive, hence emblematic for demonstrating the government's meticulous care towards the population and their interests. It became a vital cog in Singapore's emergence from the pandemic, an integral part of the Singapore's economic recovery plan. It is a tool that required the active participation of every citizen, and more critically, encouraged them to trust the government with a system that works. In short, TraceTogether was a system that "stressed obedience and discipline as conditions of a well-ordered state and taught the individual to regulate emotions and subordinate himself politically" (Dean, 2010, p. 105), more than it is a technology to constantly watch over citizens.

The significance of such a system of empowered surveillance becomes more apparent when comparing TraceTogether with other similar apps deployed in other societies. The BlueTrace technology that was the backbone of TraceTogether, and subsequently made open source by GovTech, was adopted by Australia for the development of its COVIDSafe app. However, while Singapore achieved a high adoption rate for TraceTogether, the same rate was not replicated in Australia, and COVIDSafe was eventually deactivated in 2022 after achieving an adoption rate of about 31 percent of the population (Black, 2022). The reasons for this are cultural rather than technological. Research has attributed the lacklustre adoption in Australia to a lack of trust in the app, fuelled by a perceived lack of privacy and

Volume 9.2, ANZCA Special Issue: pp. 77 – 91

relevance of the app (Lin, Carter, & Liu, 2021). This is despite the government's strong commitment to data integrity, mostly preventing use of the data outside of the confines of contact tracing (Yang, Heemsbergen, & Fordyce, 2021). Conversely, a study on the NZ COVID Tracer app deployed in New Zealand demonstrated that social trust and confidence in the privacy afforded by the app led to greater acceptance, and much of this was generated through media messaging and consumption (Ali & Dang, 2022). In addition to the high adoption rate of 90 percent of the population, the majority of New Zealanders supported making NZ COVID Tracer mandatory. Indicatively, the COVIDSafe and NZ COVID Tracer examples suggest that trust is similarly paramount to the success of TraceTogether. However, this trust was not necessarily born of confidence in the app, but in the government's use of power and control *through* the app (Stevens & Haines, 2020). This perceptibly different mindset in Singapore, compared to other societies adopting similar technologies, demands a closer examination of how such a practice of fermenting trust in the government happens.

Such an endeavour of convincing the population to the merits of TraceTogether would not have been possible without the accompanying media narratives that touts the app as a necessary apparatus of positive and productive statecraft. In tracing the genealogical progression of TraceTogether in media discourse, we seek to identify the narratives that served to attune the Singapore population towards accepting the surveillance system, not only as an indispensable part of Singapore's emergence from the pandemic, but as technology that offers protection beyond its intended purpose. In deconstructing such narratives, we seek to identify how TraceTogether has been framed in discourses of personal empowerment, trust in the state and allegiance to national interest. It is tempting to claim that surveillance systems like TraceTogether have been implemented without consultation with the populace (Haines & Stevens, 2020). However, we contend that the use of media discourses effectively negated the need for such consultation. Similar to other Smart Nation initiatives like the 'smart lamp-posts', public acceptance of TraceTogether surveillance was not done by the sheer use of technology or force, but a detailed process of convincing the public and rationalising surveillance. To this effect, Singapore's national media played a critical role in advancing a national consensus and advocating the trade-off between individual privacy and public health.

A Media Genealogy – Scaffolds of Rationalisation

When TraceTogether was launched as an app in March 2020, various promises were made by the Singapore government. The app was touted as being developed with privacy as priority (Government Technology Agency, 2020b). Relying on Bluetooth technology already built into most modern mobile phones (Government Technology Agency, 2020c), TraceTogether would not send contact data secretly to the government or track locations. The data will be used for contact tracing only, and the contact data would only leave the users' mobile phone when they have been identified as a close contact, whereupon specific permission had to be granted to the government to access the data (Baharudin, 2020a). Use of the app was to be completely voluntary and the key message to citizens at the initial launch of the app was the ability of every citizen to take part in fighting the global pandemic through a "community-driven approach to identify close contacts of users" (gov.sg, 2020, no page; Tang & Mahmud, 2020). In the spirit of innovation and transparency, the government kept the app's coding open source (Choudhury, 2020), which permitted other countries to develop similar apps by leap-frogging the development curve, while also allowing critics to scrutinise the app for privacy concerns. Such openness was circumscribed: the government encouraged citizen debate on the functionality, effectiveness and practicality of TraceTogether, but never its appropriateness in relation to privacy rights. Technical evaluation by academia and software developers pointed to potential data compromise in the data transfer process (Leith & Farrell, 2020, p. 2) and a potential for backdoor access and data breach (H. Lee, 2020). Nevertheless, with about 10 percent of the population having downloaded the app within its first few

days of launch, surpassing what most other countries could muster, it would appear that TraceTogether was on a different trajectory from the suspicion and concerns that pervaded similar apps in other countries (Goggin, 2020).

As the pandemic wore on and case numbers increased, forcing a nation-wide lockdown in April 2020, the government changed its strategy. Citing a need to address device compatibility issues and the high battery drain on mobile phones, the government introduced a wearable TraceTogether token in June 2020 using the same Bluetooth technology. By this time, the government said that contact tracing was an "absolutely essential" activity, while seeking to allay fears that the token would become a device for tracking the location and movement of users (Ang, 2020). The announcement of the token was met with a petition, citing concerns about invasive and relentless surveillance, which garnered more than 30,000 signatures within days of the announcement (Low, 2020). The government lost little time in addressing these concerns by explaining the token's functionality and repeating previous assurances (*TODAY*, 2020). It also organised a hackathon for engineers to "'tear down' the TraceTogether token and give feedback for improvement" (Government Technology Agency, 2020a, no page). Yet it was clear that this effort was less about community engagement or getting feedback than about getting experts in the field to validate the TraceTogether system. The media was quick to follow this narrative, touting the necessity of TraceTogether as an important component of contact tracing efforts and broaching the possibility of it being made mandatory (Mohamad Rosli, 2020; Tham, 2020a). Citizens were cajoled to see the token as "important to help contain the spread of the virus" and "a good initiative by the Singapore government to roll out an inclusive portable device… with the necessary safeguards in place to preserve people's privacy" (Reed, 2020, no page).

In October 2020, the government moved to make the use of TraceTogether mandatory at all public venues by December 2020 (Wong, 2020b). It should be noted that the modus operandi here was not just coercion, as the government also offered a carrot: Singapore will ease off on lockdown restrictions if a 70 percent adoption rate for TraceTogether was achieved (Goh, 2020). This decision to mandate TraceTogether was a significant move against one of its earlier promises: to keep adoption voluntary. An additional SafeEntry system was integrated with TraceTogether, requiring users to register their presence with the app or token when they entered schools, workplaces, restaurants, shopping malls and other public places. This integrated system indirectly countered another promise: that the system would not track user locations. However, rather than a drop in adoption as users rebelled against location tracking, there was an increase in demand for TraceTogether tokens (Wong, 2020a). It is highly likely that this uptick in adoption was due to revised mandatory use policy. Nevertheless, the media's role in promoting the use of the system cannot be discounted, with the national broadsheet advocating that a TraceTogether-enabled location log-in was "more effective for contact tracing and provides better cyber hygiene, making the switchover a no-brainer" (Tham, 2020b). By January 2021, the 70 percent target was exceeded and restrictions were gradually eased (Y.-C. Tham, 2021a).

The success of the TraceTogether system, in terms of achieving an adoption rate that is unmatched by similar apps around the world, was immediately over-shadowed by a startling revelation. Responding to parliamentary questions in January 2021, the government revealed that the Singapore Police Force is empowered under the Criminal Procedure Code to obtain TraceTogether data for criminal investigations (Y.-C. Tham, 2021b). In addition, the police had already accessed contact tracing data in May 2020 to solve a murder case (Sun, 2021). In effect, the government reneged on one of its most significant promises of the TraceTogether app: that the Bluetooth exchange data will be used *only* for contact tracing purposes. The government appeared cognisant of the potential loss of public confidence in TraceTogether and the risk of mass deregistration from the system. It moved swiftly to address the issue by quickly passing a law in February 2021 that restricted police access to contact tracing data to solve only a select number of serious crimes. The new law was justified as "a delicate balance between the right to public health, the right to public security, and respecting the sensitivity of personal data during this extraordinary time" (Chee, 2021, no page). Appeals were made to the public to grant the police the tools

Volume 9.2, ANZCA Special Issue: pp. 77 – 91

needed to keep Singapore safe and to ensure that contact tracing can continue with the full cooperation of the population.

The revelation of police misuse of contact tracing data did little to dent public faith in the TraceTogether system. If there was any unease about the encroachment of state power, few had the capacity to revolt against it given that the system was fait accompli, firmly entrenched as a tool for participating in public life. By May 2021, TraceTogether had achieved an adoption rate of 92 percent of the population, with only a little more than 1100 users opting out of the system following the breach of trust revelation (Baharudin, 2021). On 22 April 2022, the government announced a significant roll-back of TraceTogether, restricting its use to venues with large capacities, nightlife establishments, and food and beverage outlets (Chew, 2022). This move to scale back TraceTogether was in line with Singapore's desire to return to near-business-as-usual status in its 'living with COVID' plan, which would help business owners "reduce costs of operation and is another 'key psychological step' towards resuming normalcy" (Chew, 2022, no page). Nevertheless, the police continued to have access to the data generated from such limited use, and the government emphasised the need for citizens to keep the app or token ready, should there arise a need to deal with a new variant of the virus. This posture of eternal vigilance in managing the pandemic, demanding citizens to play their part as responsible members of society, suggests that TraceTogether is likely to continue its presence as part of Singapore society indefinitely in one form or another.

Narratives and Governmentality – Necessity, Trust and Nationalism

In detailing the evolution of TraceTogether in media coverage, our intent was to identify certain thematic discourses that served as the undercurrent through which Singapore society perceived, understood and accepted the system as an invasive but critical part of living with the pandemic. TraceTogether represents but the latest version of the government's efforts to normalise the encroachment of privacy, urged on by the politicised will to beat the virus, but facilitated by media narratives that affirm the importance and value of the technology. It was surveillance for necessity, very much like how technology has been presented in the Smart Nation initiative. Such rationalisation creates a perceived choice, and while we might think of surveillance as something that has been forced upon us, the TraceTogether story suggests an effort by the government to keep citizens *engaged* with self-surveillance rather than *restricted* with state surveillance. This approach requires citizens to be active participants in their own governance, to make a conscious choice to accept surveillance in their lives. This mentality can be understood by examining three rationalities, which have been actively played out in media discourses: necessity, trust and nationalism.

First, compliance with surveillance in Singapore has seldom been an application of force but promoted as a necessity. Using TraceTogether was meant to be an enabling experience and an essential activity for citizens to protect themselves, each other and their livelihoods. The conditional easing from lockdown and restrictive measures became the reward for adopting TraceTogether. The rationalisation of necessity is closely tied to discourses of empowerment, whereby those subjected to surveillance were asked to believe that the act of surveillance itself empowered them. In turning on the Bluetooth on their phones or scanning their tokens to enter public places, users were encouraged to believe that they can gain mastery of themselves, the virus and their environment. By participating in surveillance, they become an important cog in the vast system the government operates. The near-obsessive focus on TraceTogether adoption numbers and the segregation of the adopter versus the laggards portrayed the power exhibited by technological surveillance as "positive and productive", which has "the capacity to produce the cultural forms and social stratifications we have come to recognise as features of our society" (McHoul & Grace, 1993, p. 82). Transiting from voluntary adoption to a mandating usage was accompanied by the progressive increase in urgency to address the threat of the pandemic, a narrative

that the media did little to downplay or question.

Second, the success of TraceTogether was always pegged to political trust. It mattered little that the system itself was always open to data breaches and privacy infringement. When the app was first launched, few Singaporeans would dispute that they would rather have their data with the government than with Facebook. In reality, the government had little to fear about losing the people's trust even after the data breach, when that trust has always been founded on a rationalised hand-over of power to authority. The rationalisation of trust is closely tied to discourses of assurance, where the government is portrayed as benign in its use of surveillance to benefit the population it seeks to govern. This assurance is not imposed, but constantly negotiated through the media. TraceTogether embodied "a form of sovereignty that deploys the law and rights to limit, to offer guarantees, to make safe and, above all, to legitimate and justify the operations of bio-political programmes and disciplinary practices" (Dean, 2010, p. 156). The pervasive use of technologies of surveillance was matched by the relentless desire to justify and encourage a culture of surveillance. The care that the government demonstrated in deploying and using TraceTogether, including granting the police invasive rights to citizens' data, must go beyond beating the virus, such that every tool of surveillance is bent towards the needs and interests of the population. Singapore society was called to trust in the government's sovereignty and benevolence, punctuated by repeated insistence that the app and token respected their privacy. When this assurance proved to be hollow, another layer of rationalisation was added to accentuate the right of the police to access the data, so as to protect the nation from crime.

Finally, the rationalised need to pull together as a nation was designed to give citizens the impetus for staying with the system. Accepting the TraceTogether system of surveillance was narrated as an affirmation of a citizen's positive contribution to the nation. More importantly, adopting TraceTogether became the responsibility of citizens to ensure that Singapore's economy can emerge from lockdown and a return to international travel (Tham, 2020b). TraceTogether also became an emblem of pride when compared to similar contact tracing offerings by other countries, which either failed to work or infringed severely on privacy (Reed, 2020). The rationalisation of nationalism is closely tied with discourses of allegiance, where the population's understanding of privacy and surveillance is intimately tied to the interest of the state. The technologies of surveillance are but part of a broader governance approach that requires, not just compliance with rules, but alignment with ideals. This governance approach underpins "a sort of complex composed of men and things" (Foucault, 1991, p. 93) – in other words, to organise the relationship between citizens and the matters of the state. Such ideals set out, not permissible, but desirable spheres of action that guide citizenship, actions that are "necessary to the security of those natural processes of economy and population which in turn will secure the well-being of the state" (Dean, 2010, p. 139). This guidance advances the belief that surveillance is not a governmental imposition, but a shared responsibility towards the greater good.

In totality, the three rationalities that define the TraceTogether story – necessity, trust and nationalism – work seamlessly through media narratives to enhance a culture where surveillance is valued as critical to the survival of Singapore and the well-being of its citizens. Even if the exact implementation of the system is far from ideal and its infringement on privacy found lacking, there is little debate or critique about its necessity or ethical appropriateness. As the media narratives we have highlighted demonstrate, these three rationalities are powerful because they do not work in isolation, but are integrated as a cohesive strategy meant to ensure TraceTogether's success. Placed next to Foucault's concept of governmentality, we see alignment of these three rationalities with the inter-dependent principles of sovereignty, discipline and government (Foucault, 1991). Like the inter-dependence of the three principles in the triangle of governmentality, the media narratives on TraceTogether were interwoven into a cohesive discursive practice, "a play of specific transformations, each one different from the next… linked together according to schemes of dependence" (Foucault, 1991, pp. 88-89). For instance, affirmation of the sovereign right of the Singapore government to impose surveillance technology and protect its borders granted it legitimacy in imposing this technology on the Singapore

Volume 9.2, ANZCA Special Issue: pp. 77 – 91

population, with the view of creating a society disciplined in its response to COVID-19. The final purpose, however, was to achieve the governmental practice of pandemic management that demonstrates pastoral care for citizens and the economy. Each of these elements cannot do without the other, and this cohesion was represented in media discourses.

It is necessary to note that our evaluation of TraceTogether as symptomatic of governmentality demonstrates a deliberate wish to move away from popular analyses of surveillance. Issues with privacy remain a valid concern with technological surveillance, but focusing too much on the perils of physical or digital surveillance tend to encourage a view of surveillance from its panoptic traditions (Haggerty, 2006) and risks losing sight of the state-citizen relationships, affirmed through media discourse, that serve as the more nuanced critique of the power behind such initiatives. In evaluating media discourse surrounding TraceTogether, we sought to deconstruct and highlight the policy and narrative scaffolds that entrench and normalise a culture of participatory surveillance in Singapore society. We do not offer a critique of the effectiveness of surveillance efforts or the appropriateness of the state's actions. We sought, rather, to understand and uncover how such a culture of surveillance came to be. In effect, our focus is on the discursive practices that rationalised surveillance, "the transformations which they have effected" and "the field where they coexist, reside and disappear" (Foucault, 1991, p. 64). Even if Singapore's brand of surveillance and the specific tools the government seeks to implement are unique, the media discourses that encourage the formation and maintenance of a matrix of reason are replicable qualities in other societies. We contend that focusing on these practices will provide a clearer understanding of why surveillance remains pervasive in Singapore, while also providing an approach with which to evaluate the prevalence and effects of surveillance in other societies. As the COVID-19 pandemic begins to slow down around the world and restrictions are slowly lifted (as we write), the application of our approach – the study of discursive practices surrounding cultures of surveillance – serves us best in keeping an eye on, and raising awareness about, the deeper issues with surveillance that have become almost invisible.

Realigning the theoretical focus to examine discursive practices enables the unpacking of the matrix of reason that surrounds and normalises systems of surveillance, and thereafter consider the efficacy of efforts to refuse surveillance as culture, rather than resist surveillance as technology. The constructed nature of such rationalisation is very much a lived reality in societies like Singapore and explains to a great extent why resistance to surveillance have been muted. While the Singapore government's unilateral effort to mandate technologies of surveillance has reduced the desire for resisting such invasions of privacy, we propose that the lack of resistance has as much to do with the acceptance, even preference, for 'positive' surveillance within Singapore society. While users of TraceTogether might uninstall the app, deliberately tamper with the token or find ways to bypass using the system (Lam, 2021a, 2021b; Sun, 2020), such actions are always undertaken within the auspices of the system of power that foreground the specific technologies they are resisting against. Such resistance is defiantly directed at 'power' in general, rather than an effort at refusing the *techniques of power* that are endemic to governmentality (McHoul & Grace, 1993). Effective resistance can probably best be achieved if citizens push back against the formation of norms relating to surveillance, deconstruct the assumed logic of the Smart Nation initiative, and expose TraceTogether as an extension of their own will for security, rather than as a tool imposed on them by the state that they have no choice but to accept.

Conclusion

Our analysis of TraceTogether in this paper presented three positions for the study of surveillance. The first is to see surveillance as practice, rather than mere technology. Connecting TraceTogether back to Singapore's Smart Nation initiative presented a broader and deeper base with which to understand the pervasiveness of this culture of surveillance. That the government remains unrestrained in using

surveillance technologies to encroach on everyday life in Singapore speaks of an astute effort in advancing surveillance as an essential part of life. Through Smart Nation, we have witnessed how technology has evolved from being a tool to becoming a national emblem, a status symbol to place Singapore on the world stage, and even a social value. Within this technocentric political mantra of economic and social progress, surveillance has been portrayed and accepted as a way of life, a cultural practice that we are expected to embody.

The second position is to critique surveillance as rationalising discourse, rather than as an imposition of political will. Through our analysis of media discourses surrounding TraceTogether, we have provided a cursory examination of how these narratives have evolved over time. We demonstrated that the media's publicity effort for TraceTogether has been predicated on the same culture of surveillance, where the positive use of technology has normalised this practice among the population. Any assumption that an autocratic government bent on imposing its technologically-infused will on citizens needs to consider the deliberate and painstaking effort taken to convince the population about the merits of surveillance. Our analysis examined a matrix of reason – the scaffolded layers of media coverage, each adding to and enhancing the narrative of state knowledge and prowess in using technology to manage the pandemic. These narratives point to a deliberate effort by the government to enhance its legitimacy in using surveillance. To that end, TraceTogether became a mere vehicle on which the government was able to further entrench a *rationalised need* for surveillance. Whether TraceTogether was effective as a contact tracing tool or honoured citizen privacy became secondary, even inconsequential, to the broader mediated narrative seeking citizen buy-in to the necessity and inherent positivity of the system. More critically, the matrix of reason does not describe a dystopic society that is constantly fearful of and obedient to a 'Big Brother' wielding *technologies* of surveillance, but to a rationalised and participative society that encourages citizens to be resolutely, willingly or otherwise, plugged into and invested in a *culture* of surveillance.

The third position is to offer an understanding of surveillance as a practice of governmentality, and by this we meant to critique the genealogy of TraceTogether as media discourse using the dynamics of Foucault's inter-dependent principles of sovereignty, discipline and government. In doing so, we highlight how these principles parallel narratives of necessity, trust and nationalism found in media discourses. Such narratives enhanced the sovereignty and benevolence of the state, asking citizens to place trust in the government and the way of life that requires personal sacrifice for the benefit of progress. Situated within this mode of governmentality, we contend that citizens' resistance against TraceTogether as technology falls short of the need to refuse surveillance as cultural practice. We conclude by extending these insights as a possible approach with which to evaluate the global emergence from the COVID-19 pandemic.

Endnotes

1. Published as a science fiction novel in 1949, George Orwell's 1984 presented a dystopic future where a totalitarian government maintains a state of omnipresent surveillance over its citizens under the pretext of perpetual war. The supreme leader, Big Brother, heads the Party, which operates invasive functions of state like the Ministry of Truth and the Thought Police. These state apparatuses serve to indoctrinate the population towards loyalty for Big Brother, and condition behaviour through coercion towards unity of purpose and action among citizens. The novel was adapted into a feature film and release in, perhaps deliberately, 1984.

2. A trilogy of cyberpunk films that ran from 1999 to 2003, The Matrix narrated a dystopian world where machines have taken over Earth and use human being as their energy source. From birth, humans were plugged into the Matrix, a simulation programme that mimics real life, in turn converting the electrical impulses from their mental interaction with the system into electricity. The plugged-in nature of human existence allowed the machines to monitor their brain activity for deviance and rebellion.

Volume 9.2, ANZCA Special Issue: pp. 77 – 91

3. Little India is a district in Singapore where South Asian migrant workers go to after work for leisure. On the night of 8 December 2013, Sakthivel Kumarvelu, a 33-year-old Indian construction worker, was not permitted to board a private chartered bus that would take him back to his dormitory, as he was deemed too intoxicated by the driver and conductor. He attempted to run after the bus but was run over by it when it rounded a corner. Kumarvelu was pinned under the bus and eventually died while trapped. Attempts to free him were in vain and his fellow workers blamed the driver and conductor, leading to violence on the streets and damage to vehicles. The unrest was eventually quelled by Special Operations Command police officers, but the incident brought to light tough working conditions faced by migrant workers in Singapore and the undercurrents of discrimination they faced.

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