Tracing Biometric Assemblages in India's Surveillance State:
Reproducing Colonial Logics, Reifying Caste Purity, and Quelling Dissent Through Aadhaar

by

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"Pessimism of the intellect, optimism of the will."

Antonio Gramsci

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Prologue: Ruminations of an Anti-Capitalist

As I write this, we are suffering through the global pandemic of COVID-19. It carries with it an inexplicable form of befuddlement, dread, and confusion. We are witnessing the entrenched systems of capitalism collapse into themselves as they fail to cultivate collectivist forms of kinship, care, and understanding. This global pandemic has forced us to accept that we cannot survive as individual and atomized beings. Even long before the pandemic, millions of people were suffering from precarity. A precarity of employment, livelihood, and housing, along with a frightening uncertainty for what lies in our future. This new form of 21st century technologically-weaponized right-wing authoritarianism imposes exploitative measures against the working-class and the environment. The ruling classes want to completely erode our ability to imagine radical futures of love, creative human processes, and mutual care. While all these contradictions have tragically come to the forefront, perhaps there is hope in imagining and acting on their revolutionary potential.

There were several challenges I faced when writing this thesis. The biggest challenge was writing on a relatively novel topic that is rapidly developing. In this current moment, the biometric and geolocational data of millions of people are being weaponized by governments and private companies, violating fundamental rights of privacy and strengthening punitive measures. While a pandemic is indeed an exponentially expanding public emergency, the danger of implementing authoritarian surveillance mechanisms, such as cameras, drones, facial recognition, thermal imaging, and location trackers, is that they may very well become the norm. While I develop on the topic of surveillance in the time of COVID-19 in the last portion of my

thesis, the examples I use might be outdated by the time you read this. However, the argument I hope to make in this thesis will remain relevant for many years to come.

The second challenge I struggled with is wanting to write literature that genuinely agitates the status quo within the oppressive borders of academia. I write this to acknowledge the academic and structural privilege that affords me to produce this thesis at such a critical time, while millions of others are suffering through conditions of sickness, houselessness, unemployment, exploitation, and at worst - death. The divide between constantly advocating to improve the material conditions of the oppressed within the rigid institution of academia is a cognitive dissonance difficult to grapple with. What I will say with certainty is that academia will never liberate us. The ivory tower of academia is deeply hierarchical, with its roots entrenched in white supremacy, patriarchy, heteronormativity, and casteism in order to serve the Empire and consolidate the power of elites. Stuart Hall describes this tension eloquently:

> But I have been reminded of this tension very forcefully in the discussions on AIDS. AIDS is one of the questions which urgently brings before us our marginality as critical intellectuals in making real effects in the world. And yet it has often been represented for us in contradictory ways. Against the urgency of people dying in the streets, what in God's name is the point of cultural studies? What is the point of the study of representations, if there is no response to the question of what you say to someone who wants to know if they should take a drug and if that means they'll die two days later or a few months earlier? At that point, I think anybody who is into cultural studies seriously as an intellectual practice, must feel, on their pulse, its ephemerality, its insubstantiality, how little it registers, how little we've been able to change anything or get anybody to do

anything. If you don't feel that as one tension in the work that you are doing, theory has

let you off the hook. (Hall 106)

Hall, however, is able to contextualize the nuance in understanding how academic theory --

cultural studies in particular -- can analyze and advance the material conditions of struggle:

On the other hand, in the end, I don't agree with the way in which this dilemma is often

posed for us, for it is indeed a more complex and displaced question than just people

dying out there. The question of AIDS is an extremely important terrain of struggle and

contestation. In addition to the people we know who are dying, or have died, or will,

there are the many people dying who are never spoken of. How could we say that the

question of AIDS is not also a question of who gets represented and who does not? AIDS

is the site at which the advance of sexual politics is being rolled back. It's a site at which

not only people will die, but desire and pleasure will also die if certain metaphors do not

survive, or survive in the wrong way. Unless we operate in this tension, we don't know

what cultural studies can do, can't, can never do; but also, what it has to do, what it alone

has a privileged capacity to do. It has to analyze certain things about the constitutive and

political nature of representation itself, about its complexities, about the effects of

language, about textuality as a site of life and death. (Hall 106)

While the sociopolitical context in which this was written differs from the times we are in now,

the critical framework Hall describes regarding the relationship between cultural studies and the

AIDS epidemic remains relevant to any scholarship written about the realities of structural

oppression. As I write this in the midst of the COVID-19 pandemic, Hall's words become more

relevant than ever. Academics, students, and scholars must not be let off the hook; we must

actively live in this contested site of tension. We must cultivate collectivized knowledge sets and work against the individualized and hierarchical ownership of knowledge.

This paper is the written extension of my Media Studies capstone project, created during the fall of 2019, which centered on Chapter Two of this thesis as it focused on a more historical, chronological, and broader understanding of surveillance in India. My goal was to make the oftentimes dense and theoretical frameworks of surveillance more accessible to a broader population through the creation of an interactive archival web timeline. I was inspired by digital products such as Divide and Conquer: The Shattering of Palestinian Space by Israel (B'Tselem), which educates people about Israeli settler-colonialism in Occupied Palestine through an interactive map-based timeline. Through the medium of the web, I want to contribute to a growing, underground, cultural, artistic, and philosophical digital sphere that imagines alternative modes of media consumption in the hopes of resisting fascism, both in South Asia and globally.

I plan to update the website continually for it to last beyond the confines, borders, and oppressions of academia. I hope that it serves as a useful visual supplement to this thesis as well, given that it contains various forms of multimedia that this paper does not. This includes videos, podcasts, news articles, and testimonies of those materially impacted by surveillance in India. In addition, the last panel on the website, "Tomorrow: Anti-Surveillance Futures", emphasizes anti-surveillance efforts from those affected, artists, activists, and academics. I included this to make sure that the timeline does not merely foment nihilism about futures of mass surveillance, but also cultivates resistance through imagining futures of anti-surveillance; in other words, embodying a quote by Italian communist Antonio Gramsci while he was imprisoned under

fascist rule: "Pessimism of the intellect, optimism of the will." The website, <u>Dekh Rahe: An</u> <u>Interactive Timeline of India's Surveillance State in the Making</u> (Prabhakar), can be accessed on the web at any time.

1. Introduction: The Significance of Surveillance Studies

In the time of both rapid technological development and rising right-wing authoritarianism, it is important to understand the material consequences of growing regimes of surveillance. While surveillance has existed for centuries, surveillance studies itself is a nascent field that lacks a refined set of research methods and institutional standardization. In this section, I provide a brief explanation for the definitions, frameworks, and concepts I will be engaging with in this thesis. I will then apply that to the political-economic environment of India in order to understand our historical, contemporary, and future conditions under surveillance.

   a. Defining Surveillance:

Academic Christian Fuchs asserts that the limitations within the field of surveillance studies in the social studies arise from the inconsistency of definitions, especially of the term *surveillance* itself. While surveillance is often defined as any form of watching, monitoring, or seeing, Fuchs argues that this definition assumes a misleading neutrality embedded in the act of surveillance and an assumed necessity of surveillance in societies. Fuch suggests, instead, that surveillance always involves economic and state control in order to enable capital accumulation or to organize and manage populations (110). This definition of *negative* surveillance considers surveillance to be "inherently connected to violence and domination" (111). Fuchs warns against generalizing surveillance to be any form of information gathering:

> If surveillance is a normalized concept of everyday language use that characterizes all
>
> forms of information gathering, storage, and processing and not only a critical concept,
>
> then this normative task becomes more difficult. If everything is surveillance, then there

is no outside of surveillance left, no transcendental humanistic sphere, idea, or subject

that allows to express discontent coercive information gathering and the connected

human rights violations. (127)

Fuchs argues that *neutral* definitions of surveillance would make the discipline of surveillance

studies itself obsolete, which is why it is important to define it negatively. In this thesis, I deploy

Fuch's understanding of surveillance: "a specific kind of information gathering, storage,

processing, assessment, and use that involves potential or actual harm, coercion, violence,

asymmetric power relations, control, manipulation, domination, disciplinary power" (127). As

long as our material realities are governed by capitalism and other interlocking systems of

domination,[1] surveillance will inherit their logic of violence and inequality.

The growing importance of surveillance studies and activism is the result of critical

feminist, Dalit-Bahujan, Black, Indigenous, anti-racist, anti-imperialist, and Marxist

interventions that center the targeted violence of surveillance on marginalized communities: "the

collection of data on individuals or groups that are used so that control and discipline of behavior

can be exercised by the threat of being targeted by violence" (Fuchs 122). I am specifically

influenced by Simone Browne's book, *Dark Matters: On the Surveillance of Blackness,* in which

she introduces the interrelated frameworks of *racializing surveillance* and *dark sousveillance*,

placing surveillance studies in conversation with Black feminist theory and the histories of

transatlantic slavery (12). I am also influenced by Dubrofsky and Magnet's anthology *Feminist*

Surveillance Studies, which expands on bell hooks' notion of "white supremacy capitalist

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[1] I borrow the term "interlocking systems of domination" from Professor Phyllis Jackson at Pomona College. It serves as an alternative to "interlocking systems of oppression" as it is meant to put emphasis on the systems that cause oppression rather than reinforcing oppression itself. In the context of this paper, I include the systems of capitalism, imperialism, heteropatriarchy, transphobia, caste supremacy, white supremacy, and Hindu fascism, etc.

patriarchy" to suggest the term: "white supremacist capitalist heteropatriarchal surveillance",

defined as "the use of surveillance practices and technologies to normalize and maintain

whiteness, able-bodiedness, capitalism, and heterosexuality, practices integral to the modern

state" (7). Although these two works center the United States in its context of analysis, these

pivotal Black feminist interventions in the field of surveillance studies have greatly helped me

frame similar frameworks of surveillance in the nation-state of India, which I will begin to talk

about in the subsequent sections.

b. *Surveillance Studies in India:*

United States (U.S.) academia saw a growth of work in the field of surveillance studies

following the launch of the War on Terror in 2001, described as the "post 9/11 new imperialism"

(Fuchs 110), and the subsequent whistleblowing revelations of Edward Snowden in 2013. Mass

surveillance serves to justify the United States' increasing wave of imperial aggression on the

Global South,[2] with a pre-emptive model of criminality or suspected terrorism, neoliberal

regimes of security, and racialized forms of securitization and militarization. This has functioned

(and continues to function) domestically through targeted racialized state surveillance of Muslim

communities and Black radicals by the Federal Bureau of Investigation (FBI), and

transnationally, through the Central Intelligence Agency's (CIA) covert surveillance endeavors

abroad to aid intervention and invasion of countries in the Global South.

While the U.S. has seen this important growth, there remains a major dearth of the same

kind of work in India -- and generally in the Global South -- despite the growing wave of

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[2] Although there are several different definitions, I define the "Global South" as the regions of Latin America, Asia, and Africa. More specifically, the term is employed in a post-colonial sense to describe previously colonized spaces and peoples subjugated under contemporary neo-colonialism, imperialism, and capitalist globalization.

right-wing authoritarianism that has used surveillance as a means to their biopolitical ends. Right-wing governments in countries such as India, Israel (Occupied Palestine), the Philippines, Brazil, and more, are being aided by Western neoliberal forces. This occurs through direct governmental political alliances and through the transnational flow of global capital which regularly imports and exports the production of surveillance and weapons' apparati through the military-industrial complex. As policy analyst Udbhav Tiwari explains, the lack of scholarship about surveillance in India also derives from the lack of legislative transparency and journalistic coverage of India's surveillance regimes. While there has been a rising amount of discourse on surveillance in India following the emergence of the Unique Identification Authority of India's (UIDAI) *Aadhaar* in 2009, this discourse must be placed in a wider historical context as surveillance regimes are a facet of any colonial, neocolonial, or neoliberal paradigm; surveillance is not specific to the 21st century. Furthermore, the consequences of surveillance must be analyzed through the intersections of class, caste, gender, sexuality, and religion, as they exert their power over the most marginalized in Indian society. While these fields of study and activism exist disparately, their convergence is rare, but deeply necessary as surveillance technologies and Hindu fascism continue to extend their reach and domination over all facets of everyday life.

Part of this thesis seeks to understand the historical conditions that rendered the nation-state of India as having the world's largest biometric surveillance system: Aadhaar. Surveillance practices used by the British Raj were created to exert sovereign power, uphold eugenicist values of white supremacy, and suppress anti-colonial dissent, which mirrors the current social order of the ruling Bharatiya Janata Party (BJP), as they use surveillance to similar

ends in today's political economy. As of 2020, the BJP, the Hindu supremacist ruling body, has successfully harvested the biometric (fingerprints, iris scans, and facial recognition) and biographical (name, age, gender, and address) data of over 1.2 billion people in a centralized database ("India's Biometric ID System"). India's current surveillance regimes champion biopolitical control through cultivating surveillant assemblages through the biometric data harvested by Aadhaar, which has reduced flesh to pure information and created a *data double* (Haggerty and Ericson 613), a concept I will expand upon in Chapter Three. Contrary to claims that Aadhaar was created to empower the poor through providing identification by the Indian nation-state, I argue that these surveillance regimes are actually fundamentally oppressive; they are used to uphold caste purity, control and coerce marginalized bodies, and anticipate, suppress, and punish dissent against the Indian nation-state.

In the book *Right to Maim,* scholar Jasbir Puar draws upon Michel Foucault's foundational formulation of *biopolitics*, which is defined as population measures enacted by the state which enable some forms of living and inhibit others: "birth rates, fertility, longevity, disease, impairment, toxicity, productivity" (xviii).[3] Puar builds on this to understand how "biopolitics deployed through its neoliberal guises is a capacitation machine". Within the Indian context, Aadhaar can too be considered a *capacitation machine,* as it is guised as a way to empower the poor through a biometric identification system, but instead, results in "capacitation for some...and the debilitation of many others" (xviii). Surveillance is not a passive force of monitoring, it is also actively enforcing behaviors and identities through coercion. While Puar's

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[3] Puar's book, "Right to Maim", focuses on the Israeli occupation of Palestine and their tactic of debilitating Palestinians for biopolitical control. While the context differs from that of India, it is worth mentioning how Israel has embraced sophisticated surveillance regimes to uphold their settler-colonial foundations in order to oppress Palestinians. Israel has a similar database of citizens' biometric data and regularly uses facial recognition technologies at their checkpoints.

work focuses on the context of the Israeli occupation of Palestine and the United States, it also applies to any neoliberal environment in which surveillance is not only responsive and repressive, but also pre-emptive and productive. Aadhaar is a means to achieve biopolitical control over a civilian population of 1.2 billion people through extracting their biometric data, along with a means to achieve necropolitical control over those who fail to assimilate to the biometric assemblage and are left to suffer and die as they are disposable to the nation-state. These processes are informed by values of Brahmanical hegemony, capitalism, Hindu supremacy, and patriarchy.

While this outlines a general framework for the evolution of surveillance, what makes India's condition unique is the ways in which the ethno-nationalist project of Hindu nationalism has coincided with the neoliberal landscape of India and its claim to a 'secular democracy'. Israel and India are often compared for their ethno-nationalist projects of Zionism and Hindutva. While they indeed are similar ideologically, Israel specifically defines itself as "the national home of the Jewish people", while India, in the first portion of its Constitution, defines itself as a "sovereign, socialist, secular, democratic republic". The rise of Hindu nationalism, however, as a grotesquely intolerant and violent right-wing project of ethno-nationalism, contradicts this fundamental clause of the Constitution, as it ceases to incorporate the values of secularism and democracy. Additionally, it is important to consider how neoliberalism in India rose with the tide of Hindutva. Wendy Brown defines *neoliberalism* as the "ensemble of economic policies in accord with its root principle of affirming free markets" (28). Globalization is often seen as the natural result of neoliberalism, as cultural and capital flow across borders, facilitate greater tolerance and thus, lead to stronger democracies. Ever since the economic liberalization of

India's economy in 1991, India has similarly championed neoliberalism and has emerged as the third largest economy in the world. This begs the question of how the ethno-nationalist project of Hindutva, championed by the current BJP, is able to co-exist with neoliberal globalization. While this presents itself as a paradox, upon closer examination we can see how the projects of Hindutva and neoliberalism work in a synergy in the 21st century.

Wendy Brown describes several features of the effects of neoliberalism, which includes intensified inequality, unethical commercialization, and the ever-growing intimacy of corporate and finance capital with the state. Within neoliberalism, the "top strata acquires and retains even more wealth and the very bottom is literally turned out on the streets or into the growing urban and suburban slums of the world" (28). This is especially true in India where 1% of the population owns 58.4% of the total wealth and over 800 million Indians are living below the poverty line. As Amir Hussain notes,

> It is interesting to note that the global reach of the neoliberal economic order coincides with the rise of extremists as the political saviours of the free market. India is a basket case of correlations between economic liberalisation, political extremism and cultural homogenisation. There is a well-entrenched political insanity propagated through Modi's doctrine of transforming a secular India into a Hindu Rashtra that is supported by the corporate world. The reunion of the clergy, the government and the economy marks a new phase of global capitalism that plays havoc with the poor in the developing world by helping fascists assume power as both chauvinist consumers and brand leaders.

Hindutva and neoliberalism do not contradict each other; they work in a synergy in which

Hindutva protects corporate interests and the violent structures of Hindu fascism and capitalism

work to oppress the working-class, religious minorities, and the caste oppressed, categories

which are likely to overlap. This rise of both Hindutva and neoliberalism in India has allowed the

government to use digital technologies, the result of global trade, for their surveillance regimes.

These regimes inherit the violent oppressions of both those systems, often in tandem, as

explained through this thesis.

  c. *Structure of the thesis:*

In Chapter Two, I begin with a historical analysis of surveillance regimes in India.[4] I start

in the 1800s under the colonial rule of the British Raj and describe the development of

surveillance laws and systems. This includes the Indian Telegraph Law of 1885, which gave the

British the power to anticipate and crack down on anti-colonial dissent, along with burgeoning

analog biometric technologies, such as fingerprinting, which was invented to manage imprisoned

populations; an institutional precedent for India's current-day biometric system of Aadhaar.

Next, I move forward to the Partition of India in 1947, which I argue is an incredibly crucial

point in history that, in many ways, defined facets of surveillance today. Through the forced

displacement of millions of people and imposed divisions on the basis of religion, this period

forged new subjectivities and definitions of citizenship, which were intimately linked to

biometric data and the verification of identity in relation to the Indian nation-state. Next, I

describe the ascension of the Hindu nationalist movement, also called *Hindutva*, following the

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[4] Some references to India, in this section, refer to the borders of the Indian nation-state prior to 1947 (Partition). Pre-1947 India included current-day India, current-day Pakistan, and current-day Bangladesh.

Partition. I describe the ways the ruling Hindu nationalist party, the BJP, has successfully

championed these systems of biometric surveillance and classification. While I mark the

similarities of surveillance structures from colonialism to now, I also note the discontinuities; the

shift from analog surveillance technologies during colonialism to digital surveillance

technologies in our present-day neoliberal environment. These forms of surveillance have been

used to enforce violent registries, such as the National Registry of Citizens (NRC). Finally, I

argue that the biometric surveillance state is predicated on caste supremacy, as it enforces ideas

of *biovalue*, which are intimately tied to notions of the purity and cleanliness of an individual,

and thus, intimately tied to caste supremacy.

In Chapter Three, I look at biometric surveillance more closely. I describe the emergence

of Aadhaar, the world's largest biometric system in the world. Through biometrics, the body

becomes a source of data in order to verify identity. I briefly examine the functionings, rationale,

and political propaganda associated with Aadhaar through Modi's 'Digital India', which has

created a technological hubris that assumes biometrics to be a foolproof method of efficiency and

identification, despite numerous case studies that amplify its failure. Surveillance functions

through class divides; while privacy concerns are at the center of dissent to Aadhaar by the

Indian middle-class, for the working-class and poor, Aadhaar has necropolitical implications; a

more grave question of life or death. The coercive nature of Aadhaar, through its function creep,

has caused the elderly, caste oppressed, queer and trans communities, women, and disabled

people to materially suffer from hunger, the lack of education, the lack of pensions, the lack of

medical services, and at worst, death. Finally, I describe how Aadhaar has propelled a merging

of state and corporate power, mirroring the historical relationship between Nazi Germany and International Business Machines (IBM) to create punch cards for census data.

In Chapter Four, I examine the proliferation of drone surveillance, specifically taking the case study of the anti-CAA protests that began in December of 2019. Using Chamayou's theorization on drone logics, I explain the broader assemblage that is posed by both the biometric surveillance system of Aadhaar and drone surveillance. I begin with analyzing the Indian state's drone usage in 2013 over Naxalite areas in Andhra Pradesh, Chattisgarh, and Odisha, as part of Operation Green Hunt, showing how surveillance facilitates state-sanctioned violence against Adivasis and communists. I then describe how drone surveillance has reified Islamophobia, drawing from examples from the Muslim pogroms in Delhi that took place in 2014 and 2020. I then turn to the present-day usage of drones, as they are now being used to track, surveil, and control protesters during protests. Facial recognition technologies developed for Aadhaar are being used through drone surveillance to identify protesters and arrest and charge them under specific acts, despite several Indian laws and regulations the police departments are in violation of that outlaw the use of specific models of drones. When paired with Aadhaar, drone surveillance can significantly alter the material conditions of protesters, who are overwhelmingly Muslims and specifically, Muslim women.

In the last chapter, Chapter Five, I use Steve Mann's Veillance Plane to develop a praxis for anti-surveillance using the concept of *sousveillance*, and applying that to case studies from the anti-CAA protests. I then discuss how capitalist societies inherently cultivate a value-set of individualism and mistrust, placing surveillance and societies of domination at the center of our existence. In order to move towards a praxis of anti-surveillance, we must move towards the

socialist values of collectivism, solidarity, trust, and honesty. This has been fought for through protests and social movements against Aadhaar in recent years, mostly led by labourers, farmers, and students. The chapter ends by highlighting grassroots anti-surveillance work being done by feminist, environmental, and digital security organizations in India and in the diaspora.

2. Historical Analysis: Lineage of Surveillance in Colonial and Post-Colonial India

Sociologist Max Weber explains that the formation of the modern nation-state is defined in terms of its monopoly on violence: "A human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory" (78). Through this understanding, the state is similarly able to enact its monopoly of violence through a variety of means, including digital technologies. This enables us to understand the evolution of surveillance in both how it has carried over to the present from the past, but also, how it differs in its nature and functioning.

In the introduction to *The Surveillance Studies Reader,* Sean Hier and Joshua Greenberg note that even though "a qualitative shift in surveillance took place after 9/11", there is a dearth of scholarship and literature on "the pre-9/11 forms of surveillance that made post-9/11 surveillance possible" (8). Contemporary surveillance regimes are distinct from earlier forms of colonial surveillance with the shift from analog to digital surveillance. This digital surveillance functions through a neoliberal nexus between surveillance by the modern state and private corporations that share both the legal and material frameworks for data collection and sharing (Shephard 6). Foucault describes this evolution of power in terms of sovereign power and disciplinary power. Sovereign power involves obedience to a central authority figure. Colonial powers championed the use of analog technologies to directly subordinate and subdue. Current-day society resembles a disciplinary society in which the neoliberal environment of digital technologies regulates time, space, and the routine of everyday activities. Our identities are largely governed through disciplinary means in which surveillance is exhibited through a

variety of institutions. This shift from sovereign to disciplinary power, from analog to digital, and from colonialism to neoliberalism, lies at the heart of how surveillance has changed from colonial times to the present.

a. *Colonial logics of surveillance:*

The current surveillance state in India props up the ethno-nationalist project of Hindutva taking influence from the vicious histories of British colonialism. Tactics of British colonial domination in India involved the development of sophisticated surveillance tactics that succeeded in territorial theft and acquisition in order to monitor populations and quell dissent. Yael Berda explains how colonial bureaucracy in the occupation of the West Bank in Palestine and India "have shaped practices and routines of classification and surveillance of civilian populations in sites of conflict. As the technologies of population management shifted from the colonies back to the metropole, they ensconced the administrative structures of colonial bureaucracy" (629). While the logics of colonial surveillance have carried into the present, one particularly significant law enacted during the time of British colonialism is the Indian Telegraph Act of 1885, which gave the state power to intercept the communications of all civilians. During the time of British colonialism, this emerged with the regulation of telegraphy (Acharya).

Three laws preceded the Telegraph Act of 1885, with each having an increasing amount of power to intercept telegraph communication. This colonial-era law is still active today with numerous amendments to account for the changes in technology. In her book *In Pursuit of Proof: A History of Identification Documents in India,* Tarangini Sriraman also strengthens the argument that the current Indian surveillance regime, especially in the case of Aadhaar, is well informed by colonial practices, especially within the context of the dependence of identification

documents on biometric signifiers (54). These practices of identity-based surveillance systems during the time of the British Raj were implemented following the Sepoy Mutiny of 1857, a rebellion that itself was thwarted due to the Telegraph Laws (the first iteration itself being enacted in 1857), as the government was able to intercept communications regarding the rebellion. Even as insurgents attempted to destroy the line, the state was able to consolidate control and violently crack down on anti-colonial dissent (Headrick 51).

b. *Biometric surveillance from colonialism to Partition:*

Following the rebellion, Imperial Civil Service (ICS) officer Sir William Herschel, working for the Indian Civil Service in the Bengal region, began experimenting with fingerprints to be used for the registration of deeds and contracts, the verification of pensioners, and carceral-related documents. The use of fingerprinting came from wanting to shift from older methods of determining if the native body was involved in prior criminal behavior. These older methods included tattooing, branding, and lashing criminals as external proof of prior criminal behavior (Abraham 382). However, nineteenth-century scientists began searching for physical signs of criminality from the 'inside out'. Herschel passed on his research to British eugenicist Francis Galton and Indian police officer Edward Henry. Galton used fingerprints in forensic patterns and to curb fraudulence: "Fingerprinting would be of continual good service in our tropical settlement, where the swarms of dark and yellow-skinned races...are grossly addicted to personation and other varieties of fraudulent practices" (Singha 192). Henry used fingerprinting to create an effective system for establishing identity. The Bengal police successfully created an infrastructure that exhibited logistical consistency and easy retrieval. Most importantly, however, was the fact that fingerprinting instilled confidence within policing bodies that impersonation

and fraud were impossible, making colonial criminalization of the native Indian more streamlined and successful. By the 19th century, fingerprinting became an important part of the colonial enterprise of proving the authenticity of documentation and eliminating the potential for Indians to escape the British carceral system. One issue, however, was that in order to identify an Indian, their fingerprint would have to match an existing fingerprint in the system, requiring collecting the biometric data of everyone, despite their criminal record, race, or status. The colonial judicial system eventually decided against this because interracial mixing, even in a registry, was not permitted. However, it showed that the biopolitical fantasy of such a system necessitates gathering the biometric information of the whole population. This remains the general logic of Aadhaar as we observe it today, but on a more technologically advanced scale, and extended far wider than just the institution of the judicial system (Abraham 383). Additionally, telegraphs and collecting fingerprints were analog practices during colonialism, while today these forms of surveillance are proliferated through digital technologies.

The British ruled India for over 200 years, formally culminating in 1947 when the Partition of India occurred. Orchestrated by the British, the Partition resulted in over two million deaths and 14 million people displaced (Talbot and Singh). This unparalleled violence fundamentally morphed the meanings of citizenship and postcolonial subjectivities. Almost 73 years later, these forged meanings of citizenship inform the means of surveillance in terms of data accumulation about family history on behalf of the increasingly fascistic government. Despite the vision for India to become a "secular nation", the Partition indeed sowed the seeds for the ascension of the Hindu right, which solidified religious animosity and communal violence amongst Hindus, Sikhs, and Muslims. What began as an anti-colonial project of nationalism in

India quickly converged with existing strains of right-wing Hindu extremist groups, such as the

Rashtriya Swayamsevak Sangh (RSS). The RSS, founded in 1925, was an organization dedicated

to the idea that India is a Hindu nation and that Hindus deserved to rule over other minorities.

The RSS openly admired European fascists such as Adolf Hitler and Benito Mussolini, inspired

by their ideologies of racial purity and ethno-nationalism. While the RSS is considered a

paramilitary extremist group, it was not until 1980 that newer members decided that Hindu

nationalism should be enveloped into the political and electoral sphere, resulting in the formation

of the Bharatiya Janata Party, which quickly gained power, ultimately leading to the election of

Narendra Modi in 2014. Modi, a longtime member of the RSS, was previously the chief minister

of the state of Gujarat.

To the Hindu Rashtra, the "Muslim" represents a demographic threat to the

ethno-nationalist agenda to create a Hindu nation-state. Vinayak Damodar Savarkar, the founder

of Hindutva[5], even stated in his writing, "Muslims were the real enemies, not the British, [their

ideology] posed a threat to the real nation, namely Hindu Rashtra" (Jaffrelot 112). The

pernicious and violent ideology of Hindutva has materialized in communal violence against

Muslims and caste oppressed communities, namely Dalits. This includes the 1992 demolition of

the Babri Masjid in Ayodhya by over 150,000 members of the Hindu nationalist Vishva Hindu

Parishad (VHP) and the BJP, resulting in the death of over 2,000 people in the ensuing

communal riots. Modi specifically has unleashed mass suffering in pursuit of the vision of

Hindutva, especially towards Indian Muslims. In 2002, Modi was in power as chief minister of

Gujarat and orchestrated a pogrom that killed over 2,000 Muslims, injured over 2,500, and

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[5] In this thesis, I use the terms *Hindutva, Hindu nationalism, Hindu extremism, and Hindu fascism* interchangeably.

rendered tens of thousands of people homeless (Mishra). Since Modi was elected in 2014 and an explicitly right-wing Hindu nationalist government has come into electoral power, Hindutva "violence has percolated through the entire nation, provoking lynchings, assassinations, rapes, beatings, imprisonments, and constant abuse on airwaves and social media by Modi's cheerleaders" (Deb). Since his re-election in 2019, the BJP has aggressively pushed their pernicious ideology even more, through the abrogation of Section 370 and 35A in the state of Jammu and Kashmir, which has worsened the existing brutal military occupation of Kashmiri Muslims by taking away their special status and imposing a communications ban. In December of 2019, the Modi government also implemented the Citizenship Amendment Act (CAA), banning Muslim asylum seekers from getting citizenship in Inidia, inciting mass protests. This will be expanded upon in Chapter Four in an analysis of how the Modi regime has harnessed drone surveillance to control protesters.

In 2018, four million Bengali Muslims from Assam were stripped of their citizenship, all on the basis of identity papers from 1951. Through the National Register of Citizens (NRC), the Indian government separates 'illegal citizens' from 'genuine Indian citizens'. This process of identification relies on 'legacy data', which is a roll of names of households based on census returns, along with proof of relation to that said relative, in order to establish citizenship. This biographical information of all households in Assam are then digitized into a 'legacy code', that is available on a searchable online database. It has been proposed that this information will be linked to ones' Aadhaar number in order to qualify the legality of Indian citizenship. In February of 2020, in the midst of the ongoing pogroms against Muslims in India,[6] the UIDAI found that

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[6] In February of 2020, United States president Donald Trump visited India, coinciding with the ongoing protests of the Citizenship Amendment Act (CAA). During this time, Hindu mobs targeted Muslims in North East Delhi, unleashing a pogrom which killed over 40 people and injured over 200, most of whom were Muslim (Kamdar).

127 people in Hyderabad were "illegal immigrants who were not qualified to obtain an Aadhaar number". In its statement, the UIDAI included that "the Supreme Court, in its landmark decision, has directed the UIDAI not to issue Aadhaar to illegal immigrants" (Sudhir).

The use of biometric and biographical data that is stressed in the NRC on behalf of the Indian government indicates their desire to uphold the 'purity' of the Indian citizen, which reifies systemic Islamophobia. This is fundamental to Hindutva, and defies the notion that India is a secular nation. The NRC website advertises its innovative technological techniques as something to be celebrated for the future of the nation-state. Rafiul Ahmed writes, however, that this "...newly applied electronic process being distantly invisible and little understood by ordinary people have penetrated the last traces of the human body without their knowledge. Such 'dataveillance' obscures human biology and genetics, by fetishizing them into an algorithm in the service of the modern state". Furthermore, the government uses the genealogical nature of the NRC seeks to create a 'criminal' on the basis of biometric and biographical data. These surveillance tactics mirror the use of the fingerprints to criminalize Indians during the time of British colonialism. As Ahmed writes, "the need of such a technique didn't go away with India's independence from colonial rule. Invariably, postcolonial Assam was on the lookout for a technique to supplement the barbed wires in the Assam-Bangladesh border with newer technology. The NRC can thus be viewed as a progression from these earlier techniques. Its multiple utility is realized from its potentialities to detect lies in order to apprehend recidivists". As per the expanding function creep[7] of the UIDAI, Aadhaar has extended to the NRC, using the

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[7] A 'function creep' can be defined as what happens when a technology that is introduced for a certain purpose is expanded beyond its original intent. While Aadhaar was meant to be an infrastructure that helped the poor claim an identity to avail of welfare benefits, it has since expanded and has been made necessary for several other institutions, including the NRC (Ramanathan).

biometric data of those excluded from the NRC in Assam to later prevent them from applying for an Aadhaar number or accessing welfare benefits in other parts of India ("People's Tribunal").

c. *Building surveillance through caste supremacy:*

In the book *Gandhi and Philosophy: On Theological Anti-Politics,* philosophers Shaj Mohan and Divya Dwivedi examine the prolific views of Mohandas Karamchand Gandhi, who is often valorized by the West as a non-violent and anti-colonialist hero. This mainstream reputation, however, has obscured his pernicious positions on caste and race. Gandhi wrote, "I detest secrecy as a sin" which establishes a covenant that "...seeks to bring about the elimination of the sin of secrecy by demanding of men that they lead their inner lives and outer lives as if under the watch of a judge of morals". In a text titled "The Sin of Secrecy", Gandhi urges his followers to "avoid even thinking thoughts we would hide from the world". The authors examine Gandhi's specific positions on the relationship between the state, privacy, and security. Dwivedi and Mohan extrapolate that "the state in which all men think only clean thoughts succeeded upon by clean speech and act would be determined by the notion of cleanliness. Cleanliness has several determinations, including that of caste and race".

Gandhi's use of "secrecy as sin" and cleanliness justifies surveillance measures and restrictions, and can be understood within the larger system of caste supremacy and caste apartheid, which associate cleanliness and purity with Savarnas, or dominant castes, and untouchability with Dalits. As Bhimrao Ramji Ambedkar writes, in *Annihilation of Caste,* "It is said that the object of caste was to preserve purity of race and purity of blood". The concepts that are inherent to caste apartheid and Brahmanical hegemony is the binary of pollution and cleanliness. Purity is seen as the ultimate enforcer of social control and physical violence given

that it penetrates every aspect of Indian society, even to this day. According to Gandhi, if people had nothing to hide or were not engaging in sin, then they would not have anything to worry about under a surveillance state. A former employee of Project Insight, a private firm hired by the income-tax department to organize information for Aadhaar, employs a similar argument: "Ok, you're going to be going through everyone's social-media platforms, integrating various online identities that you might have, your digital footprints". After the report asked if that was an invasion of privacy, he said: "No, if you're an honest person you have nothing to worry about" (Thaker). The surveillance state as enforced by Hindu nationalism, therefore, is based on reifying the violence of caste apartheid, using these notions of pollution, cleanliness, purity, and Gandhi's "sin of secrecy" to justify the surveillance state.

Caste is intimately tied to how Aadhaar is deployed. Because the Aadhaar Bill[8], passed in 2016, defines biometric information as photographs, fingerprints, iris scans, or "any other such biological attributes of an individual as may be specified by regulations", the fear is that the UIDAI can widen this definition in the future and include race, religion, and caste (Thikkavarapu). One case brought to the Supreme Court challenging Aadhaar stated that Aadhaar "has led to needy people being excluded from welfare programs. One case suggests it could have resounding implications for people of lower castes who could face discrimination if biometrics are matched with surnames and addresses — often indicators of caste" (Doshi). Although the legal counsel for Aadhaar has insisted that Aadhaar does not record the caste, religion, or race of individuals (Rajagopal), recent security breaches indicate otherwise. In April

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[8] The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act was passed by the Lok Sabha in 2016. While the statutory authority of the UIDAI was established in 2009, the Aadhaar Act officially provided legal backing to Aadhaar.

of 2018, a security breach revealed a data leak on the government website, which had information of an Aadhaar-based database that listed individuals' religion and caste information (Thaker).

Nikolas Rose and Carlos Novas describe the concept of *biovalue* as the value we come to recognize about our bodies: they give us the legitimacy of citizenship, access to welfare, a sense of authentic belonging within particular families, ethnic groups, or clans (440). If caste is embedded within Aadhaar, what implications does the perceived essentialism of identity, coded into 'neutral' machines and algorithms, recall about the historical systems of eugenics and scientific racism that are based on the concepts of the 'pure race' and the 'impure race'? Aadhaar becomes a conduit through which the pernicious social order of the caste system becomes solidified through the cultivation of biovalue.

3. Biometric Surveillance: Cultivating Biometric Assemblages Through Aadhaar

Aadhaar, schematically developed in 2009, failed to win legislative backing in 2011. Representatives of the BJP initially opposed Aadhaar in 2011, mostly on the basis of opposing the Congress-led government under Manhoman Singh. By the time Modi was elected in 2014, however, journalist Shankkar Aiyar notes that Modi met with R.S. Sharma, an officer of the Indian Administrative Service and the UIDAI's first director-general, and Nandan Nilekani, the former chairman of UIDAI. Modi was swayed by the prospect of having Aadhaar-linked biometric systems to track attendance at all central government offices. The same party who had opposed it three years earlier was now championing it under Modi's vision for a Digital India[9] with the party officially having jurisdiction over it in 2016 when the Aadhaar Act passed.

Aadhaar[10] is a 12-digit unique-identity number issued to Indian residents through collecting their biometric data, which includes fingerprints, retina scans, and facial scans, along with their demographic information, which includes the resident's name, address, gender, and age. It is the biggest biometric database in the world, with over 1.2 billion enrollments - 90% of India's population. The data collected for Aadhaar is done through the Unique Identification Authority of India (UIDAI), a statutory authority established in 2016. In various parts of the country, the UIDAI has set up *enrollment* camps, often run by private agencies, in order to collect this information. Following enrollment, the data is transmitted online to the UIDAI

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[9] Digital India is a campaign launched by the Modi regime in 2015, with the attempt of assimilating the Indian population into a digital infrastructure; Aadhaar, and its biometric digital technologies being a key facet of the campaign.

[10] Throughout this paper, I use the term *Aadhaar,* but it is important to note that *Aadhaar* and *Unique Identity Number (UID)* are used interchangeably.

headquarters in New Delhi, where the data is checked against the database of the entire

population. If the data does not match an existing entry in the database, an Aadhaar number and

card is issued to the resident (Sarkar 7). Aadhaar marks a shift from prior forms of identification

that were availed through affiliation to an institution or attestation from an authority body as it

now recognizes the body as the most essentialized form of identification.

a. *Understanding the biometric assemblage and the body as data:*

Through this shift in mechanisms of identification, the UIDAI's propaganda champions

Aadhaar as a way to assimilate into Modi's Digital India and divorces itself from reliance on

political institutions to verify identity. Technology enables the UIDAI to create a scalable

platform for identification that could indisputably corroborate personal identity. Instead of

relying on individuals to identify themselves as a facet of agency and autonomy, the state has

taken on the responsibility of verifying that someone is who they say they are by essentializing

identity through the body and biometric features. This process requires no participation from the

subject at all as it reduces recognition and identity to a perceived categorical certainty. While this

propaganda is predicated on an apolitical, ideologically-neutral agenda, the use of biometrics,

especially by an ethno-nationalist governing body, is, in fact, deeply political: "In practice,

counting people, governing populations, allocating resources, granting rights and encoding duties

are always deeply political processes" (Rao and Nair 470). As surveillance theorist Marc

Andrejevic notes: "Neutrality is the ruse of the algorithm" (Dubrofsky and Magnet xiii). I argue

that contrary to these claims of objectivity, Aadhaar is fundamentally shaped by social processes

and functions through biopolitical control. Coding the body as data in the eyes of the nation-state

is inherently a political process. Specifically, Aadhaar can be understood as a *biometric*

assemblage, a dynamic process through which its significance is materialized through the flows and interactions of various institutions, systems of domination, practices, and discourses.

Kevin Haggerty and Richard Ericson introduce the concept of the *surveillant assemblage,* a foundational shift in prior discourses in surveillance, which largely focused on Foucault's concept of panoptic surveillance. Instead of seeing the biometric body as essentialized and static, the surveillant assemblage helps us understand how, through biometrics, human bodies are abstracted from their territorial settings, and reassembled in different settings through a series of data flows, creating a decorporealized body—a *data double.* When applying this theory to Aadhaar, it is clear to see how information, social processes, technology and the human body interact, creating a data double that is able to be tracked, commodified, managed, and controlled (Shephard 5). Aadhaar gains its meaningfulness, not through the Unique Identity Number itself, but through the biometric assemblage associated with it. Aadhaar unites the biometric assemblage by bringing together forms of welfare distribution and security practices. The expanding function creep of Aadhaar gives the government the ability to link every aspect of an individual's life, from train tickets, mobile phone numbers, registration to institutions such as colleges, schools, hospitals, marriage, and bank accounts, all forming a biometric surveillant assemblage through the Aadhaar number. Ultimately, we can see this as the true essence of biopolitics, as it incorporates "biometrically verified bodies into the techniques, mechanisms, and calculations of power" (Jacobsen 467). Elida K. U. Jacobsen also notes how the biometric assemblage of Aadhaar "simultaneously provides identity and produces forms of separation between the deserving and the undeserving poor: in the logic of the system, those who are unidentifiable or who refuse to be fingerprinted will ultimately not qualify for welfare support"

(467). The myth of biometrics as facilitating pure and objective data collection has resulted in a technological hubris that does not account for failures of the system and the grave privacy violations and necropolitical consequences of this technological failure.

   b. *Technological hubris and the necropolitics of Aadhaar:*

In this section, I make the argument that biometric surveillance, along with surveillance in general, does not simply serve to monitor the Indian population, but, as academic Jasbir Puar eloquently states: "it enforces certain behaviors and certain identities, thereby excluding others". Through the creation of biometric assemblages, the Indian state wields power through ways that impose surveillance as "not only responsive and thus repressive, but also as pre-emptive and thus productive. Using Puar's assertion that surveillance is "pre-emptive and productive", I turn to the ways in which Aadhaar is specifically 'productive'. Enrollment in Aadhaar is advertised as voluntary and only assigns you a unique identification number based on your biometric data for greater access to welfare schemes. The 'Strategy Overview' section of the Government of India's UIDAI states:

   In India, an inability to prove identity is one of the biggest barriers preventing the poor

   from accessing benefits and subsidies...a clear identity number would also transform the

   delivery of social welfare programs by making them more inclusive of communities now

   cut off from such benefits due to their lack of identification. It would enable the

   government to shift from indirect to direct benefits, and help verify whether the intended

   beneficiaries actually receive funds/subsidies. A single, universal identity number will

   also be transformational in eliminating fraud and duplicate identities, since individuals

will no longer be able to represent themselves differently to different agencies. This will

result in significant savings to the state exchequer.

Since its inception, Aadhaar was created to be a tool to improve the administrative efficiency of

welfare programs with biometric technology being the basis to that efficiency (Khera). This has

created a *technological hubris,* however, that assumes technology to be the answer to all social

issues, with no scope for failure or error. It is through this technological hubris that the UIDAI

has no mechanism to report bugs, failures, or security breaches within the system, with the

assumption that biometric technology is a foolproof method of identification. The mass

enrollment of 1.2 billion people with Aadhaar is used by the UIDAI as a sign of the system's

success, despite the context of the violently coercive ways the biometric assemblage forces

people to enroll in order to survive.

As such, several data breaches associated with Aadhaar have been documented since its

inception. The Centre for Internet and Society, a Bengaluru-based think tank, reported in May of

2017 that the Aadhaar numbers of over 130 million people had been published on government

websites, including their names, bank account numbers, and personal details (Sinha and Kodali).

As discussed prior, Puar describes "biopolitics deployed through its neoliberal guises" as a

capacitation machine, which calls for the "capacitation for some...and the debilitation of many

others". Surveillance does not affect all people equally, and this is evident in comparing class

anxieties around Aadhaar. While Aadhaar has indeed stripped away the fundamental right of

privacy for many Indians through these data breaches, these realities are negligible compared to

the biopolitical and necropolitical implications that failures within the Aadhaar assemblage and

ecosystem has. Itty Abraham describes this class divide: "These starkly contrasting concerns --

loss of privacy versus the costs of enrollment -- highlight the class divide that separates the anxieties of middle-class citizens and civil society from the desires and problems faced by the informal sector, working class, homeless, and migrant labor" (379). Framing the material consequences of a system such as Aadhaar within this framework does not dismiss privacy and data security as a concern, but rather, acknowledges that "privacy is a discursive concern of civil society and a liberal middle class, even as the costs of misuse or loss of personal information are universal, non-trivial, and potentially grave" (Abraham 379).

Achille Mbembe defines the term *necropolitics*, which he describes as the relationship between sovereignty and power over life and death. I argue that for those who fail to assimilate within the system of Aadhaar, they are then subjected under the essence of necropolitics: 'let live or make die' (Mbembe 39). Necropolitics presents a management of life for the neoliberal environment of India in which 'let live' represents pure abandonment. If you are abandoned by the system of Aadhaar for any reason, you can technically live if you have social and economic ability. If you do not have this mobility, which is the case for the majority of people in India unable to enroll in Aadhaar, the biometric assemblage abandons you, leaving you for death. Necropolitics, as opposed to biopolitics, focuses on the control of large populations through the management of death, rather than life. While those enrolled under Aadhaar are subjected to biopolitical control, those who are not are subjected to necropolitical control; both encapsulating the state's wielding of control over either the populations of life or death.

While legally, no one can be forced to enroll in Aadhaar and submit their biometric data to the government, the reality on the ground is fundamentally different. The function creep of Aadhaar keeps expanding and the government and the UIDAI have gradually made virtually all

social welfare programs that the working-class and poor are dependent on conditional on having an Aadhaar number. In September of 2013, the Supreme Court, on the basis of several petitions filed by anti-Aadhaar activists and lawyers following the launch of Aadhaar in 2009, ruled that "no person should suffer for not getting the Aadhaar card in spite of the fact that some authority had issued a circular making it mandatory" (Rajagopal). On the ground, however, this has never materialized. The biometric assemblage of the Aadhaar ecosystem keeps growing; as Usha Ramanathan writes in the piece, "The Function Creep That Is Aadhaar", these are only a few examples of what the function creep has produced:

- Bonded labour will not get rehabilitated till their number is in the system.

- Persons getting out of manual scavenging will have to have their number seeded.

- Women rescued from prostitution are to put their numbers on the database to get rehabilitated.

- Survivors of the Bhopal gas disasters have to seed their numbers if they are to continue getting state assistance.

- Persons with disabilities who are given assistance and aid will have to get their numbers in or else be left out.

- Children will not get their mid-day meals in schools unless their UID numbers are embedded in the system.

- No adult education without UID.

- No rations without UID.

- No admission to schools without a UID. No hall ticket either.

- No national award for technology innovation in petrochemicals and downstream plastics processing industry to incentivise meritorious innovations and inventions in the field of polymeric materials, products, processes.

Other examples include Liquified Gas Petroleum (LPG) subsidies, pension schemes for the elderly, train tickets, mobile phone numbers, registration to several institutions, including colleges, schools, hospitals, marriage licenses, and bank accounts (Malik and Basu). At a *Talk Journalism* event held in Jaipur in 2018, Edward Snowden, one of the most famous whistleblowers in the world who exposed the U.S. National Security Agency's (NSA) secret mass surveillance program following September 11th, said that "the framework for mass surveillance today would look a lot like the Aadhaar system". Snowden talks about the coercive nature of Aadhaar "forcing identity on people throughout the country to the point where you cannot have a child and get a birth certificate unless you provide your Aadhaar number" ("Aadhaar Is Mass Surveillance System"). For those enrolled in Aadhaar, the linkage of these systems on the basis of submitting your biometric data poses grave privacy concerns as the assemblage produces biopolitical control. However, for those who are unable to enroll, or are subject to the several failures of the technological systems at play, the lack of ability to avail of any services for basic survival is a result of necropolitics: 'let live and make die'.

c. *Aadhaar wielding control over marginalized populations:*

Kathryn Henne notes how "Aadhaar can be used to serve pernicious agendas, such as the misrecognition of gender minorities or the BJP's promotion of Hindu nationalist beliefs and its enabling of religious fundamentalism. The broader implications are important: that the

introduction of technological tools does not necessarily ensure objective or even outcomes. In fact, their implementation alone cannot escape or overcome inequality" (Henne 230). In this section, I bring up case studies of those who Aadhaar has impacted the most: marginalized communities, which includes the working-class and poor, the elderly, the caste oppressed, queer and trans communities, women, the disabled, and Muslims. These communities are targeted through both biopolitical and necropolitical control, based on whether they are assimilated into the assemblage or are excluded from it.

The claim that biometrics is a 'foolproof' method that mitigates the potential for fraud runs contrary to the material realities of its implementation. Initially, the UIDAI tried to only collect fingerprints, reminiscent of the colonial tactics described in Chapter Two. However, in a country where 94% of the working-class population is employed doing manual labor in the informal sector and where working-conditions are deeply exploitative, fingerprint quality is low as they are overwhelmingly working with their hands (Rao and Nair 475), as seen in Figure 1. This limits a large section of working-class and poor people who cannot enroll in Aadhaar, and similarly indicates the dynamic nature of identity given that biometric features are deeply shaped by class. This includes the story of Ambwa Kunwar, an 85-year old widow, who could not get an Aadhaar card due to fingerprint detection issues, which resulted in her being excluded from all welfare benefits. Biometrics suffers from margins of error that includes false matches and the inability of recognition. When the government considers biometrics to be *irreplaceable, permanent, and static* features, a failure to reconcile with that system can render you an *unperson,* and therefore subject to necropolitical control.

Figure 1: An old woman in Gujarat showed the cracked skin of her palms.
Photo credit: Anumeha Yadav

The technological failure of Aadhaar systems has been widely reported on with the most impacted being caste oppressed, working-class, disabled, poor, and elder Indians living in rural areas. For instance, several visually-impaired people, such as Sukni Devi, are denied Aadhaar cards on the basis of not being able to submit iris scans. In 2017, Devi stopped receiving her pension. Budhni Devi, an elderly widow, "has stopped receiving her pension for 5 years, even since the payment systems switched from post offices to banks. She didn't have an Aadhaar so she could not open a bank account. She is partially blind and was told that she can't enrol for Aadhaar as her retina can't be scanned" (@roadscholarz). In some cases, those who lost their Aadhaar card could not get it reissued, such as Jugli Devi, whose Aadhaar card was eaten by a rat.

Statistics show that an estimated 102 million people do not have Aadhaar, which includes 30% of India's homeless population and more than a quarter of the trans community (Chandran). Concerns from the trans community stress that Aadhaar makes a person's gender essentialized as a static biometric identifier. Trans activists, when appealing to the Supreme Court in 2018, expressed the ways in which identity documents such as Aadhaar are often conflated to birth documents, denying the opportunity for them to accurately identify as their actual gender. Lawyer Jayana Kothari, speaking on behalf of the trans rights activist NGO Swatantra, talked about how the Aadhaar Act exposes queer and trans people to "violence, surveillance and harassment by the state and private persons" ("Aadhaar Exposes"). She continues, by arguing that "Once the personal demographic details of transgenders and sexual minorities is declared, it exposes them to surveillance, violence, and discrimination including infringement of their fundamental right to life and liberty, equality, free speech and movement". Because the institution of Aadhaar insists on a specific person revealing their gender identity, Aadhaar flies in the face of privacy rights, subjecting the trans community to the violence of scrutiny and surveillance. Because Aadhaar has been made mandatory for many public and private services, trans people are more likely to be denied basic rights if they do not have an Aadhaar card, leaving their livelihood and right to privacy within the hands of the state. In this case, while enrolling in Aadhaar would make trans communities more vulnerable to harassment, discrimination and violence through the breach of their privacy and misgendering, indicating biopolitical control over the right to identify your correct gender. On the contrary, not enrolling wields necropolitical implications, making an already marginalized community subject to the lack of basic resources.

Heteropatriarchy also configures into the biometric assemblage in other ways, bolstering the reproductive surveillance of cis women. Aadhaar continues to extend its control over all facets of life in gendered ways with some states requiring an Aadhaar number to avail of maternity benefits and through tracking women's pregnancies. In 2019, it was reported that The Department of Health and Family Welfare was set to track every pregnancy, from conception to birth, using an Aadhaar-linked unique ID number. Within this new system, every expecting mother will be given a unique ID number that will be linked to an Aadhaar number with the hopes of bringing down the maternal mortality rate. As per Section 7 of the Aadhaar Act, "any individual who is desirous of availing any subsidy, benefit, or service for which the expenditure is incurred from the Consolidated Fund of India, shall require to furnish proof of possession of Aadhaar number or undergo Aadhaar based authentication" (Anien). Tara Krishnaswamy, a social activist, notes that "tracking every woman, including those who are paying for their expenses in a private hospital, is a violation of the original stated intention of Aadhaar". In April of 2019, the details of over 480,000 pregnant women in Andhra Pradesh were leaked on the state's Women and Child Welfare Department's website. Amit Bansal of the group Rethink Aadhaar also notes that tracking women's bodies through Aadhaar has the potential to reinforce patriarchal structures of familial pressure, blackmail, and scrutiny.

A feminist praxis of surveillance studies requires us to interrogate the ways to "frame the reproductive health landscape as more than just an ill-conceived, benign monitoring structure" (Rathi and Tandon). Because of the push to incorporate reproductive health services within the Aadhaar ecosystem, this has created it much harder for poorer women, who cannot afford private health services, to avail of legitimate claims towards abortion and other reproductive services.

The risk of women who are enrolled in Aadhaar is the potential for a data breach in a patriarchal society that greatly stigmatizes abortion. Furthermore, the surveillant nexus around reproductive health creates an environment in which unmarried, disabled, caste oppressed women, along with members of the queer and trans community, are at risk due to the hyper-visibility that encourages oppressive scrutiny. This has resulted in grave, life-threatening, and deeply dangerous material conditions for women, especially working-class and poor women. In February of 2018, a 25-year old woman named Munni was made to deliver a baby girl outside the emergency ward of the Civil Hospital in Gurgaon after she was denied access to an ultrasound along with reproductive and maternal care because she did not have an Aadhaar card: "Nine-month pregnant, Munni was standing in pain for two hours at the gate of the emergency ward and finally delivered the baby there at around 12.30pm, claimed her husband. "I was left helpless as my wife was screaming and shouting in pain" (Pati).

Fatal hunger is also a potential possibility through not having an Aadhaar card; the government has already made it mandatory for children to produce Aadhaar numbers to receive their free mid-day meal. If the child isn't able to do that, they could be denied food (Sharma). Through a compilation prepared by activist Siraj Dutta, 42 hunger-related deaths have been documented since 2017, on the basis of being denied access to welfare programs without an Aadhaar card (Rethink Aadhaar). This has deeply impacted caste oppressed communities, who are already structurally denied a dignified identity by systems of Brahmanical hegemony. In 2017, it was reported that three Dalit brothers - Narayana, Venkataramma, and Subbu Maru Mukhri - died of starvation in July near Karnataka's Gokarna town after being denied rations on the basis of not having an Aadhaar card. Activists found that the Maru Mukhri's family ration

card was deleted from the Public Distribution System list because it was not linked to Aadhaar (Rethink Aadhaar). In 2018, it was reported that J. Indu, a 10-year-old Dalit girl, and four other Dalit and Muslim students in the fifth standards in Amadagur in Andhra Pradesh, were denied their scholarships because their names were wrongly spelt on their Aadhaar cards: "My name is Indu, but my first Aadhaar card made it 'Hindu'. So I applied for a new card [seeking a correction], but they made it 'Hindu' again" (M).

Even in what is considered a sacrosanct right in a democracy, the act of voting, has become conditional on the basis of Aadhaar. In December of 2018, several voters in Rajasthan and Telangana had tweeted that their names were missing from the electoral roles. As reported in the Huffington Post, "election officials admit that software could have played a role in the elimination of 2.2 million voters from Telangana's electoral rolls" (Khaira and Sethi). This form of disenfranchisement through Aadhaar similarly represents the ways in which not having a verifiable Aadhaar card can render you invisible to the state; an *unperson,* leaving you to fend for yourself as resources are slowly grabbed from your reach. Following this, several people in Telangana protested.

d. *Merging state and corporate power through Aadhaar:*

Fascist tendencies are marked by the merging of state and corporate power. While the government has initially claimed that Aadhaar is a strictly governmental project, Aria Thaker writes about the extremely worrying "mixing of public risk and private profit". The non-profit iSpirit created a set of application programming interfaces (APIs), called India Stack, which are considered the "building blocks in the software architecture required by many third-party entities, whether public or private, to use Aadhaar". In February of 2017, the India Stack Twitter

account tweeted out a black-and-white photograph of a man facing the camera in a crowded

street (Figure 2). Superimposed on his face was a computer-generated box with his Aadhaar

number, mobile number, data of birth, and address. Above the image, the tweet had the caption:

"Welcome aboard @On_grid team." India Stack had the picture from the homepage of OnGrid, a

private company that uses peoples' Aadhaar numbers to perform background checks for

companies hiring workers. OnGrid had just joined a select group of India Stack's user entities.

Within hours of the tweet being posted it was deleted, as people expressed outrage and disbelief

at what the photo implied. One user tweeted, "Does it mean that Aadhar, PAN, passport etc docs

for a given individual will be linked and available on your server?" (Thaker). While the company

sought to defend their tweet and mitigate the fears surrounding it, the realities of how the

Aadhaar ecosystem interacts with private companies was exposed.

Figure 2: The contentious tweet revealing privacy vulnerabilities of Aadhaar.

Because a growing number of private services are being linked to peoples' Aadhaar numbers, private companies have a lot to benefit from their relationship with the UIDAI and Aadhaar. This marks the distinct merging of the state and corporate power, resulting in dangerous consequences. In 2018, it was reported that "a group of 50 companies consisting of fintech firms, lending companies, verification agencies" had formed a group called the Coalition for Aadhaar, committed to defending Aadhaar from the appeals of activists and lawyers who

have expressed sustained concerns about sharing over 1.2 billion peoples' biometric information with private corporations with a profit motive (Agarwal). Despite the claims of the government that Aadhaar is a strictly public institution, the figures associated with the UIDAI suggest differently.

Nandan Nilekani is a prominent Indian billionaire and the co-founder of the multinational technology corporation, Infosys. In 2009, Nilekani was appointed as the first chairman of the UIDAI. Nilekani famously said, "Data has become the new oil. If we can restructure data to benefit every individual and every business, then we can lead to enormous amounts of activity and economic growth." Shoshana Zuboff defines *surveillance capitalism* as "a new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales." When data is 'mined' in a similar way to oil, this profit incentive violates one's autonomy, privacy, and livelihood. Although Aadhaar is presented as a way to collect and use Indians' biometric data for the public good, the capitalist intent behind it has furthered the merging of the Indian nation-state and corporations. As Nitin Pai, the director of the Takshashila Institution, has observed: "There are cases where you have people who have been involved either in the construction of Aadhaar, the rollout of Aadhaar, the design of Aadhaar, now working in the private sector". Nilekani himself, although he is no longer the chairman of the UIDAI, still "wields immense power in the Aadhaar ecosystem, in both private and public realms." Vinod Khosla, Indian venture capitalist, billionaire, and founder of Khosla Labs, said on a panel discussion about UIDAI: "People often ask me why we started Khosla Labs. And frankly, one of the simple reasons was that there was great talent available—I told you I love talent. But they also knew the Aadhaar system. And I said, there's got to be a bunch of

opportunities around Aadhaar. So I would highly encourage it. And I do think it's a really big opportunity" (Thaker).

Through surveillance capitalism, the neoliberal subject has become a *quantified self* meshed into the biometric assemblage. Accumulation of biometric data means that powerful state and corporate interests are profiting off of, and therefore managing, populations; the essence of biopolitical control converging with capital accumulation. Within the neoliberal environment of India, surveillance is dependent on capitalism to sustain its technologies; it is not surprising that the assemblage of Aadhaar is intimately tied to corporate interests. The rate of augmenting surveillance parallels Moore's Law, which observes that the number of transistors in a dense integrated circuit will double biannually (Moore 83). While Moore's Law references technology in a vacuum, the law also applies to understanding the rate of capitalist production in the technology industry, which lends itself to the fast growth of more sophisticated surveillance technologies. As Bill Davidow explains, Moore's Law rightly anticipates that "existing participatory and involuntary surveillance technologies are proliferating and new ones are being introduced and becoming more effective every day...low-cost facial recognition will let the government and retail establishments track us". In the case of India, Davidow's reflections resonate with the recent actions of the Modi regime: introducing the largest widespread facial recognition technology system in the world (Zaugg).

India's National Crime Records Bureau at the home affairs ministry issued a deadline of October 11th, 2019 for bids of private technology corporations to create a system for state police forces to create mass facial recognition technologies. This rings eerily similar to the alliance between the Third Reich of Nazi Germany and the technology company, International Business

Machines (IBM). Although these forms of fascism greatly differ based on the temporal context, it is worth looking at the parallels. In 1933, IBM was contracted to create readable cards with standardized perforations that involved punch cards with each hole representing an identity indicator - gender, nationality, occupation, etc - that would eventually give IBM the "opportunity to cater to government control, supervision, surveillance, and regimentation on a plane never before known in human history". IBM instrumentalized Nazi race science, which proclaimed the Aryan German as the master race, eventually leading to the murder more than 11 million people (Black 72). In other words, an ethno-nationalist government contracting large technology corporations to build surveillance apparati in order to assert dominance over a civilian population has precedence and has the potential to have devastating consequences. In August of 2018, the UIDAI made the biometric feature of facial recognition necessary to obtain an Aadhaar card. In the next chapter, I will discuss how facial recognition as a form of biometric data collected through Aadhaar, has been weaponized to anticipate, suppress, and punish dissent of the nation-state through drone surveillance, specifically using the case study of the anti-CAA protests that began in December 2019.

4. Drone Surveillance: Quelling Anti-Fascist Dissent

Within the expanding surveillant assemblage of Aadhaar, one of the most recent forms of surveillance added is the rapid expansion of drone surveillance used by security forces across India. Using the biometric data of facial recognition, Aadhaar has leveraged policing bodies and other security forces to use drone video surveillance to enforce biopolitical control of those who show dissent against the nation-state of India, which disproportionately impacts marginalized communities. While facial recognition exists within the assemblage model of biometric surveillance, the way facial recognition has been leveraged through drone surveillance merits older models of analysis, namely Foucauldian theories of power.

a. *Theory of the drone:*

The emergence of documented cases of drone policing in India in 2013 indicated the growing popularity of this type of technology compared to more traditional modes of punitive suppression displayed by police forces. To analyze the use of drone surveillance, I invoke the theory of Grégoire Chamayou. While Chamayou centers his analysis on armed drones in combat, his theorization on the logic of the drone is relevant to the ways policing logics have gradually transformed through the technological apparatus of the drone camera.

Chamayou compares the logic of the drone with the 'eye of God': "Its vision is more than just sight: beneath the skin of phenomena it can search hearts and minds. Nothing is opaque to it. Because it is eternity, it embraces the whole of time, the past as well as the future. And its knowledge is not just knowledge. Omniscience implies omnipotence (37)." Chamayou explains the several principles that apply to drone logic:

1. The principle of persistent surveillance or permanent watch.

2. The principle of a totalization of perspectives or a synoptic viewing.

3. The principle of creating an archive or film of everyone's life.

4. The principle of data fusion.

5. The principle of the schematization of forms of life.

6. The principle of the detection of anomalies and preemptive anticipation.

Following these principles, the functionality of the surveillance drone used by police forces in India exhibit the principles of the *totalization of perspectives*, *creating an archive or film of everyone's life*, and *data fusion*. The body of the drone goes hand-in-hand with the concept of the biometric assemblage by using facial recognition for identification in order to preempt, suppress, and punish dissent.

  b. *Operation Green Hunt and Modi's Hindutva terror:*

In military parlance, unarmed drones are known as *unmanned aerial vehicles (UAVs)* and armed drones deployed within a warzone are referred to as *unmanned combat air vehicles*. India used armed drones in 1999 during the Kargil War with Pakistan; its usage has increased with the geopolitical and arms coalition with Israel, who has provided India with both armed and unarmed drones through a series of deals. India's usage of armed military drones has influenced the usage of unarmed drones by police departments, who have begun to use drones for the purposes of aerial surveillance of zones of social unrest. A few of the first documented uses of drones by police departments date back to 2013, where Israeli-made surveillance drones were

deployed in a limited capacity over Maoist-Naxalite regions on the borders of Andhra Pradesh,

Chattisgarh, and Odisha (Vudali). These surveillance drones were meant to collect anti-Maoist

intelligence but failed to do so due to the dense forests. These surveillance expeditions were part

of Operation Green Hunt, which describes the 'all-out-offensive' operation by Indian

paramilitary forces against the Naxalites. Operation Green Hunt is still active till this day. The

Naxalites are a predominantly Adivasi (Indigenous) movement that emerged as part of an armed

communist movement meant to counter the razing, exploitation, extraction of land and

displacement of millions of people caused by the liberalization of India's economy. In the eyes

of the Indian government, the Naxalites are considered 'terrorists' as they dare to push back and

resist the violence of the Indian nation-state. The Indian government's use of drone surveillance

allows them to collect intelligence in order to ultimately eliminate them. Since then, the

emergence of military apparatuses within police departments in urban areas demonstrates how

drone surveillance threatens marginalized communities based on both identity and dissent.

   In 2014, surveillance drones were also used in Trilokpuri, a constituency of Delhi and the

epicenter of the Sikh genocide in 1984 under Indhra Gandhi of the Congress Party. Trilokpuri is

a resettlement colony that is made up of families who were survivors of the violent

slum-cleaning efforts by Congress during the Emergency. Trilokpuri is made up of primarily

Muslims and Dalits who were displaced and resettled in 1976. While most Muslim families were

displaced from demolitions that took place at the Turkman Gate in Old Delhi, most Dalit families

were evacuated from Mandir Marg in central Delhi (Kidwai 14). In 2014, communal riots, fueled

by the election of Narendra Modi, were exacerbated by the Delhi police taking up

pepper-spraying drones, instead of their traditional brutalizing methods of lathi charging

("Trilokpuri Clashes"). Yashasvi Yadav, the senior superintendent of police in Lucknow commented, "The drones have been tested in controlled conditions. They have been very successful and will be used by the Lucknow police whenever there are violent protests or mob attacks." As Kidwai reported in 2014, "For the first time, drones were deployed by the police to scan terraces for such material and they claim this method provided them much assistance in conducting search operations".

c. *Anti-CAA protests:*

The danger of the drone's relationship to the surveillant assemblage was most evident during the anti-CAA protests that began during December of 2019. The protests began as a response to the implementation of the Citizenship Amendment Act (CAA) of 2019, which allows all religious minorities except Muslims to find refuge in India through a fast-track citizenship process. The CAA, building upon the existing surveillance frameworks embedded in citizenship, is one that bolsters the agenda of Hindu nationalism: the ethnic cleansing of Muslims. Additionally, the CAA has deeply biopolitical implications for other minorities, namely Dalits, Kashmiri Muslims, Adivasis, women, and queer and trans communities. These communities stood on the frontlines of mass protests against the CAA, and have been disproportionately faced with police brutality, detainment, Hindu mob violence, doxxing, and mass surveillance.

During the protests in Delhi on December 19th, 2019, the " Delhi police used a drone to keep a watch on protesters as they gathered to march against the amended citizenship law, from Red Fort in Old Delhi to Shaheed Park near ITO, on Thursday" (Press Trust of India). The Delhi police used aerial surveillance in the Seelampur area and in Mayur Vihar to identify what they term as "miscreants'. As quoted by the senior police officer of the Delhi Police Station: "Drones

are used to record happenings and in case of massive law and order situations, where things go

out of hand, the recordings help to identify those who cause a situation to go out of hand." This

rationale is common within almost all instances of drone usage by police forces in India. On

December 27th, drone surveillance was used in New Delhi once again at a march led by

protesters of the Bhim Army, starting from Dargah Shah-e-Mardan in Jor Bagh. The Bhim Army

is a Ambedkarite Dalit organization led by Chandrashekar Azad, who was arrested under the

National Security Act. The evidence used by the prosecutor was collected through the drone

footage which showed "Chandrashekhar Azad making inflammatory speeches during the

massive CAA protest in December" (Mathur and Sharma). In Mumbai, it was reported that on

December 19th, 2020, "local police, Riots Control Police (RCP), Quick Response Teams (QRT),

State Reserve Police Force (SRPF) would deploy drones and CCTV at the protest against the

Citizenship Amendment Act."

     In response to the heavy usage of drone surveillance, the Internet Freedom Foundation

(IFF), a non-governmental organization that conducts advocacy on digital rights and liberties in

India, wrote to the Office of the Director General of Civil Aviation to outline the threat that

drone usage poses to civil rights of privacy ("The DCGA"). While the theoretical frameworks of

drone surveillance outlined by Chamayou indicate their dangerous biopolitical implications,

those implications rarely translate into actionable legal frameworks that bring bodies of injustice

to justice. Legal frameworks that are in place are frequently violated and rarely held accountable

for those violations as well.

     The IFF described the risk that drones pose to protest from civil populations as follows:

"Quite often these are deployed across peaceful protests to record the movements of people and

pose a risk to their privacy. They also may fly close to crowds threatening injury and causing anxiety. These concerns made us look more closely as to their legal framework and to our shock we discovered that these are completely illegal" ("The DCGA"). The laws violated, cited by the IFF, include the Aircraft Act of 1934 and the Aircraft Rules of 1937, which "make better provision for the control of the manufacture, possession, use, operation, sale, import and export of aircraft" ("The Aircraft Act, 1934"), which provide the Director General of Civil Aviation (DGCA) with exclusive power to regulate drone usage in India. They also regulate the specific makes and models of drones that are allowed to be used. Several drones that violate these rules were spotted by protesters throughout the duration of the protests.

The violations outlined by the IFF are twofold: 1) the violation of the fundamental right to privacy and 2) the violation of DGCA rules. The first point harkens back to Chamayou's framework that highlights the moral concerns that drones present; mass surveillance violating the basic tenets of human autonomy. As the IFF states, "It is important to consider that the privacy right under the judgement applies even in public spaces. Such acts of mass surveillance need to be done only on the basis of legality, necessity and proportionality". The point raised by IFF uses the constitutional guarantee of freedom for each citizen to be the basis of the right to privacy and the subsequent violation of privacy by drone surveillance. The main concern lodged by the IFF is on a technical point, which refers back to the violation of the DGCA rules, which identifies the type of drone being used by the Delhi Police as that in violation of the law: "Notably, the Delhi police has been found to be using drones manufactured by DJI systems (specifically DJI Phantom) which are beyond these permitted categories as per the Reply to Question No. 356 as

referred above" ("The DCGA"). Ultimately, the request of the IFF was to "cease the use of drones by police departments...and their subsequent confiscation".

Drone surveillance, through the biometric assemblage, makes use of facial recognition extracted through Aadhaar. The combination of India's newly developed sophisticated facial recognition system along with the proliferation of drones recording protesters' activity indicates deeply entrenched forms of surveillance and punishment on the basis of tracking protesters' faces. As Aria Thaker observes, "Administrators and police departments are using individual Aadhaar numbers to consolidate citizen data scattered across disparate government departments, allowing for the creation of detailed personal databases." Through drone footage, facial recognition technology is used to identify a protester, which automatically leads the police to a network of information about a specific person, piecing together a data double as referenced in Chapter III, and using both punitive measures or a necropolitical blockage of social welfare institutions on top of a clear breach of privacy and autonomy.

Who will suffer the most material detriment of being surveilled? It becomes clear that marginalized communities are most at risk. Drones are being used to track protesters within one of the largest mosques in India - the Jama Masjid. Echoing Chamayou's principles of drone logic, *the principle of the schematization of forms of life* and the *principle of the detection of anomalies and preemptive anticipation*, drone surveillance of Muslim communities places of worship show Hindutva has the technological apparati to document those they consider 'deviant' to the nation-state. This not only enables them to punish these minorities for dissent, but can also detect anomalies and cultivate pre-emption of movement and behavior. We see this in drone surveillance as it applies to protests organized by the Bhim Army. There is a clear oppressive

scrutiny applied to Dalit-Bahujan communities, whose underlying agenda is to destroy the caste system that relegates them as inferior.

5. Anti-Surveillance Futures

While the dangers and violence of surveillance can be rendered as overwhelming, we must turn to the overwhelming potentiality of anti-surveillance futures. In this section, I undertake a more generalized approach to discussing anti-surveillance ideologies, endeavors, organizations, and practices. I am inspired by Simone Browne's conception of *dark sousveillance*, which she describes as "a way to situate the tactics employed to render one's self out of sight, and strategies used in the flight to freedom from slavery as necessary ones of undersight" (21). Though I intend to avoid homogenizing the temporal framework and subjectivity of blackness within transatlantic slavery, I use Browne's theorization behind dark sousveillance as it stems from "an imaginative place from which to mobilize a critique of racializing surveillance, a critique that takes form in antisurveillance, countersurveillance, and other freedom practices" (21). Browne continues, seeing dark sousveillance as something that "plots imaginaries that are oppositional and that are hopeful for another way of being". Similarly, I channel Browne's desire for "another way of being" and extend that to anti-surveillance tactics that take into account the intersecting systems of domination of class, caste, gender, sexuality, and ability.

a. *Embracing sousveillance:*

Referencing Fuchs' conception of *neutral surveillance* in Chapter I, Steve Mann uses the term *veillance* to describe a "neutral form of watching" (1). Thus, surveillance can literally be translated to "watching from above" (closely mirroring the affective performance of drone surveillance). Mann coins the term *sousveillance* to mean "watching from below", an active

inversion of the power relations that surveillance inherently comprises (1). Steve Mann's

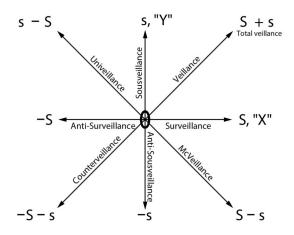Veillance Plane plots an 8-point compass model of veillance directionalities:

Figure 3: Steve Mann's Veillance Plane

As seen by Figure 3, Mann's Veillance Plane conceptualizes surveillance and sousveillance as

"orthogonal vectors" in which surveillance is on the x-axis ("S") and sousveillance on the y-axis

("s"). Here, "the amount of sousveillance can be increased without necessarily decreasing the

amount of surveillance" (6). Residing in the middle of these two axes lie concepts that can be

interpreted as a mixture of both planes. This includes *univellance*, where one party records a

telephone conversation (as opposed to a third-party party in power, such as the phone company

itself), which leans more towards sousveillance, and *McVeillance*, when a company or

establishment prohibits people from recording portions of the establishment, but records them

through CCTV surveillance.

Most forms of drone surveillance from December 2019 to present-day have been

documented through Twitter, as seen by Figure 4, 5, 6, and 7. I consider these forms of citizen

journalism as sousveillance. Mann expands on its definition: "One way to challenge and problematize both surveillance and our acquiescence to it is to resituate these technologies of control on individuals, offering panoptic technologies to help them observe those in authority. We call this inverse panopticon *sousveillance*, from the French words *sous* (below) and *veiller* (to watch)". Sousveillance, as defined by Mann, can be a "form of tactical media activism", along with a proven mode of resistance. Sousveillance allows for the gaze, backed by regimes of power and control, to be turned back in order to surveil those in authority. The acts of sousveillance by protesters through tweets allowed for the IFF to identify that police departments were using a specific brand of drone -- the DJI Phantom -- which is against the law as defined by the Aircraft Act of 1934 and the Aircraft Rules of 1937. Ultimately, these acts of sousveillance helped the IFF write to the Office of the Director General of Civil Aviation demanding urgent action.

Figure 4: Drone spotted in New Delhi on December 27th, 2019 by Twitter user @kruttikasusarla.

Figure 5: Documented usage of the DJI Phantom drone by the Delhi Police by Twitter account @ZeeNews.
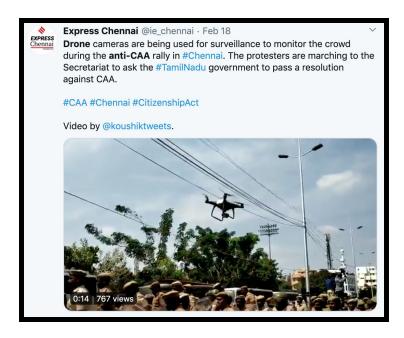
Figure 6: Drone surveillance used in Chennai during a protest of 20,000 on February 18th, 2020, captured by Twitter user @ie_chennai.

Figure 7: Drone surveillance used outside the Jama Masjid in New Delhi on December 20th captured by Twitter user @zafarabbaszaidi.

b. *Social mobilization against Aadhaar:*

Since the introduction of Aadhaar, there have been protests, petitions, court appeals, and

more forms of direct action to oppose the coercive and biopolitical mechanisms of Aadhaar that

impact the most marginalized people. Although there have been several challenges to Aadhaar,

in 2018, the Indian Supreme Court upheld the use of Aadhaar. In 2017, however, the Supreme

Court ruled that citizens have a fundamental right to privacy, despite the BJP arguing that

privacy is not, in fact, an inalienable right. Despite these legal contestations, Aadhaar continues

to materially and detrimentally impact the most marginalized Indians. The Right to Food

Campaign (RFC), a movement started in 2001, is an "informal network of organizations and

individuals across local and national levels, which targets the state for entitlement to food."

Understandably, Aadhaar has been the target of their activism, given that the state has made it

increasingly mandatory to have an Aadhaar card in order to avail of social welfare benefits,

which has resulted in several hunger-related deaths.

In the southern state of Karnataka, RFC organized protests amongst families of the "rural

and urban poor" in 2017 (Bansal). The families described how they have been deprived of access

to ration food grains because of a variety of reasons: they have enrolled but have not received

their Aadhaar details, the inability to link Aadhaar up with specific government systems, and

Aadhaar fingerprint-reading machines failing to recognize the worn-down fingerprints of

laborers and the elderly, as talking about in Chapter 3. Karnataka spokesperson Neeliah of RFC

said: "Aadhaar has become a tool in the hands of the state to exclude people from accessing even

basic entitlements and services," he said. "Despite repeated court orders, Aadhaar has been

linked to every aspect of people's lives from school admissions, scholarships, insurance policies,

to open Bank Account, Provident Fund, LPG cooking gas, to even assistance for Tuberculosis, and HIV drugs, disaster relief, and death certificates." During these protests, several groups such as Jagruta Mahila Okkuta, Bandhu, GRAKUS, Navajeevan Mahila Okkuta, Jagrut Mahila Sanghatan, Bharatiya Muslim Mahila Andolan, Slum Jan Andolana Karnataka, Milana, and PUCL Karnataka came together to submit a memorandum to the Karnataka Chief Minister in Bangalore. During this action, RFC launched a state-level signature campaign to "de-link" Aadhaar from all social security programs in conjunction with the group Rethink Aadhaar (Bansal). On September 18th, RFC Karnataka organized a protest called "Museum of the Aadhaar Abused, Fossilised Citizenship", at the town hall in Bengaluru: "Affected people from Chintamani, Belgaum, Chennapatna, and Bangalore posed as museum exhibits holding plaques narrating their stories." This included stories of affected people such as Nagalakshmi, a woman living with HIV and AIDS. As Nagalakshmi recites: "Antiretroviral treatment is our lifeline but today we need to link Aadhaar to avail of this facility! I did not want to reveal my HIV status but Aadhaar is going against my right. I oppose Aadhaar as it intrudes into my privacy" (Bansal).

In Jharkhand, a protest was staged on July 13th in 2018 at Jharkhand Bhavan by RFC to protest against Aadhaar-based biometric authentication (ABBA) due to the deaths by starvation due to being denied food rations for not having an Aadhaar card after the public distribution system made it mandatory. The Campaign submitted a memorandum to the resident commissioner which outlined the issues in relation to the Public Distribution System in Jharkhand and highlighting the "lack of government action on growing attacks on the right to life in Jharkhand", ultimately demanding the delinking of Aadhaar from all public services. The

memorandum noted that over the past two years, 13 people had died from hunger due to

Aadhaar-related failures (Bhatnagar).

In January of 2018, several different organizations, such as RFC, Rethink Aadhaar,

AISA, and Satark Nagrik Sangathan organized a "Month of Action Against Aadhaar", with

protests being held in Delhi, Mumbai, Bangalore, Jharkhand, and Bihar. Several people spoke

about how the failure of Aadhaar has personally impacted their lives, ranging from the machine

not being able to recognize fingerprints, children being unable to be added to ration cards, and

the lack of pensions for the elderly. Together, they said: "We stand together and say NO2UID,

no to surveillance, no to starvation deaths, no to tech failures, no to human rights violations, and

no to the coercive UID system" ("January 12").

Social mobilization and direct action have also carried on into 2019. In February of 2019,

workers from the MNREGA Mazdoor Union and Mahila Chetna Samiti Sangathan protested in

Varanasi as they were denied rations due to their fingerprints not being recognized by the

biometric scanners. Their demands included de-linking Aadhaar from systems of food ration and

education systems -- due to both their fingerprints not being recognized and long distances of

two to five kilometers required to walk to the systems to enroll in Aadhaar ("Hundreds of

Labourers"). In March of 2019, hundreds of Adivasi farmers of several villages in Jharkhand

protested against the denial of ration, the use of Aadhaar, and the consistent irregularities in the

Public Distribution System. Similar to other protests before, the demands set forth include

un-linking Aadhaar from the Public Distribution System and making Aadhaar non-mandatory

("Hundreds of Adivasi Farmers").

It is important to highlight the grassroots organizations who are doing anti-surveillance work on the ground. This includes The Internet Democracy Project (IDP) is an organization headed by Dr. Anja Kovacs, who undertakes research and advocacy currently focusing on data governance, surveillance and cybersecurity, and freedom of expression through a gendered lens. IDP recently launched the website *Gendering Surveillance* (Kovacs)*,* a set of six essays that uncover field research about the ways in which surveillance in India enacts gendered violence, through the mobile bans in northern India, the mass proliferation of CCTV cameras in garment factories where the workers are majority women, along with examining the rising popularity of safety apps for women, and how they reinforce the same patriarchal surveillance structures they seek to work against. IDP also holds workshops centering a variety of pertinent topics, including I*magining a Feminist Future*, *Workshop with Mahila Samakhya*, Workshop with *FAT (Feminist Approach to Technology)*, and a *Gendering Surveillance Workshop*. The campaign Rethink Aadhaar was formed following the 2016 Aadhaar Act, and seeks to educate people about what their rights are and includes testament from people impacted negatively by Aadhaar. They also seek to educate through posters that bust the myths spread by the government about the benefits of Aadhaar. The Internet Freedom Foundation (IFF) is non-profit organization based in New Delhi that focuses on advocacy around digital rights, liberties, and surveillance. They regularly file petitions (such as those mentioned in Chapter Five regarding illegal drone usage) and undertake advocacy campaigns to defend online freedom, privacy, net neutrality, and innovation (Internet Freedom Foundation).

c.   *Towards the obsolescence of surveillance:*

The most prominent critics of Aadhaar advocate for its destruction, as they recognize how pernicious its core is. As Usha Ramanathan, senior advocate, human rights activist, and lawyer says: "But many critics of Aadhaar insist that, in light of all the risks, the only safe way forward is to dismantle the Aadhaar system completely. The UIDAI database "contains all manner of things, all manner of information about people. It makes people very vulnerable, not only to breaks into the database per se, but also because of various kinds of links that have been established through seeding it in different databases. The database plainly has to go" ("Dr. Usha Ramanathan"). How do we work towards a larger praxis of abolishing surveillance?

Surveillance and surveillance societies advance the neoliberal logics of competition and individualism in which our actions are predetermined by the assumption that we function through a zero-sum game. Capitalism completely breaks down systems of trust and cultivates the notion that everyone is acting through selfishness. As Fuchs says, "surveillance operates with threats and fear; it is a form of psychological and structural violence that can turn into physical violence (Fuchs 123)." Toshimaru Ogura, political-economy professor at Toyama University in Japan, says that surveillance necessarily requires the modern capitalist society to be upheld with the intention to "mobilize each individual as labor-power and to integrate various subject identities into a national identity." Thus, capitalist surveillance states are "rooted in a deep skepticism of humans" with a "machine fetishism at the core of its worldview". This assumption lies in the fact that "human beings lie at the root of uncertainty, that machines are without error" (275). Having a negative concept of surveillance, therefore, makes "political demands for participatory, co-operative, and dominationless society that is not only a society where

co-operative modes of production and ownership replace classes and the exploitation of

surplus-value, but also a society where care and solidarity...substitute surveillance" (Fuchs 114).

Fuchs urges us to question the notion that "domination is a universal characteristic of all

societies and all social systems." Socialism lies at the heart of anti-surveillance, as it necessarily

implies the destruction of the surveillance state as we cultivate systems of solidarity and

sympathy.

Epilogue: Surveillance in the Time of COVID-19

Still in the midst of mass protests against the CAA, NPR, and NRC, along with an actively genocidal pogrom against Muslims, COVID-19 started making inroads amongst residents in India. Although the first case was reported on January 30th, the government was convinced that they were only individual cases and that local transmission was not taking place. Since then, the number of cases has grown exponentially. On March 24th, Prime Minister Narendra Modi ordered a nationwide lockdown on 1.3 billion people in the country, which had deeply violent implications for migrant workers. As Brinda Karat notes, "this huge army of India's labour force was reduced to becoming objects of suspicion, considered as burdens, in many cases beaten into submission for trying to get home, herded into camps, treated as less than humans, let alone as equal citizens" (Karat). Under neoliberalism and Hindutva, the BJP has the blood of thousands of marginalized people on their hands. As discussed in this thesis, these forms of violence, seen through growing regimes of surveillance have only become more visible during this pandemic.

On April 2nd, 2020, the Indian government officially launched Aarogya Setu, a mobile application in response to the COVID-19 pandemic. Aarogya Setu tracks real-time movements of citizens to determine if they have been in proximity to COVID-19 patients. In an official address to the country, Prime Minister Narendra Modi urged every Indian resident to download the app. As of April 24th, 2020, the app had over 75 million downloads (Dua). In a similar fashion to the biometric assemblage discussed above, Aarogya Setu creates a similar assemblage by cultivating a *social graph* of a user by tracking everyone they have been close to and combines this information with existing government databases (Joshi and Kak). When a person

registers for Aarogya Setu they are required to upload their name, phone number, age, sex, profession, travel history, and smoking history (Vaidyanathan). On May 2nd, 2020, the Union Home Ministry made it necessary for private-sector employees, government employees, and people within a containment zone to download the app.

Though Aarogya Setu does not specifically use biometric surveillance (as opposed to other forms of surveillance), the framework of the app as a surveillant assemblage holds many parallels to Aadhaar as a biometric assemblage. While Aadhaar was propagated by the government as a system that categorically helped the poor, Aarogya Setu is similarly advertised as a necessary submission of your private geolocational information to the government for the greater good of defeating the pandemic. While activists have raised major privacy concerns about the app, there is an even more paradoxical point at play: how can a government make a smartphone application mandatory when only about 500 million people among India's 1.3 billion have smartphones? As Kalyani Menon Sen says, "The ability to maintain 360-degree surveillance is essential to sustain the image of the state as an all-seeing, all-knowing, all-powerful protector of the good and scourge of the less-than-good citizen". While the news regarding Aarogya Setu is rapidly developing and changing every day, it is clear that the Indian nation-state has championed the coercion of surveillance, under the justification of protecting the violence of the nation-state.

This thesis does not even begin to cover all those who have had their livelihood, autonomy, dignity, and well-being snatched away by the pernicious regimes of surveillance. I only provide a few case studies of many millions. It is my hope that as we continue to battle this pandemic, we simultaneously battle the many ills of capitalism and fascism it exposes.

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