THE UNIVERSITY OF CHICAGO

SCIENCES OF SÃO PAULO: UNIVERSAL HEALTH AND LOGISTICAL REASON FROM A BRAZILIAN METROPOLIS

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For Joe, Clare, Meghan, Sara, Conor and Alyson
– who won't read the whole thing, but will notice I used a lot of big words

For Aunt Eileen – for actually asking to read it, among other reasons

E para Irene – amigão, agitadora, xuxu

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LIST OF ABBREVIATIONS

ABRASCO / Abrasco	Brazilian Association of Collective Health
APSP	Paulista Association of Public Health
BRG	Beta Research Group
CMS	Municipal Health Council
CNS	National Health Council *or* National Health Card
COSEMS-SP	São Paulo Commission of Municipal Health Secretaries
CPF	Physical Persons Registration
CPI	Commission of Parliamentary Inquiry
HIT	Health Information Technology
OS	Social Organization (non-governmental, for- or non-profit)
NIR	Internal Regulation Center (intra-hospital management)
PMDB	Brazilian Democratic Movement Party
PSDB	Brazilian Social Democracy Party
PT	Workers' Party
RMSP	Metropolitan Region of São Paulo
SMS	Municipal Secretary of Health (for any given Brazilian municipality)
SP	São Paulo
SUS	Unified Health System
USP	University of São Paulo
USP-FSP	University of São Paulo School of Public Health
UTI	Intensive Care Unit (ICU)

TRANSLATION, ORTHOGRAPHY AND TERMINOLOGY

Translation:

All translations from Portuguese are my own. This includes Portuguese encountered in speech, academic texts and periodicals, all of which I quote throughout the dissertation. When relevant, I include footnotes to clarify or contextualize particularly thorny translations. Any errors are my own.

Orthography:

Italics are used occasionally throughout the text, either to reflect emphasis (whether mine or that of my interlocutors' speech) or to introduce a Portuguese term for the first time. Italicized Portuguese will sometimes appear in brackets inside translated portions of speech or writing to make explicit the original word used by an interlocutor. On occasion, for interested readers, I use footnotes to further explore ambiguities in the translation process.

Terminology:

I wish to define a few terms of art that I use throughout the text.

Paulista / Paulistano:

These terms refer, respectively, to residents of São Paulo State and São Paulo city proper. They also operate as adjectives describing other objects in the same fashion ("of São Paulo"). For the sake of simplicity before an English-speaking audience, I use the two terms interchangeably to refer to persons and things from RMSP at-large.

RMSP:

RMSP is the acronym that stands for Metropolitan Region of São Paulo. I use this in lieu of "Greater São Paulo". RMSP is a formally designated region that consists in 39 municipalities, including São Paulo proper.

Sanitarista:

In Brazil, historically, a "medical sanitarista" is a doctor who is trained specifically to attend to needy populations, often in rural areas that have been historically subject to mosquito-borne epidemics of malaria, yellow fever, and so on (see: Stepan 1976; Hochman 1998; Silva 2014). In this dissertation, I will be using "sanitarista" more broadly to refer to activists who participated in the "health movement", whether or not they were medical doctors. Many of my interlocutors had graduate-level training in law, epidemiology, sociology, and so on, and participated in public health research, but were not technically sanitaristas because they were not doctors. Rather than work with a clunky catch-all like "public health researchers", I use *sanitarista* as a term of art to refer to this discrete class of multi-professional activists and researchers. Given that these researchers all saw themselves as scientists working in the field of "collective health", I will also occasionally make a nod to them as "collective health

scientists". I will use the qualified term "*medical* sanitarista" only to refer to individuals who were actually medical doctors.

User:

Patients in the healthcare system were often referred to generically as "users" (*usuarios*). They were also referred to as "patients", but – among the activists and administrators with whom I spent time – normally someone who "uses healthcare" was simply called a "user". This term could also be applied to people who were "dependent" on the public healthcare system (as opposed to those who could afford private insurance plans), such that identifying as a user could also mean identifying as a "SUS dependent" (*dependente do SUS*). Sanitaristas considered such monikers deeply problematic. They often went out of their ways to point out that all Brazilians were "users" of SUS in some way or another. In any case, I follow the local norms and will often refer to users rather than patients.

ACKNOWLEDGEMENTS

Although my name is the only one on the title page of this dissertation, it almost goes without saying that this ethnography would not have been possible without the generosity, companionship and intellectual insights of many different people. I thank a few of them here.

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At the Center for Health Law Studies (Cepedisa), also at USP, I found an unexpected home from which to base myself during my days at the Faculdade de Saúde Pública. Sueli Dallari was an incomparable source of encouragement and intellectual firepower as I developed my fieldwork — it

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ABSTRACT

This dissertation is an ethnography of the social as it is imagined, constructed and critiqued by public healthcare professionals in the Metropolitan Region of São Paulo (RMSP), Brazil. These professionals are the builders and operators of the world's largest universal healthcare system, the Unified Health System, known by the acronym "SUS". Set in the metropolitan context of RMSP, and the democratic context of post-1985 Brazil, this ethnography is a meditation on the reasoning practices through which healthcare professionals construct the social by grappling with the material challenges of producing healthcare access in Brazil's largest and wealthiest metropolis. Ultimately, I argue that my interlocutors' visions of the social are "logistified" and that they are logistified in particular ways. Across four problems – one per chapter – the dissertation traces the ways that health figures as a field for the co-production of social orders through the assertion of logistical objects, techniques and qualities. Material ephemera like files, patients and pharmaceuticals are expected to "flow" according to mediating logistical frameworks that are always changing. Through what I call "logistical reason", my interlocutors enact and critique such frameworks by attaching value to particular qualia of mobility, scale and order (*padrão*, *organização*). I take these enactments, in turn, to demonstrate local grammars of logistical aspiration and commonsense.

This ethnography poses the logistical as an analytic question rather than a premise or conclusion. It attends to moments and spaces in which professionals think with material ephemera to instantiate the social in logistified forms. Through attention to speech, embodiment, materiality and imagination, I show that logistical reason is not a reductive mindset but rather an active, fertile disposition. Radical activists and conservative policymakers alike "experiment" and "innovate" through logistical reason to produce ever-reforming arrangements of health and the social in RMSP. By examining these "experiments", *Sciences of São Paulo* "reassembles" the social ontology upon which reason, science and politics rely in contemporary RMSP. Highlighting my interlocutors'

imaginative engagements with mobility, scale and order, I put forth an interpretation of health logistics that is rooted in very fine social dimensions that are only visible to ethnography. The resulting analysis is designed to contribute to an anthropology of contemporary governmentality as well as – I hope – to the ongoing conversations of my interlocutors in Brazil.

The dissertation is based on ethnographic material developed over the course of two years in RMSP (2016-18), during which time I took graduate classes in public health; participated in conferences, protests, and workshop discussions organized by activists and academics; met with a range of experts in health law, finance, informatics and policy; and conducted fieldwork in the primary care network of Terraville, a municipality outside of São Paulo proper. The resulting ethnography is divided into two parts with two chapters each. Part 1 explores the sciences of "collective health" – the Brazilian offshoot of "Latin American social medicine" – in RMSP. This first half of the dissertation engages with activist-scientists known as "sanitaristas" as they interrogated the mixed success of several universal health technologies. In Part 2, I turn to spaces of administration and policymaking in São Paulo and Terraville to explore how logistical reason was enacted in the everyday work of non-activist professionals. Across the four chapters, I document the ways that different professionals enacted logistical reason in engagements with a range of technologies, some of which were not read as logistical per se. Throughout, I make the technologies secondary to a focus on my human interlocutors, foregrounding the latter as the inventors of logistical milieus.

Keywords: universal health, logistics, democracy, science, reason, politics, scale, collective health, São Paulo, Brazil

INTRODUCTION

'Make it function'

On a Thursday afternoon in February 2017, leftist health activists held a lively political demonstration on a narrow one-way street outside the Municipal Secretary of Health (SMS) in São Paulo. Somewhere inside the nondescript 10-story building — which protesters were barred from entering — the monthly meeting of the Municipal Health Council (CMS) was underway. Since the founding of Brazil's Unified Health System (SUS, *Sistema Único de Saúde*) in 1990, every municipality in the country enjoyed a citizen-directed CMS. Each council was composed of a precise mix of at-large citizens (50%), Secretary of Health employees (25%) and administrative higher-ups (25%), and was chaired by one of the at-large citizens. Monthly meetings served as an opportunity to publicly debate the merits of specific policies, proposals and practices of the municipal government, as well as to give municipal residents a forum in which to air specific ideas and grievances. By design, CMSs were thus intended to operate as democratic technologies of "citizen control" (*controle social*) wherein citizens would be able to exert direct control on the administration of local public healthcare. Normally, meetings were open to attendance by any and all municipal residents; on this particular day, ostensibly due to space constraints inside the SMS, access was limited.

In the street outside, activists – who I characterize as "sanitaristas" because of their close association with the health movement spearheaded by professionals so-named in the 1970s[1] – had gathered primarily in response to a proposal, floated by Dr. Wilson Pollara, the new Secretary of

[1] Please see "Translation, Orthography and Terminology" (page vii). Throughout the dissertation, I will use "sanitarista" to refer to the broad class of activists, healthcare professionals and researchers who were engaged in either the health movement broadly (*movimento sanitário*) or the science of collective health (*saúde coletiva*) specifically. My use is more expansive than on the ground in Brazil, wherein a "sanitarista doctor" is specifically a certain kind of physician. The medical distinction is not relevant for my purposes and hence I use the term to refer to all participants in the movement, who shared broadly similar leftist politics.

Health, to close the city's public pharmacies and distribute pharmaceuticals to SUS patients through networks of private pharmacies. "We don't want to deliver medicine through the UBSs," he told the Estado de São Paulo newspaper, using the acronym for Basic Health Units, the public clinics that served citizens in their home neighborhoods (also referred to as *postos de saúde*, "health posts").[2] "That logistics doesn't work, it's very difficult." Pollara did not have to publicly explain what was so difficult, technically speaking, about public logistics. Rather, because everybody knew that medication shortages were routine in the public pharmacies, it was quite plausible to simply declare that the "logistics doesn't work". Pollara was working with something of a mandate on behalf of the new Mayor, João Doria (PSDB), a conservative businessman who had taken office on January 1 after a resounding electoral defeat of leftist incumbent Fernando Haddad (PT) in October 2016. Like Doria, Pollara framed his politics as pragmatic and non-ideological. "Today, what we have doesn't function. Medicine is in the [private] pharmacy. Our business is to offer treatment, health." To do away with public pharmacies, the Secretary reasoned, would better serve the public and its health.

The 200 or so protesters who had gathered outside the SMS reasoned differently. Many of them were pharmacists who worked in municipal UBSs. Unions representing pharmacists at both state and municipal levels were present, speaking into a microphone about "the defense of SUS" and waving union flags and banners. Dozens of people carried homemade signs. Some of these offered familiar slogans like "Health is not a commodity" (*Saude não é mercadoria*) and "Not one less right!" (*Nenhum direito a menos!*), but others were inspired more uniquely by the situation at hand, pushing back on Pollara's logic by demanding, "Supply [the pharmacies] so they function!" (*Abastece que*

[2] Ferraz, Adriana. "Gestão Doria quer distribuir remédio a paciente do SUS em farmácia particular". *Estado de São Paulo* (newspaper). January 6, 2017.
See also: Cambricoli, Fabiana. "Farmácias de postos de saúde serão fechados após parceria com redes de drogaria". *Estado de São Paulo* (newspaper). January 31, 2017.

funciona!) and "Pharmacy in the [UBS] *does* work!" (*Farmácia no posto da certo sim!*). Refusing the Secretary's claim that public logistics was simply too difficult, activists put the onus on Pollara — who was inside at the CMS — to *make the pharmacies function*. At stake were not only the jobs of public pharmacists (who would supposedly be reassigned inside municipal healthcare), but also the material shape and ethical substance of the largest universal municipal healthcare system in the world. "The place of the people's medicine is in the [UBS]!" read another sign (*Lugar do medicamento do povo é no posto!*). For the activists in the street that day, to close the public pharmacies and funnel public goods through private networks was another step toward the slow "dismantling" (*desmontar*) of SUS.

Figure 1: Health is not a commodity! Photo by author.

While I was in the street with the pro-SUS activists, my friend Isabel was inside at the CMS meeting. In fact, I did not know anyone at the demonstration and had only been alerted to it a few hours earlier by Isabel. A lawyer and diabetes activist, Isabel and I had met a few months prior in a graduate class at the University of São Paulo School of Public Health (USP-FSP). Isabel was a sharp thinker with an inexhaustible drive to make universal health work in São Paulo. She had managed to get into the CMS meeting by arriving early and tagging along with a friend who worked in the SMS. Her objective was to exercise her rights by making one suggestion and demanding one answer — the latter regarding the cause of an ongoing shortage in diabetes treatment kits at public pharmacies. "My question was to know: what is the problem? [Pollara] told me what the problem was." But Isabel was not satisfied with the answer. The next day, sitting at a sidewalk table at a little cafe-bar (*lanchonete*) near USP-FSP in the evening, she explained her exchange with Pollara to me over a few liters of Heineken.

Figure 2: "Stock it so it functions #GetYourHandsOffMyMedicine. NO to going backward." Photo by author.

* * *

"I went to the CMS as a diabetes radical," Isabel laughed, using the common term *militante* to refer to her radical activism. "I went to ask what was going on with the shortage." The two of us sat across from one another on the sidewalk while Isabel lit a cigarette and began to unfurl her interpretation of the shortage. Of course, she knew that too much smoking and drinking could complicate her diabetes, but, as she would tell me many times over the years to come, she intended to enjoy her life. Isabel was constantly monitoring her blood sugar levels and she carefully avoided problematic "carbohydrate bombs", as she described sugary foods. But she liked to smoke and she liked to drink. I could relate. She had been diagnosed with type-1 diabetes as a child and, now in her 30s, was just beginning her Master's in Public Health at USP-FSP. Already trained as a lawyer, Isabel described her activism as a kind of Janus-faced vocation. "I criticize SUS," she told me, "but I love SUS." To be what was called a "SUS defender" or "SUS *militante*" was not to blindly support a public status quo, but rather to defend the principle of universal public healthcare while at the same time rigorously interrogating the system through which it was realized. For people like Isabel, SUS was not a "done deal" but rather an object of ongoing cultivation and critique.

Since 2006, Isabel had been using a specific "diabetes kit" to manage her diabetes. Normally obtained at her local UBS, the kit included all the standard diabetes management tools: insulin, lancets (to prick the skin for blood), a meter (to measure blood sugar levels), medical tape and glucose tablets. It was not uncommon for the kits to be out-of-stock at her UBS. "There had always been erratic supply," Isabel told me as our waiter cracked open our first liter of beer. "Sometimes they have [the kit], sometimes they don't, but in that case [the shortage] tends to be brief. Sometimes they don't have it at one [UBS] but they'll have it in another." In December 2016, however, a more serious shortage had begun at the tail end of the Haddad administration. "There was a shortage in a few UBSs, and then since the beginning of January they don't have it *anywhere*. They do not have it in

a single UBS in São Paulo." Because temporary shortages were not uncommon, Isabel always had a backup supply of materials on-hand at home. She had slowly built up this backup stock over time, as almost all diabetes patients did, she explained. But by the end of January, the shortage was becoming unmanageable. And it had spread to other medicines and materials. "So then *everything* starts to be in shortage," she said. "But what is the problem? Beyond being in shortage, right?" she laughed. Isabel wanted to move beyond the symptom of the shortage itself and into the bureaucratic and logistical machineries which must have produced it. Put differently, Isabel knew that there was a logistical process at work and wanted to identify at what point therein was there a breakdown. "In addition to the shortage, the problem is that we don't know *why* it's in shortage. So they just tell you, 'Don't have it' [*Não tem*]." Isabel paused for emphasis. "There is no 'why'. You ask the worker, the director of the UBS, them too: they don't know. Nobody knows. The only information you get: don't have it, it didn't come in. So I went there [to the CMS] to ask the Secretary of Health: why are these diabetes treatments in shortage? And depending on the reason, then I will go and make demands on [*cobrar*] whoever [is responsible]." She ashed her cigarette on the tray between us.

Pollara told Isabel that there was a problem with the accuracy of the blood glucose meter. For reasons unknown, the private manufacturer had been unable to establish a reliable measurement and therefore could not ship the kits. "And that's what the Secretary said to me, he said, 'There was a problem because the second test [of a patient's glucose levels] contradicted the first. What do you want me to do?' He washed his hands of it." Isabel said that this was not an unprecedented problem and that the municipality needed to put out a new call for diabetes kits with proof of reliability. "It's not something that nobody knows how to do," she said, seeming to refer to both the manufacturer and the Secretary of Health. "It's administrative incompetence."

Isabel was politically active on social media and contributed intermittently to a few health-focused blogs. "I'm going to publish a text," she told me, "that will go something like this: 'The

blood glucose self-monitoring program: Secretary washes his hands and crucifies SUS users with diabetes'. Because that's what he's doing."

Logistical Utopias

Isabel and the pharmacy protesters made demands on the logistics of public healthcare through more and less formal democratic channels, respectively: the CMS meeting and the street. In tandem, they pressed Pollara to realize "function" without sacrificing the public infrastructures through which pharmaceuticals had been distributed to SUS patients since the system's founding in 1990.[3] In so doing, Isabel and the protesters demonstrated a kind of faith in both the promise of logistics and the mechanisms of democratic citizen control. By applying popular pressure on the Secretary, through the street and the CMS, these sanitaristas enacted normative interpretations of both "health" and "democracy" which relied on logistical imaginaries that I want to suggest were broadly *utopian*. That is, in asserting *make it function*, Isabel and the street protesters understood themselves to be articulating imaginaries of what public health logistics *could* and *should* do – if Pollara would only let go of his competing, private-centric imaginary. The Paulista technopolitics of health, I will argue in this dissertation, revolved in significant ways around these and other competing logistical utopias.[4]

[3] São Paulo's public municipal healthcare system is no stranger to private initiative. Many of its UBSs and hospitals are in fact managed by private consortiums known as OSs ("Social Organizations"). These institutions remain public (hence part of SUS) but their *management* is privatized. Along the same lines as their opposition to the pharmacy privatizations, sanitaristas generally oppose the outsized role played by OSs in Paulistano healthcare. Isabel, for example, found the OS that managed her local UBS to be opaque and unresponsive when she had complaints. She contrasted this with a particular type of democratic ideal in which all healthcare institutions should be transparent and responsive to popular pressure through mechanisms like the CMS.

[4] Since Thomas More coined the idea in the 16th-century, utopia has of course been associated with myriad plans for the betterment of society, and has given way to counter-concepts like dystopia and Foucault's (1986) "heterotopia". Sanitaristas occasionally reflected explicitly on whether they were reaching for utopia, and whether this was a good or bad thing, as I discuss in Chapter 2.

I did not begin my doctoral research in Brazil with the intent of studying health logistics. When I first came to São Paulo in 2013, I had come to ask questions of its commuter trains, buses and Metrô (subway) – its public transportation infrastructure. Early in my doctoral career, I was interested in the technopolitics of mobility and infrastructure in metropolitan contexts, and São Paulo – the largest city in South America – was renowned among transportation nerds for its infrastructural complexity. Dozens of massive, multi-story depots combining bus, Metrô and train stations dotted the hilly landscape and were passed through by millions of busy bodies each day. New train stations and lines were constantly being built at the same time that the system seemed to buckle daily under the unending strain of high passenger demand.[5] The city enjoyed a sophisticated transportation infrastructure that was engineered by competent technical professionals – but the system was palpably and perpetually overwhelmed. The metropolis had far less subway rail than was typical for a city of its size,[6] for example, and its highways and city avenues were notoriously, chronically clogged. At the start of my doctorate, health was not on my mind. Rather, I thought I might inquire into the lived experience and lively technics of this dense transit-infrastructural thicket.

As it happened, the explosive political developments of June 2013 somewhat upstaged my plans and set the course of my eventual pivot from transportation to health. In São Paulo, on June 2, 2013, the fare for a single trip on public transit was raised 20-centavos (approximately $0.10 USD at the time) from R$3.00 to R$3.20. Prior to the scheduled increase, an activist collective known as the Free Fare Movement (*Movimento Passe Livre*, MPL) had called for then-Mayor Fernando Haddad (PT) to stop the increase and make public transportation free at the point of service. Haddad demurred and characterized MPL's demands as unreasonable (Vicino and Fahlberg 2017, 1006). In response,

[5] In their quirky exploration of airport culture and design, Fuller and Harley (2005) characterize mobility infrastructures as "metastable" in the sense that their "normal" status is to be under-construction.
[6] "Not yet Fit for a Metropolis". *The Economist*. March 31, 2012.

MPL organized a series of marches to protest and advocate for the transformation of transportation into an unqualified right akin to health, e.g. "the right of all and the duty of the state". On June 6, some 5,000 protesters blocked Paulista Avenue in central São Paulo. In subsequent days, MPL coordinated with sister chapters based in other cities to keep the momentum going. On June 13, 20,000 protesters took to the streets across at least 10 cities (Vicino and Fahlberg). In São Paulo, in an attempt to disrupt the rhythm of the growing demonstrations, police responded violently on the 13th, deploying tear gas and shooting rubber bullets in a chaotic scene that left 100 individuals (including journalists) seriously injured.[7] Disturbing images of the violence quickly ricocheted across news and social media in Brazil as June 13th became a turning-point. In the days that followed, the demonstrations boomed as millions of Brazilians flooded the street to demand not only free or better public transportation, but a whole range of material improvements to the public sphere. Anthropologist James Holston (2014, 889) lists a broad range of topical areas addressed by protesters' placards in the weeks that followed: "Transportation, infrastructure, health, education, housing, women-gay-indigenous-black-citizen rights, [political] corruption, political reform (parties, elections, congress), justice, security, environment, specific legislation, energy (nuclear, hydro, oil), and violence".[8] As political scientists Vicino and Fahlberg (2017, 1001) have observed, the foci of these protests were unusual in the history of Brazilian social movements: "Historically, such protests were aimed at removing a political regime such as the authoritarian military dictatorship that governed Brazil from 1964 to 1985, or a corrupt president such as Fernando de Collor de Mello in 1992. However, the June 2013 protests stand out in that they focused on issues facing everyday

[7] "Taking to the Streets". *The Economist*. June 22, 2013.

[8] In his book published several years prior, *Insurgent Citizenship*, Holston (2008) goes further in linking normative expectations of citizenship and rights to Paulistanos' material experiences of literally building their homes and neighborhoods. In conversation with Teresa Caldeira (2000), Holston's work makes a case for reading the material *topos* of the city as an important element in the cultivation of democratic subjectivity.

residents of the working and middle classes, and they highlighted endemic urban issues such as inequality and poor infrastructure." Among these foci, they note, were demands for "widespread reform to education, health care, transportation and other institutions". On June 20, the demonstrations peaked with some 2 million Brazilians protesting in cities nationwide. For the next several months, in São Paulo, thousands continued to march every few weeks.

I arrived in São Paulo on June 28, 2013, having booked my flight many weeks prior to what became known as the "Brazilian Spring" or "V for Vinegar Movement".[9] By the time I arrived, the protests were winding down, although activists continued to march down Paulista Avenue regularly, and I was able to join a thousands-strong Saturday march through downtown (*centro*) São Paulo. Notwithstanding having missed the initial explosion of protest activity, both I and the Brazilians I met that year were startled by the apparent congruence between my research interests and the topic du jour in Paulista public life. For months, with only peripheral awareness of the politics of transit fares, I had planned to inquire into the technopolitics of public transportation in São Paulo. By chance, this was what everyone was talking about when I arrived.

And yet I struggled to turn that luck into an anthropological question. The technopolitics of transit was red-hot in 2013 – but its underlying infrastructural problematic turned out to be uninspiringly straightforward, at least as it was explained to me by transportation experts. Good jobs were centralized within discrete clusters in the city; affordable housing was scattered and peripheral; and planners in earlier decades had not built out rail infrastructure at the pace that they should have, so now public transportation capacity was chronically overwhelmed. Popular anger extended beyond the cost of transportation and into the miserable embodied experience of perpetual traffic jams and

[9] Some protesters carried vinegar as a remedy to the effects of police tear gas and pepper spray, hence the nickname for the movement. "Brazilian Spring", in turn, is a riff on the "Arab Spring" of several years earlier.

"suffocating" buses and train cars.[10] In explaining this to me, locals routinely attributed the insufferable state of transportation to a "lack of planning" on the part of earlier generations of urban planners and politicians. This put a fine point on the original demands of MPL. Even if public transit were made free, it was thought likely to remain a miserable grind for all involved.

In subsequent years, I continued to observe the effervescence of the many different social movements that marched intermittently down Paulista Avenue (see Holston 2014, above, for an idea of these movements' topical foci). Still drawn to the energy that surrounded public technopolitics in São Paulo, I began to ask questions of metropolitan healthcare – one of the other major targets of protester demand back in 2013. Through conversations with public healthcare professionals and private clinic entrepreneurs in 2014 and 2015,[11] I quickly noticed – curiously, to me – that health professionals spoke about healthcare infrastructure in ways that rang familiar. The best hospitals were centralized in São Paulo; access to care was often mediated by daunting administrative hurdles and institutional "bottlenecks" (*gargalos*), inhibiting an efficacious "flow" of patients across the healthcare system; and while there were many public healthcare services available in São Paulo, this "supply" was perpetually strained by overwhelming metropolitan "demand". In other words, the challenges facing the healthcare system looked remarkably similar to the difficulties faced by transportation planners, and health patients were talked about in much the same idiom by health

[10] Batista Jr., João and Mauricio Xavier. "O valor do tarifa baixou, mas o sufoco é o mesmo". *Veja São Paulo* (news magazine). June 21, 2013.
"Taking to the Streets", *Economist*, 2013.

[11] São Paulo is home to a presently booming industry of private "popular clinics" (*clínicas populares*) which offer quick access to medium- and high-complexity medical services and specialties (e.g. dermatology, magnetic resonance imaging, etc.) on a relatively cheap pay-as-you-go basis. The cost is often around R$100 (about US$20 at writing in 2021) for a consultation. These clinics advertise themselves as offering affordable access to medical diagnoses, but *treatment* is often exceedingly expensive. Sanitaristas characterize these clinics as "parasitic" because they profit from weaknesses in the public healthcare system (e.g. long wait-times for access to specialists and diagnoses) without actually delivering medical treatment and hence "health". See Chapter 3 for similar critiques of a public healthcare reform introduced by Mayor Doria.

professionals as were transit passengers by transit engineers.

At the same time, in contrast to the rather dystopian hue of transportation politics, health politics retained a sense of utopian speculation. Even as the system often did not "function" in the ways that citizens like Isabel had come to expect, professionals and activists did not think that this was a structural inevitability. Unlike transportation professionals I spoke to, knowledgeable activists like Isabel and the pharmacy protesters felt confident that "this isn't something no one knows how to do". Moreover, this critical optimism was visible on both the political left and right. For Secretary Pollara, for example, private pharmacy logistics was well-poised to swoop in and resolve public medication shortages in short order. For Isabel, a simple breakdown in the public logistics could be rectified through competent technocratic management. Hence whether I was speaking to health movement radicals or entrepreneurs in the private sector, I heard professionals articulate self-consciously realist convictions that healthcare *could* and *should* be made to function through the implementation of proper policies, institutional structures and discrete modern technologies (especially information and communications technologies (ICTs); see Chapter 4, this dissertation).

This dissertation emerged out of the leads that I developed following these early observations. Episodes like the pharmacy protests came later but confirmed my suspicions about the symbolic materiality of logistics in Paulistano public life. In what follows, I inquire into *logistical health* as a field of social practice, utopian imagination and democratic technopolitical demand. How, why and with what effects does a logistical imaginary come to the fore as a utopian grammar of universal health and democracy in the 21st-century? Beginning in the early 2000s, anthropologist Julia Paley (2001, 2002, 2004) and others (Paley et al. 2008) argued that understanding contemporary democratic societies requires engagements with the "multiplicity" and "normativity" of competing democratic forms. In order to appreciate the meta-politics of democracy, one must stay attuned to "the temporality, agency, and processual nature of normativity" in contests over what kinds of forms

and concepts "count" as democratic (2008, 5). In Brazil, since the promulgation of its current Constitution in 1988, and as the June 2013 uprisings suggest, the meta-politics of democracy have been channeled significantly through the substance of social rights like the "right to health" (see below). In turn, I submit, health itself has become increasingly articulated through the multiplicity of what I call *logistical reason*, such that the politics of health – and democracy, by extension – revolve significantly around the meaning and materiality of logistical health.

Collective Health Logistics

Isabel's situation at the CMS underscored a conundrum for advocates of a robust universal healthcare system. On the one hand, she needed her diabetes kit. With the street demonstrators, she demanded that Pollara make the public logistics function. On the other hand, Isabel and her allies were loath to reduce healthcare to the mere delivery of medical interventions. Brazilian health activists in the 2010s were legatees of the broad "health movement" (*movimento sanitário*) that began mobilizing against Brazil's last military dictatorship (1964-85) in the 1970s and won the Constitutional right to health in 1988. Intellectually, the movement had been and continued to be backed by a multi-disciplinary "field of knowledge" known as "collective health" (*saúde coletiva*), which developed as a distinctively Brazilian offshoot of "Latin American social medicine" (Nunes 1994; Paim and Almeida Filho 1998; Galeano et al. 2011; Vieira da Silva and Pinell 2014).[12] Among

[12] Collective health and Latin American social medicine gained steam during a period (1970s) of intensifying critique of "medicalization" among social scientists and public intellectuals worldwide. Medicalization – a term which I discuss in more detail vis-à-vis my field sites later in the Introduction – can take on a variety of meanings but is generally used in contemporary politics to critique the "making medical" or "biologizing" of specific conditions pertaining to health, such that the social, cultural or historical dimensions of such conditions become less legible. Medicalization tends to "depoliticize" health by rendering it a question of ahistorical biological science, at the expense of interrogating the social determinants of disease (e.g. inequality). In the 1970s, Brazilian sanitaristas levied a series of sophisticated critiques against medicalization generally as well as the specific domestic institutions and structures that carried it out in Brazil (see Chapter 2, this

the core tenets of collective health is the conviction that health itself is a complex social process and that biomedical technologies are tools to be used selectively within that process. In other words, health should not be reduced to a question of access to pharmaceuticals or other clinical interventions. Achieving health, for activists like Isabel, entailed thoughtful engagements with complex social worlds. Yet she and the demonstrators had to make demands (*cobrar*) in such a way that they seemed to sidestep more nuanced advocacy and demand health in a markedly reduced formula: make the pharmacies function. A closer look at Isabel's tactics complicates this view, however. Isabel was privileged to press her case directly to the Secretary of Health himself. She refused attempts to black-box the public logistics and insisted on scrutinizing the material technicalities that had resulted in a disruption of the UBS supply of diabetes kits. By pressing forward with the question of "*why* doesn't it function?", Isabel enfolded Pollara's public logistics into the purview of the health movement, seeking to render it subject to an imaginative critical gaze. This move expanded upon the implicit place of logistics in the demand "make it function" – which itself performed a normative structure of technopolitical demand, commonly deployed by citizens in individual complaints at UBSs – and pointed to a specific technical domain through which citizens and sanitaristas ought to attach both critique and aspiration: the logistical. Over the course of this

dissertation). Outside of Brazil, figures like Ivan Illich, Irving Zola, Peter Conrad, Susan Sontag and Michel Foucault – among others – developed critiques of medicine as an "institution of social control" that increasingly displaced the functions of juridical systems, for example (Lock and Nguyen 2010, 67). In his scathing and widely read book, *Medical Nemesis*, Ivan Illich argued that modern biomedicine had created an epidemic of "iatrogenesis", or the production of disease *caused by* biomedical intervention. Works like these thus sought to create space for less biomedicine-centric ways of approaching illness and well-being. Collective health is a categorical Brazilian engagement with these critiques, seeking to conceive health beginning from robust but open-ended engagements with the ontology of "the collective". Like most other critics of medicalization, agents of collective health do not reject biomedicine but rather seek to moderate its dominance as "the" technology of health.

dissertation, I explore a range of such critical, aspirational and technoscientific engagements with this domain as predicated through the technopolitics of health.

In Brazil, health has been "the right of all, and the duty of the state" since the promulgation of the "Citizen's Constitution" in 1988 (so-called because it is packed with new "social rights" to which all citizens are entitled) (Brasil 1988). In Articles 196 to 200, the Constitution specifies the broad features of a national public healthcare system, stipulating that the system will be "decentralized" and subject to "social participation" at the municipal level. At the same time, Article 199 preserves space for private healthcare, stipulating that health will be "open to private initiative". Private healthcare services (including insurance plans) were to be regulated by the Ministry of Health for the first time in history as "supplemental health" (Reis et al. 2016). In the years since, the fairly broad provisions in the Constitution have been codified and modified repeatedly by acts of Congress, most famously Laws 8080 and 8142 in 1990, which established the public Unified Health System (known as SUS, *Sistema Único de Saúde*) in much greater regulatory detail. Legislation has been further supplemented by "ordinances" (*portarias*) and "norms" (*normas*) issued by the Ministry of Health itself, which significantly dictate health policy at the discretion of the Minister of Health. The respective "responsibilities" of Brazil's three levels of government — federal, state, municipal — have often been left somewhat ambiguous and open to interpretation, necessitating intermittent clarification in law over the years. Most notably, the financing of public healthcare has been codified extremely slowly, with different levels of government often disputing their obligations, much to the detriment of SUS itself (Mendes 2012). By international standards, and in the opinion of virtually all activists and health policy experts in Brazil, Brazilian public healthcare is deeply "underfunded" (*subfinanciado*). In a 2013 World Bank analysis that circulated as an intermittent reference among my interlocutors during fieldwork (see Reis et al.), total health spending in Brazil was found to amount to 9.7% of GDP — a proportion comparable to many "developed" countries. However, spending

on *public* healthcare was only 4.7% as proportion of GDP, a dismal share in comparison to other countries with universal healthcare, such as Canada (7.6%) and the United Kingdom (7.6%). "Private spending on health in Brazil represented 51.8% of total spending, more than half of which were for out-of-pocket expenses (primarily on medicine), contributing to the inequity in health funding in the extent to which access to service is conditioned by purchasing power" (Reis et al.).

For activists like Isabel, the presence of private or "commodified" health was a pernicious contradiction to the principle of health as a right. Health could not be *both* subject to private purchasing power *and* a right that could not be denied. As Andrea Ballestero (2015) has observed, commodity prices for necessities like water can function as technologies of "incitement and oppression", "tell[ing] families what they can and cannot afford". For Isabel, a right to health meant that there was no room for mechanisms, like price, that could function as barriers to healthcare access. However, for Brazilians less committed to a purely public vision, health could be both a right and a commodity without contradiction. As Rafael, a lawyer at a consulting firm explained it to me, these concepts could not be in contradiction because the Constitution itself defined them as existing together. The right and the commodity had to be interpreted beginning from the "ontology" of the Constitution, if you will, wherein private health was posited as a "complement" to the public system. From this perspective, one could not *both* assert the right to health on the basis of the Constitution *and* refuse the commodity dimension of health.

Ethnographically, one way to approach this situation would be to further probe and unpack the tensions between and within each of these schools of health thought. Such a study might examine the material and symbolic mechanisms through which "health" is produced and consumed as a commodity, at the same time that the study could juxtapose the cage of commodification with the utopian aspirations of sanitaristas. We might inquire into the meaning and efficacy of "the right to health" as against the lived experience of either inadequate public services or exclusionary health

"markets". Another approach, not necessarily exclusive of the former, would inquire specifically into the "medicalization" of the right to health (see Lock and Nguyen 2010, Chapter 3). This term, *medicalização*, was bandied about with great frequency by highly educated sanitaristas at USP-FSP, like Isabel, who felt consternation at the reduction of health to biomedical interventions. With João Biehl and Adriana Petryna (2013b), this latter path might explore how the "right to health" became the "right to pharmaceuticals", producing a complex subject position that these anthropologists call the "patient-citizen-consumer". This study would join a chorus of medical ethnographies that have interrogated the ever-changing configurations of medicine, capital and state power in the 21st-century (Auyero 2012; Biehl 2007; Brotherton 2012; Cooper 2019; Edmonds 2007; Edmonds and Sanabria 2014; Jain 2013; Livingston 2012; Stevenson 2014; Sunder Rajan 2017; Yates-Doer 2015).

This dissertation takes a different but complementary tack. It is structured through an engagement with the technologies and sciences — the technosciences, for short — that produce universal health as a field of logistical reason. In this approach, the guiding question is not *How does health become medicalized or commodified?* but rather *How does health become logistical?* In São Paulo, health was normatively understood by professionals, activists and "lay" citizens alike to be a system of nodes, objects, networks and "flows". Such systems were routinely subject to demands (*cobrar*) and complaints (*reclamar*, *queixas*), although the examples of Isabel and the pharmacy protesters were more spectacular than most instances. More typically, of course, demands and complaints were directed by individual irate citizens at mid-to-low-level administrative staff in municipal health offices or clinics, as I often observed during fieldwork in Terraville, a municipality adjacent to São Paulo proper. Like the pharmacy protesters, these citizens understood themselves to have rights to health and pressed individual administrators to make the system "function". This dissertation explores the social forms that were variously presumed upon, entailed, postulated and produced by such expectations. What were the effects of logistical commonsense in health? How did logistical

premises figure into the ways that citizens and healthcare professionals thought about the Brazilian social order itself? Through an exploration of what I am calling "logistical reason", this dissertation substantiates the growing sense that logistics has become not only the presumed-upon backbone of 21st-century healthcare, but also the basis of looser grammars through which citizenries think about the social itself. By extension, I detail the ways that "logistified" health — that is, health as rendered through the in/formal terms of logistical reason — increasingly figures as the semiotic terrain through which the politics of health are contested. Whereas an earlier moment in Latin American social medicine took aim at the limits of clinical biomedicine (especially the school of "preventive medicine", see Chapter 2, this dissertation), 21st-century health activism in Brazil has included a prominent interest in logistical problematics. For anthropology, this raises the question of *how* the legatees of radical social medicine have both critiqued and taken up logistical reason in pursuit of their goals. As Isabel's situation demonstrated, their interest was often ambivalent and uncertain, not rejecting logistics out of hand but rather confronting it as a critical terrain populated by different kinds of boxes — some "black" or opaque, others less so.[13] In this dissertation, I explore the work of activists, researchers and healthcare professionals as they went about cultivating competing expressions of logistical reason in encounters with the concrete puzzles and politics of universal healthcare. Taking the activist left's interest in logistics as a cue, this ethnography asks how logistical forms were taken up both within and without the formal circuits of universal healthcare, as presumed-upon frames through which health-focused actors made sense of the relations between health and society.

[13] Their activism thus recalls that described by Steven Epstein (1996) in his study of the ACT UP movement (AIDS Coalition to Unleash Power) in the U.S. in the 1980s and 90s. Epstein observes that activists were simultaneously critical of biomedical science and deeply invested in its progress. As activists pressured the biomedical establishment to reform its ethics in various ways, they in fact became fluent experts in the science themselves.

Coming to São Paulo

The Metropolitan Region of São Paulo (RMSP)[14] consists in 39 municipalities, including São Paulo proper, and is home to approximately 22 million people. São Paulo proper (12 million residents) is the largest municipality in Brazil and RMSP is among the top five megacities in the world by population (effectively tied for fourth/fifth with Mexico City). The city is also the capital of the State of São Paulo, which is the largest and wealthiest state per capita in Brazil (Luna & Klein 2018). In historiographies of Brazil, both São Paulo State and its capital are often set aside as "the Paulista exception", because the region's wealth and infrastructural development have distinguished it from the rest of the country since the turn of the 20th-century.[15] Fueled by booming coffee exports for much of the 19th-century, São Paulo transformed into Brazil's industrial heartland in the first decades of the 20th-century, famously being dubbed "the locomotive of Brazil" (now the state motto). Paulistas, as residents of the state are known, developed a chauvinist reputation during this period. Elites spent much of the 20th-century actively trying to distinguish São Paulo from the rest of the country in racial, cultural and socioeconomic terms (Weinstein 2016b). On the ground in São Paulo today, while the racial rhetoric of that earlier period is at least more subdued, it is still common for locals to characterize the city as an island of "industry" and "development" in a sea of relative disrepair. Within a healthcare context, such characterizations had specific technical significance. That is, in my experience as a foreign anthropologist, when public healthcare professionals impressed upon me that São Paulo was uniquely "developed" and that its healthcare

[14] *Região Metropolitana de São Paulo*.

[15] For example, both Hochman (1998) and Stepan (1976) discuss the history of public health sciences in Brazil in general but include special chapters focused on São Paulo as an exceptional case. More recently, Luna and Klein (2003, 2018) have written a two-volume economic history of São Paulo State that spans 1750-1950, making the argument that the state should be studied almost as if a nation-state (see 2018, Preface).

systems were uniquely "functional", the comments were not typically made in a spirit of derision toward other regions. Rather, my interlocutors were often keen to make sure that I understood the specificity of São Paulo and, as a corollary, that I be careful not to generalize about Brazil on this basis. As a Portuguese teacher of mine in Chicago once remarked to me, "São Paulo is not Brazil."

Comments like these were instructive for me insofar as they gave me opportunities to draw out from my interlocutors what São Paulo *was*, even if "Brazil" was what it *was not*. It was common to characterize São Paulo generically in terms of its wealth, size and complexity. "São Paulo is a country", I was told a few times, or the equivalent of "many cities" all added together. In a reference to the difficulty of navigating healthcare across public and private systems in the metropolis, I once heard a public health graduate student describe São Paulo as "a city of ten thousand doors". There were so many possible pathways to healthcare in the city that it was difficult for patients to know which door to knock on or how to move from one door to another. Like Secretary Pollara's observation that (to paraphrase), "the medicine is there", this student framed Paulista health as a problem of connecting individual people with healthcare that was, in fact, waiting to be used.

Phrases like these constituted attempts to communicate something about the specificity of the city and its healthcare through metaphors of scale.[16] But it was also very common in my conversations with healthcare professionals to hear São Paulo distinguished more literally in terms of its material infrastructure. City and state alike were set apart from the rest of Brazil by a "distinguished network of highways" and "good roads", one professional told me, as well as by the state's abundance of high-quality hospitals. Others commented that up-to-date biomedical technology was overwhelmingly concentrated in the city of São Paulo, and that when elites like former President Luiz Inácio Lula da Silva needed medical care, they came to São Paulo. In turn, in

[16] On the semiotics of scale, see Carr and Lempert 2016.

the context of a universal right to health, distinctions like these made São Paulo an appealing destination for any Brazilian who might be suffering from a complex health problem. "You have one oncologist in all of Amazonas," one doctor said to me, hyperbolically, referring to the large, less developed state in the Amazon region, "so what do you do [for cancer treatment]? You come to São Paulo."

Logistical Social

Ethnographers of Brazilian health have often examined scenes of profound scarcity and inequality, commonly exploring the right to health from rural margins that lack in sufficient healthcare infrastructure (Scheper-Hughes 1992; Biehl 2005, 2007; Jerome 2015). Based in infrastructure-rich São Paulo, in contrast, this dissertation is compelled to articulate the social politics of universal health by other analytical means. In São Paulo, to again paraphrase Pollara, "the medicine is there". Hence the technologies that I explore in this dissertation were modes of producing access to medicine — or to particular tokens thereof, as we will see — in contexts of density: densely concentrated healthcare infrastructures, populations and jurisdictions. This is not to say that the RMSP that I encountered was devoid of scarcity, inequality or infrastructural gaps – far from it. As I detail in Chapter 4 in particular, uneven healthcare capacities across the 39 municipalities of RMSP resulted in all kinds of inequalities in healthcare quality and access. My point, rather, is to acknowledge that the logic of scarcity – and its speculative resolution – that I examine in this dissertation is largely materially different from that scrutinized in the well-known oeuvres of anthropologists like João Biehl and Nancy Scheper-Hughes. My interlocutors in this ethnography grappled more with figures of "too much" (*demais*) than of "not enough". As such, they were typically less concerned with lack per se than with how to produce "health" by facilitating mass popular access to presumed-to-exist masses of discrete medical tokens like pharmaceuticals,

appointment slots and hospital beds. To greater and lesser degrees, this speculative production was enacted in the language of logistics. In turn, by tracing the practical contours of what I have called logistical reason, I seek to show that broader reflexive imaginaries of the social in São Paulo have become permeated by a kind of logistical commonsense.

Over the course of the dissertation, I explore how logistical reason facilitated the development of logistified social worlds or a "logistical social". Each chapter engages with logistified figures or qualities of the social, to wit: what I call "the super-crowd" (*superlotação*, Chapter 1),[17] the microsocial (Chapter 2), the zero-social (Chapter 3) and "exponentiality" (Chapter 4). Put differently, like the objects of "biomedical reason" that were being critiqued in the 1970s (see Note No. 12 above, page 13), I argue that each of these social figures was both "discovered" and produced by logistical reason, with the result that the social itself has been naturalized as a logistical kind of thing. My interpretation here agrees broadly with the arguments of scholars in the "practical ontology" school of Science and Technology Studies (STS), who have asserted from a variety of vantage points that ontological distinctions between knowledge and practice cannot be upheld (Jensen 2010; see also: Pickering 1995; Mol 2002; Jasanoff 2004, 2005; Latour 2005; Jensen and Rodje 2010; Escobar and Osterweil 2010). In other words, I submit that the material forms that I characterize as the "logistical social" were presupposed and hence produced and reproduced through the logistical reasoning and knowledge-making practices of my interlocutors. The dissertation aims to examine the content and contours of these reasoning practices as they figure into the politics of democratic universal health in São Paulo.

[17] Although I largely stick to the term "overcrowding", I occasionally use the term "super-crowd" as something of a riff on the Portuguese cognate, *superlotação* (literally super or over (*super*) crowding (*lotação*)). I take the super-crowd to be a naturalized quality of the Paulista social that is instantiated in individual episodes of overcrowding.

My approach adheres to that advocated by Stephen Collier and Aihwa Ong (2004, 15) in their work on "global assemblages", wherein they suggest that the task of contemporary anthropology is to "frame 'the present' in terms of specific trajectories of change". In the Paulista healthcare context, this means seeking out those moments of reflection and reasoning wherein professionals and activists constructed critiques of — or advocated interventions into — existing healthcare arrangements.[18] To different degrees in each chapter, I attend carefully to speech, embodiment, gesture and materiality, often through the lens of everyday engagements with "minor" technologies like doodles and computer mouses. In gathering together an ethnographic archive of these fine-grained practices, I again follow Collier and Ong, who promote the value of tracing "what Deleuze has called 'little lines of mutation', minor histories that address themselves to the 'big' questions of globalizations in a careful and limited manner" (2004, 15). While I do not address myself especially to "globalizations" (a frame that is perhaps indicative of the mid-2000s timeframe in which these anthropologists were writing), we can nonetheless read universal healthcare logistics as a global assemblage in Collier and Ong's sense. In this regard, the logistical social constitutes an "anthropological problem" in which "the forms and values of individual and collective existence are problematized or at stake, in the sense that they are subject to technological, political, and ethical reflection and intervention" (2004, 4). This anthropological problem has something to say in relation to "big questions" of 21st-century societies globally, as I highlight in each chapter.

Contexts

This dissertation is an ethnography of events that transpired primarily between 2016 and 2018, during the two-and-a-half-year presidency of Michel Temer. Temer took office in "acting"

[18] See also Collier's (2011) book *Post-Soviet Social* for a fascinating analogy in his approach to studying infrastructure across Soviet and post-Soviet eras in Russia.

capacity in May 2016, after the impeachment of President Dilma Rousseff by the Chamber of Deputies (lower house of Congress), and was sworn in permanently following Rousseff's removal by the Senate in August of that year.[19] For sanitaristas and others on the left, Rousseff's removal stoked memories of the military dictatorship that ruled Brazil from 1964 to 1985. In 2014, Rousseff had narrowly defeated Senator Aécio Neves to win a second term, marking the fourth straight presidential election won by the left-leaning Workers' Party (known as "the PT", *Partido dos Trabalhadores*). Rousseff's removal, and replacement by her more conservative Vice President, looked to sanitaristas like a "coup" reminiscent of the one that deposed leftist President João Goulart in 1964 — and they remarked as much, in almost every public forum I attended, throughout 2016 and 2017.[20]

[19] In April 2016, Congress' lower house, the Chamber of Deputies, voted to impeach President Dilma Rousseff for "crimes of responsibility". Rousseff stood accused of having orchestrated illegal fiscal maneuvers from 2012 to 2014, such that the federal budget surplus would appear larger than it really was. The charge was highly technical. But its proponents benefitted from the ways that it blurred with two unfolding dramas that were much more palpable. The first was an economic drama. Brazil had entered a severe recession in 2014. While there were multiple domestic and international factors that led to the recession, economists generally agreed that unforced errors in federal macroeconomic policy were the primary cause (Veloso & Bonelli 2016). The Rousseff administration thus bore the blame (Brooks and Prada 2016; Economist 2016). The other drama involved high political intrigue. This was the now-infamous Operation Car Wash scandal, known in Brazil as *Lava Jato*. Car Wash began as a Federal Police investigation into acute instances of money laundering but ballooned into a massive takedown of literally hundreds of Brazilian politicians and thousands of associates, leading to a doubling of the number of ankle monitors in use in Brazil, as white-collar defendants were confined to their homes (Whitefield 2017). The sprawling investigation focused primarily on embezzlement and pay-to-play schemes at the state-owned oil company Petrobras, at which Rousseff had been Chair of the Board of Directors from 2003 to 2010. While Rousseff herself was never directly accused by investigators, her image was tainted by the truly mammoth political drama. Crucially, the taint extended to former President Lula, whose other one-time Chief of Staff had been charged, and to the Workers' Party (PT) more broadly. Although officials from virtually all political parties had been implicated in the investigation (including Rousseff's opponent in the 2014 presidential election, Senator Aécio Neves), the PT brand had become closely associated with Operation Car Wash. By 2016, tied up in a recession, a corruption scandal and an impeachment, that brand turned markedly toxic.

[20] At the national level, Brazil's political system is known to function, in practice, as a mix of presidential and parliamentary democratic styles. Formally, the system is modeled on its U.S. counterpart, with three branches of government and two houses of Congress. Unlike the U.S.,

In the second chapter of the dissertation, I offer a more detailed engagement with both the emergence of the health movement in 1970s Brazil and the politics of public healthcare in 2016. In order for the reader to appreciate the significance of various concepts that we will encounter prior to and even after that point, however, I introduce here the basic outlines of the health movement, its history and the hard-right turn that Brazilian national politics took in 2016.

* * *

The first decade of Brazil's last military dictatorship, especially the period 1968-74, was marked by severe political repression, including media censorship, restrictions on freedom of speech, the suspension of *habeus corpus*, and the torture and exiling of leftist dissidents (Skidmore 2010). *Reforma Sanitária*, or the health reform movement, emerged in the context of the lessening of that repression under the presidency of moderate General Ernesto Geisel (1974-79). Reforma Sanitária was a broad, sophisticated movement that articulated a radical vision of health as the basis of a democratic society. Reformers, known as sanitaristas, believed that deep inequities in healthcare access were a consequence of a fundamentally stratified capitalist society. In the same vein, they argued that healthcare had become overly "biologized" and that existing remedies to this problem were fundamentally inadequate. In 1975, collective health began to emerge as a formal school in response to capitalist biomedicine. Two critical doctoral theses in "preventive medicine" went public that year, marking the dawn of the new science. Unlike capitalist biomedicine, collective health

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however, Brazilian democracy operates through shifting party coalitions, such that the party that holds the Presidency often has no large "natural" constituency in Congress. As in a parliamentary model, it is customary for different parties to strike formal alliances so as to establish governing legislative majorities. Similarly, in the executive branch, two-party presidential tickets and multi-party cabinets are normal. Cabinet posts are often used in horse-trading to shore up Congressional support. As for Rousseff in particular, she was Lula's hand-picked successor for the PT presidential ticket (she served as his Chief of Staff from 2005 to 2010) but her running mate was Michel Temer of the center-right Brazilian Democratic Movement (MDB). By impeaching Rousseff in 2016, therefore, the Congress was able to overthrow a popularly elected center-left President and replace her with her own markedly more conservative governing partner.

would be characterized by proactive engagements with social and historical conditions, and a commitment to radically open-ended approaches to conceiving "health" and "care". In the 1970s and 80s, sanitaristas fortified their movement and its science by establishing numerous political and academic organizations. All of these advocated for the return of democracy and the establishment of a universal healthcare system. Sanitaristas marched, launched academic journals, and built alliances with other social movements. After the end of the military dictatorship (1985), from 1986-88, sanitaristas were actively involved in the Constitutional Convention that formalized the right to health (Harris 2017). Finally, after years of mobilizing by the health movement, in 1990, Congress established the Unified Health System (SUS) through Laws 8080 and 8142.

For the long decade that followed, however, sanitaristas faced a federal executive branch that was "against the ideologies of SUS" and "neoliberal in character" (Reis et al. 2016). The administrations of Presidents Fernando Collor (1990-92), Itamar Franco (1992-94) and Fernando Henrique Cardoso (1995-2002) were all center-right, broadly neoliberal and averse to funding SUS at the levels that sanitaristas would have preferred. During this period, SUS was "under construction" in a big way. Unlike previous federal interventions into public health – wherein administrative control was centralized in the Ministry of Health – SUS was designed to be a "decentralized" system. In this new model, each of Brazil's 5,570 municipalities was to manage its own services. But for many municipalities, the capacity for such management had to be built from scratch. Thus sanitaristas from major centers like São Paulo traveled all over the country during this period to assist local authorities in "assembling" municipal healthcare systems. At the same time, sanitaristas clamored for better funding from the federal government and were largely ignored. Writing in 2012, economist Áquilas Mendes (2012) has thus characterized the history of SUS as a "double movement" wherein the system was developed through a tension between the "principle of the construction of universality" and the "principle of cost containment". "The two principles have

coexisted in permanent and contradictory form," wrote Mendes, "throughout the process of the development of SUS."

In 2002, Luiz Inácio Lula da Silva (known simply as "Lula") won that year's presidential election on the PT ticket. This was his fourth run for the presidency. As the first left-of-center candidate to take office since João Goulart, his election was met with jubilation by sanitaristas. Notwithstanding an intermittent series of corruption scandals, Lula served two terms and was succeeded by his one-time Chief of Staff and hand-picked successor, Dilma Rousseff.

The PT presidencies of Lula (2003-10) and Dilma Rousseff (2011-16) were seen by sanitaristas as broadly pro-Reforma Sanitaria. Private healthcare plans and public underfunding persisted relatively unchanged, but the Lula and Rousseff administrations at least attempted to expand and reinforce SUS through a variety of measures. This did relatively little to improve public perceptions of SUS, however, which had solidified into generalized skepticism after more than a decade of underfunding. Public polling showed that even the very popular Lula administration suffered its worst marks in relation to healthcare, specifically.[21] In 2016, sanitaristas' long-running malaise crystallized into a veritable crisis with the fall of the Rousseff government. For the first time since 1988, health politics stood at the precipice of a potential sea-change.

Upon taking office as Acting President in May 2016, Temer appointed then-Congressman Ricardo Barros (Progressive Party, PP) to serve as Minister of Health, a position which entailed oversight of both SUS and the private healthcare "subsystem". By training, Barros had no background whatsoever in health. He was a civil engineer who had previously served as Mayor of the southern city of Maringá. Sanitaristas read his appointment as yet another signal — this one intentionally directed to Senators who were weighing whether to remove Rousseff from office (Reis

[21] Leite, Marcelo. "Datafolha aponta saúde como principal problema dos brasileiros". *Folha de São Paulo* (newspaper). March 29, 2014.

et al. 2016). Barros was a fiscal hawk. Upon appointment, he immediately and infamously remarked that "the size of SUS needs to be revisited", suggesting that its universalist pretensions might need to be scaled back.[22] Barros harped on what he saw as inefficiencies in the system and later claimed that Brazil's 7,500 public hospitals were excessive, saying, "We could do everything with 1,500 hospitals".[23] He criticized "lack of management" — a common trope leveled against SUS (Reis et al. 2016) — and complained that one third of public ICU beds were devoted to palliative care patients.[24] A sanitarista I spoke to, who had himself worked for the Ministry of Health, told me that previous Ministers had sometimes done little to reinforce SUS, "but this is the first time we have had a Minister who wants *less* funding for his Ministry".

Further aggravating the emerging healthcare drama, in June 2016, the Temer administration authored a proposal for what became known variously as the "ceiling amendment" (*PEC do teto*), the "spending amendment" (*PEC dos gastos*) or PEC 241 or 55. This proposed amendment to the 1988 Constitution, abbreviated as "PEC", *Proposta de Emenda Constitutional*, would alter constitutional provisions relating to government spending on "social policy" areas, particularly health and education. In short, PEC 241 (as I will abbreviate it going forward) proposed to establish new kinds of limits on social spending, to last 20 years. Spending on health, for example, would be limited to the amount spent in the previous year plus inflation. If government revenues increased or if GDP were to grow, health spending would no longer be able to grow with it, as would normally be the case. Rather, spending would only increase at the rate of inflation, such that it would lag further and further behind GDP growth. Over time, health spending would dramatically shrink as a percentage

[22] Colluci, Claudia. "Tamanho do SUS precisa ser revisto, diz novo ministro da Saúde". *Folha de São Paulo* (newspaper). May 17, 2016.
[23] Furlan, Flávia. "Para o ministro da Saúde, há excess de hospitais no Brasil". *Revista Exame* (news magazine). September 21, 2017.
[24] Furlan, 2017.

of GDP. In laymen's terms, PEC 241 was designed to substantially disinvest in SUS for a period of 20 years. Brazil's public healthcare system was already seriously underfunded in comparison to other universal systems. If PEC 241 were passed by both houses of the National Congress, then Brazil would be heading toward draconian cuts to SUS.

* * *

In October 2016, PEC 241 was approved by 359 to 116 votes in the Chamber of Deputies.[25] Sanitaristas published editorials warning of the "dismantling", "end" and "death" of SUS (Reis et al. 2016; Conselho Nacional de Saude 2016; Mendes et al. 2016). In December, it passed in the Senate by 53 to 16 votes.[26] Shortly thereafter it entered into force of law as Amendment 95 to the 1988 Constitution.

Progress and Ambivalence

Since its founding in 1990, SUS has dramatically expanded healthcare access and has been credited with producing numerous measurable improvements in the health of the Brazilian population (Paim et al. 2011). Traditional public health indicators like infant mortality rates (IMR) have shown marked regional improvements that correlate with the introduction of public healthcare services, for example. More basically, the number of Brazilians who accessed primary care services increased 450% between 1981 and 2008 (Paim et al.) — indicating that SUS has enabled substantially broader access to primary care. Yet these and other gains have not generally engendered affection for SUS in the Brazilian population at-large. Public polling and social scientific investigation have consistently shown *both* that a majority of SUS users (77%) evaluate the public

[25] Calgaro, Fernando and Bernardo Caram. "Câmara aprova em segundo turno texto-base da PEC 241". *Globo* (periodical). October 25, 2016.
[26] Garcia, Gustavo and Bernardo Caram. "PEC do teto de gastos é aprovada em segundo turno no Senado e será promulgada". *Globo* (periodical). December 13, 2016.

system as "regular, good or excellent"[27] *and* that Brazilians rank health as one of the biggest problems in the country (Confederação Nacional da Industria 2017). In annual polls between 2014 and 2017, without fail, respondents selected health as what they thought should be the government's "first priority" (Confederação 2017.). "Although it has resulted in more access to health care, and an improvement in Brazilian health and quality of life indicators, especially when compared to the exclusive model in effect before 1988, [SUS] has been unable to generate confidence and social legitimacy in the Brazilian population, which points to health care as the country's main problem and strives for access to an idealized private health care model" (Reis et al. 2016).

Ambivalent engagements with SUS run throughout this dissertation. The scenes of logistical reason that I will describe can often be read as attempts to navigate such ambivalence and cultivate the material conditions of better public healthcare. For sanitaristas, universal health itself was seen to ride on the success or failure of such reasoning practices.

Structure of the Dissertation

The dissertation is divided into two parts with two chapters each, followed by an epilogue that reflects on the role of logistical reason in the Covid-19 crises that have roiled Brazilian healthcare since I left the field in 2018.

In **Part 1: Experiments**, I examine exemplary sites and practices in the para-ethnographic circuits of Paulista collective health. This half of the dissertation is invested in thinking with my sanitarista interlocutors as I encountered them at USP-FSP and in other locales. Most of these interlocutors, like Isabel, who was beginning her Master's in Public Health when we met, were deeply involved in both the production of collective health knowledge (hence the practice of

[27] Brunet, Daniel. "77% dos brasileiros aprovam o atendimento do SUS". *Globo* (periodical). July 3, 2018.

collective health science) and the "defense" of the public healthcare system. This first part of the dissertation explores the spaces in which sanitaristas reflected upon the knowledge and politics that they were producing. In turn, I show that sanitaristas used such spaces to circulate approaches to collective health that emphasized "experimental" reasoning practices, even as these were often interrupted or constrained by the pragmatic realities of Brazilian health politics.

Chapter 1: Logistical Poetics is based on 11 months of fieldwork conducted with a collaborative research group that I call "Beta Research Group" or "BRG". BRG was a team of sanitarista researchers engaged in a two-year qualitative study of two administrative interventions into public hospital administration. One intervention, known as Kanban, was adapted from just-in-time logistics (specifically "Toyotism" in Japan) in order to make "bed management" more efficient. The idea was to make better use of the hospital's scarce "supply" of beds and hence serve more patients. The other intervention, known as Manchester, was a method of triage first developed in England in the late 1990s and recently introduced in Brazil. Similarly, this intervention was designed to better manage the unpredictable flows of "spontaneous demand" in a public emergency hospital.

Each of these interventions had been introduced in the 2010s as part of an effort to deal with "overcrowding" (*superlotação*) in the hospital. For sanitaristas, overcrowding was considered an impediment to "access" – and hence a challenge to their ethical objectives – as well as a political black eye, as the population tended to generally interpret it as a sign of public healthcare dysfunction. BRG set out to study how these two interventions were going. In my ethnographic analysis of the group's biweekly meetings, during which they discussed emergent research findings, I explore the ways that researchers produced complex images of the hospital through a captivating speech poetics. Following Eduardo Viveiros de Castro (2003), I suggest that we read this poetics as an analytic performance of the "strategy of the 'and'" (see Chapter 1, page 43, this dissertation). In their meetings, researchers took turns offering insights and observations, using an "additive" turn-

taking structure to iteratively build up complex images of the hospital at each meeting. Through this poetics, I argue, BRG researchers created space for imaginative analytic engagements with the dry rationality of logistics and triage. In turn, researchers produced and explored images of hospital logistics that were unexpectedly enervating, evocative and – researchers surmised – somewhat emancipatory for hospital workers and patients alike.

In **Chapter 2: Microsocial Health Democracy**, I step back from the meetings of Beta Research Group and into the broader para-ethnographic world of Paulista collective health. This chapter explores the kinds of circuits in which researchers like those in BRG circulated when not conducting research. As a whole, the chapter lays out the stakes of universal healthcare politics as sanitaristas articulated them in a variety of public venues – publications, speeches, public roundtable discussions – in the 2010s. More finely, the chapter is divided into two parts. The first part details the emergence and history of collective health and what is called "health democracy" (*democracia sanitaria*) in more detail than I have done in this introductory chapter. This sets the stage to appreciate the specific shape of sanitaristas' responses to political developments in the 2010s. In the second half of the chapter, I focus on a series of roundtables put on by the Paulista Association of Public Health (APSP), an important civic institution established in 1973. Over the course of three public roundtables in late 2016, during which 12 different prominent sanitaristas convened to converse with one another and with audiences about the issues of the day, participants articulated a series of visions of the future of collective health and health democracy (which I ultimately collapse as "collective health democracy"). In my analysis of the roundtables and related academic articles, I explore sanitaristas' abiding interest in "micropolitics". I show that they often responded to political challenges by asserting the need to engage tokens of intimate, microsocial scales – e.g. the neighborhood, the street, and the local. The chapter inquires into the conditions and effects of this move.

In **Part 2** of the dissertation, titled **Innovations**, I break out of the tight-knit intellectual world of sanitaristas and into more everyday scenes of logistical reason in RMSP public healthcare. These two chapters examine the ways that logistical reason figured into both political spectacle and routine administrative work. Parts of each chapter are based on two years of regular fieldwork that I conducted in Terraville, an anonymized municipality in RMSP. In Terraville, I conducted participant observation in UBSs and at the Secretary of Health municipal headquarters. I focus on Terraville primarily in Chapter 4 (see below).

In **Chapter 3: Zero-Social**, I analyze an effort by São Paulo's new conservative Mayor, João Doria, to "zero the line" of 485,000 users waiting for high-complexity medical exams in the municipal healthcare system in early 2017. I argue that the number "zero" operated as both a symbolic aspiration and a practical modality of healthcare administration in RMSP. Lines or wait-lists (*filas de espera*) were indispensable infrastructures in the administration of public healthcare. But they were also — predictably — often seen by users as obstacles to access. In this chapter, I inquire into the grammar of zero as an intervention into existing logistical reason. I suggest that, in its political success and popularity, this number and its grammar crystallized a particular vision of the logistical social in which the excesses of metropolitan overcrowding were "zeroed" out. The success of Doria's techno-spectacle – imitated henceforth throughout the country – thus pointed to the possibility of zero as the logistified basis of a new sociotechnical imaginary.[28]

In **Chapter 4: Exponentiality**, I explore the moral technics of "too much" and of proliferating interventions into the public healthcare system. The chapter details the work of UBS administrators in the context of "informatization", a reform wherein paper files were to be replaced by electronic files stored in the cloud. The chapter shows that logistical reason is not the exclusive

[28] On sociotechnical imaginaries, see Jasanoff and Kim 2015.

province of experts but is rather wielded – although differently – by ground-level administrators on the basis of their embodied expertise in the material flows of healthcare administration.

Finally, in the **Epilogue** to the dissertation, I reflect on the roles of logistical reason and neo-fascism in Brazil since the emergence of the Covid-19 pandemic. Shortly after I last left Brazil in November 2018, far-right politician Jair Bolsonaro took office as President. In 2020, of course, Covid-19 rocked Brazil and the world. Based primarily on long-distance engagements with my interlocutors over WhatsApp, Zoom and Instagram, this final chapter of the dissertation considers the intertwining of logistical reason with mass death, administrative incompetence and incipient fascism in Brazilian democracy.

PART 1: EXPERIMENTS

> As a point of departure, one can understand collective health as a scientific field, wherein knowledges are produced around an object "health" and where there operate distinct disciplines that contemplate that object under various angles; and as a range of practices, wherein actions are realized in different organizations and institutions by diverse agents (specialized or not) inside and outside of the space conventionally recognized as the "health sector".
>
> – Jairnilson Paim and Naomar de Almeida Filho, *Collective Health: A "New Public Health" or Field Open to New Paradigms?*, 1998, 308

Collective health is a *curious* science in every sense of the word. As I detail in Chapter 2, it is formally constituted as an interdisciplinary field that encompasses three domains: epidemiology; human and social sciences in health; and health policy, planning and management (Osmo & Schraiber 2015). In both spirit and practice, however, sanitaristas envision collective health as "a creation that overflows disciplinary boundaries" (Nunes 2005). Hence while sanitaristas publish and practice in fields like medicine, psychiatry, nursing, epidemiology, economics, informatics, and so on, a great deal of their work transpires outside the formal bounds of traditional science, biomedical or otherwise. The first two chapters of this dissertation explore sanitarista practices in such out-of-bounds spaces.

In what we might call the "overflow" of collective health, sanitaristas pursued para-ethnographic discussions wherein they sought to channel their science and their politics toward particular ethical values and futures. "Para-ethnography", of course, refers to situations wherein expert communities undertake critical reflexive analysis of their own knowledge and practices, producing images of themselves that look rather ethnographic. These practices anticipate and render unnecessary the would-be insights of the anthropologist who arrives as critical outsider to "undo and demystify the common sense of established institutions" (Holmes & Marcus 2005, 249). Para-ethnography "involves situations in which expert knowledge is both deployed and contested from within cultural sites by informants themselves, where professionals use forms of ethnography to

augment, hone, or critique systematized expert knowledge" (Islam 2014, 2). In other words, the anthropologist risks being superfluous because her "standard strategy of critique" has already been produced by the "informants" themselves (Holmes & Marcus).

In the scenes that I describe in these two chapters, the situation is even more dizzying: most sanitaristas were social scientists or, at the very least, closely acquainted with social science and its scientists. In Chapter 1, the para-ethnography that I observed concerned the execution of a collaborative qualitative research project, such that my interlocutors were "doing para-ethnography" in relation to a more-or-less ethnographic project. To be more precise, these sanitaristas drew liberally from the method of "cartography", wherein the objective was "to study *processes* [by] accompanying movements, more than to learn [about] *structures* and *states* of things" (Passos et al. 2009, emphasis added). In its day-to-day para-ethnographic articulation, the resulting research project was infused with radical modes of "experimentation" and reflexivity. Yet it was also understood to be quite "scientific". How should we interpret this collective health science?

In Chapter 2, I step back from the cohesion of the research team to consider a broader para-ethnographic circuit. In both São Paulo, specifically, and Brazil, generally, sanitaristas routinely held public workshops, presentations and roundtable discussions as venues through which to discuss health questions of the day. In the roundtables that I discuss in Part 2 of this chapter, we see some of the ways that para-ethnographic knowledge produced at small scales (e.g. in Chapter 1) was able to obtain wider circulation without being disciplined by the conventions of academic publishing. That is, in order for the sanitaristas of Chapter 1 to publish their findings in academic journals, they ultimately had to write in fairly restrained language. Yet in para-ethnographic sanitarista circuits, such ideas retained a quality of radical experimentation. This chapter shows that, among sanitaristas, universal health politics was effectively a para-ethnographic realm in which researchers reflected on their science in terms of its proximity to or disjunctions from the social.

CHAPTER 1: LOGISTICAL POETICS

> Understanding Collective Health as a plural field since its birth, our interest in this work is to offer to the public a plurality of views, of writings and of encounters. This requires an exercise of promoting the diversity of knowledge production in the area of health, against the restraints to content and format that accost inventive methodologies and creative writings.
>
> – Hevelyn Rosa Machert da Conceição, *Cartographies in Health: Essays on the Multiplicity of Care*, 2018, 7

> I consider poetry as one of the most important components of human existence, yet less in terms of value than as a functional element. Poetry should be prescribed like vitamins. "Careful now. Old as you are, you'd feel better if you took some poetry …".
>
> – Félix Guattari, *So What*, 2009 [1985]

> There are no institutions which can be absolutely relied on to prevent the growth of the crowd once and for all.
>
> – Elias Canneti, *Crowds and Power*, 1966 [1960]

Overcrowding

Overcrowding is a problem for hospitals and healthcare systems around the world (Morley et al. 2018; Di Somma et al. 2014; Bahadori et al. 2017; Yarmohammadian et al. 2017). For emergency rooms or "hospital emergency services" (HES), in particular, the physical overcrowding of hospital spaces with patient bodies has become a routine feature of 21st-century healthcare. Correlated with poorer patient outcomes and reduced adherence by healthcare professionals to best care practices (Morley), overcrowding is characterized by "all of the beds in the HES being occupied; bedridden patients in the hallways; wait-times of over an hour for [urgent] care; high tension among the healthcare team; high pressure [to treat] incoming cases" (Massaro and Massaro 2017). The causes of overcrowding have been the subject of much study in recent years, although the phenomenon is sufficiently complex as to generally resist uniform explanations. In Brazilian hospitals, researchers have pointed to a range of causes. Macro-sociological developments like increased longevity and aging populations are thought to be major drivers, for example, given that

the elderly "require more [healthcare] resources and a greater level of hospital utilization" (Soares 2017). More immediately, overcrowding can derive from inefficient hospital administration or from barriers to non-hospital venues of healthcare access (leading to more emergency room visits, for example). Sometimes it is attributed to too many users seeking care at the "wrong" place (e.g. in the emergency room rather than the local primary care clinic). Whatever the cause in one hospital or another, in Brazil, overcrowding (*superlotação*) is considered a growing problem in need of urgent solutions (Mattos et al. 2019).

In São Paulo, overcrowding is an important index of the difference between public and private hospitals. On the nightly television news, it is not uncommon to see images of nightmarish public hospital rooms and hallways packed with patients on gurneys. In contrast, news stories that feature São Paulo's elite private hospitals tend to treat physical space as mis-en-scene and focus instead on who is being treated (often a famous politician) or on spectacles of "high technology".[1] Such contrasting images always suggest to viewers that public hospitals are, in a visceral way, inhospitable. Friends of mine in São Paulo often explained their fear of public hospitals to me by invoking the distasteful figure of the "body in the hallway" — a patient left on a gurney in the hospital hallway for lack of rooms. "I didn't want to be one of those bodies in the hallway, you know?" Suggesting a vulnerable subject in a sea of anonymous bodies, the body in the hallway is one of the major tropes through which Paulistanos imagine themselves in the space of the overcrowded public hospital.

A friend of mine named Luiz once construed the difference between public and private hospitals to me by dramatically elaborating his first-hand experience of overcrowding. Luiz was a 68-

[1] For example, former presidents Lula and Rousseff have both been treated at the prestigious Sírio-Libanês Hospital, both during and after their presidencies. Current President Bolsonaro has been treated at the similarly regarded private Albert Einstein Hospital, also in São Paulo.

year-old pensioner who lived in the upper-class neighborhood of Jardins Paulista. Although he lived in fairly posh surroundings, his apartment was spare and his budget was tight. Until retirement, he had worked for several decades as an administrator for the Secretary of Arts and Culture of the State of São Paulo. He had never had private health insurance and told me that he had "a very favorable view of SUS". This was somewhat surprising given what he would describe. Seven years earlier, he had had a sudden episode of stomach bleeding and had spent ten days in a public hospital in São Paulo. He fully recovered. In his recollection of the event, he began with a contrast to the public hospital. He described the private Sírio-Libanês Hospital — located in São Paulo and considered perhaps the best hospital in Brazil — and who used it.

> Politicians, forget it. Because there are two Brazils. One is our Brazil, right? The other Brazil is the politicians' Brazil. The other Brazil is the politicians'. They come here for Sírio-Libanês. Have you been to Sírio-Libanês? [*I shake my head and begin to laugh as Luiz leans back and begins miming gestures of awe and disbelief, as if he had encountered one of the wonders of the world.*] Halls [*salões*], with Persian carpet, with vases, for you to take a walk while you're hospitalized. [*He sways side to side to imitate a person strolling in leisurely fashion through the ample halls, and I laugh.*] Now if you go to the [public hospital], like I went . . .

Luiz asked that I turn off my recorder at this point, while he explained that he had managed to get an individual room in the hospital. He was embarrassed to admit that he had done so by playing up his class status and pleading his case very politely to the hospital staff. Within the public hospital, Luiz had been able to obtain preferential treatment, even as he had not been able to trade all the way up to Sírio-Libanês. He continued.

> I was able to get them to put me in a room . . . Now I saw people, five, siiiiix days. [*Dramatic pause.*] In a space this size. [*Gestures around the living room we are sitting in, pauses dramatically.*] Without windows. [*Pauses, then begins mapping out a series of tightly packed beds with his hands on the table between us.*] Bed bed bed bed bed bed bed bed. Be- *beeed* [*emphatically*], bed bed bed bed bed bed. That the nurses had to walk through the beds like this [*imitates squeezing his body between beds, zig-zagging*]. Six days, eight days, in the [public hospital] — this I saw, this I saw!

In his description of the Sírio-Libanês Hospital, Luiz emphasized the luxurious nature of the space. The characterization was short, clipped and seductive. To describe its hallways, he used the

word *salões* rather than *corredores*, the former being a more formal term associated with upper-class spaces. *Corredor*, in contrast, was the plainer term I heard used in the body in the hallway trope (*corpos no corredor*). In Luiz's description of the public hospital, it took him a comparatively long time to convey what he had seen. He paused repeatedly for emphasis and drew out syllables to dramatize the distasteful scale of everything that happened. Most strikingly to me, finally, were the sixteen-and-a-half invocations of "bed" that he coupled with little hand gestures, as if tracing an invisible jigsaw puzzle on the table between us. After he had paused repeatedly in his description of the hospital space itself, he denoted the beds rapid-fire, punctuating them with his declaration, *This I saw!* In reiterating that he had personally seen the beds, the zig-zagging nurses and the lack of windows, he was distinguishing his account from something like rumor, myth or sensationalist reporting. This was not something that he had heard about on the news or through word of mouth.

Luiz's appraisal of SUS had something in common with the seeming paradox I discussed in the Introduction (see section "Progress and Ambivalence", page 22), in which Brazilians report *high* satisfaction with their personal experiences in SUS at the same time that they report a *low* opinion of public healthcare as such. Drawing from his own experiences, Luiz offered a nuanced analysis that could not be easily captured by such opinion polls. Luiz told me that he "could not in good conscience speak ill of SUS" because he had always been treated well. Yet alongside experiences like overcrowding in the hospital, he said he was well aware of shortcomings in public healthcare. He described "failures" at his UBS. "I see a lot of people at the post complaining about the wait. There are a lot of failures there, there are several . . . And to make an appointment, you have to make it for [three months out], to wait three months, it's true." Three months was a long time — this was a common complaint from users. "It's all true. But if you enter into the appointment structure, then every three months, I am seen by an endocrinologist." Luiz had type-2 diabetes. I asked him, "So it has gone well for you?" "My medicines are there," he said, offering a simultaneously medicalized

and logistified interpretation of public healthcare. "What doesn't go well is because of me, I screw up, eating poorly, eating candy. But that's my responsibility, not SUS' fault."

In the 2010s, hospital overcrowding became one of the principal targets that federal health policy aimed to subdue. The 2013 National Hospital Care Policy (PNHOSP), in particular, aimed to address overcrowding by requiring that public hospitals institute mechanisms to better monitor their use of scarce internal resources like beds.[2] At each hospital, this meant developing what was called an Internal Regulation Center (NIR) through which dedicated administrators would produce data in relation to standardized metrics like "average length of hospitalized patient stay". Ideally, for example, hospitals wanted "average length of stay" to be shorter rather than longer, because this meant that more patients could be served overall. In turn, PNHOSP specified that hospitals should develop further, finer interventions that would actually produce these more "efficient" outcomes. These finer interventions were to be designed or selected at the discretion of individual municipalities in response to local contingencies. Hence in hospitals around the country, after 2013, NIRs were instituted to better monitor the "regulation" of hospital resources, and other interventions were developed in order to improve said regulation.

Sanitaristas were never far removed from such interventions. As committed proponents of the public healthcare system, they viewed overcrowding as a problem of simultaneously moral, ethical and political importance. Overcrowding inhibited the "accessibility" of healthcare, sanitaristas told me, and hence they were deeply invested in resolving it. Keeping in mind the chronic underfunding of SUS, sanitaristas in the 2010s were on the lookout for technologies that might

[2] Ministério da Saúde, Brasil, Portaria N. 3390, December 30, 2013. In Brazilian jurisprudence, a *portaria* is an "ordinance" issued at the discretion of a given cabinet-level Ministry in the executive branch. A portaria has the force of law but is more limited in what it may dictate than are pronouncements by the President himself or herself, or actual legislation passed by the Congress. Portaria N. 3390 can be accessed in its original Portuguese here: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2013/prt3390_30_12_2013.html

ameliorate overcrowding without breaking the bank. In turn, as individual interventions were introduced in different hospitals and municipalities, sanitaristas were quite interested to know how such new arrangements were playing out.

This chapter attempts to think alongside a team of sanitarista researchers who were investigating two such responses to PNHOSP. In 2017, a research collaborative that I dub "Beta Research Group" or "BRG" [3] launched a qualitative study of the Santa Cecilia Emergency Hospital in Santa Cecilia, a municipality in the so-called ABC Region just south of São Paulo proper. [4] Lasting two full years, the project proposed a rich, observation-based analysis of two interventions that had recently been introduced at the hospital. The first intervention, known as "Kanban", had been adapted from just-in-time logistics for use in hospital bed management, while the other, known as "Manchester", was a relatively new approach to emergency room triage. BRG's research design was sophisticated, incorporating several fieldwork techniques and analytical stages, but its data-gathering core consisted in regular participant observation conducted by individual researchers at the hospital. In turn, every two weeks, the entire research team convened as a group to collaboratively analyze fieldnotes that had been written up and circulated (by email or through Google Drive) by individual researchers. Beta Research Group's objectives were fairly open-ended: they sought to assess the impacts of Kanban and Manchester on the socius of the hospital.

In what follows, on the basis of 11 months of participant observation at Beta Research Group's biweekly meetings and related events, I explore the poetic structures and logistical denotata through which BRG researchers developed their findings. I detail the ways that BRG researchers

[3] BRG is a pseudonym, not the name by which the group referred to itself.
[4] Santa Cecilia is a pseudonym. The ABC Region, however, is a well-known collection of municipalities outside of São Paulo proper. Its name comes from three municipalities that form its core (Santo **A**ndré, São **B**ernardo do Campo and São **C**aetano do Sul), although today people refer to the region more broadly to include several other municipalities, as well. The region is a major industrial center, hence its importance and fame.

selected and reflected upon particular kinds of empirical detail in their efforts to engage with Kanban and Manchester from a collective health footing. Researchers sought to be "radically empirical" in the spirit of American pragmatist William James at the same time that they frequently characterized their research as an "experiment" with "no rules!" In their meetings, researchers took turns offering insights and observations, using this turn-taking structure to iteratively build up a complex, multi-dimensional image of the hospital at each meeting. Their approach recalled for me what STS scholars Jensen and Rödje (2010, 3) have called, drawing from Eduardo Viveiros de Castro (2003), "a strategy of the 'and'": "an experimental attitude . . . [which] investigates just what is connected with what in each specific situation". The conjunction "and", Viveiros de Castro writes, "oppose[s] the absence of relation, but without specifying any relation in particular". By analogy, BRG researchers approached the hospital with relatively few presuppositions, from a reflexive position that they intended to be radically open to whatever they might have encountered. In their meetings, they used a turn-taking "strategy of the 'and'" to painstakingly reconstruct the hospital in speech and writing, piece by denoted piece.

Beta Research Group's *strategy of the "and"* made it possible for them to think creatively and collaboratively with the empirics of the Santa Cecilia hospital. In turn, they populated their conversations with all manner of objects and qualia, focusing especially on hospital space, "flows" of patients, interpersonal relations among hospital workers, and the "plasticity" introduced into these social processes by Kanban and Manchester. Like my friend Luiz, BRG researchers also dwelled regularly on material tokens of overcrowding in the hospital. As such, part of my argument here is that, through their analytical practices, BRG researchers not only observed overcrowding but moreover *produced* the super-crowd as a specific and endemic Paulistano social figure that was amenable, naturally, to logistical intervention. At the same time, my more modest goal in this chapter is to describe an instance in which collective health intersected explicitly and at length with

unambiguously logistical technologies. While Beta Research Group cannot be taken to be representative of sanitaristas or collective health scientists generally, their methodological ethos and style of analysis offers us a rich image of how logistics is celebrated on the health movement left. In the evocative poetics of BRG, we see the dry rationality of logistics take on colorful utopian hues.

Research Groups: Evaluating Interventions

Based at Beta University in São Paulo proper, Beta Research Group consisted in a semi-transitory set of 15 to 20 researchers at any given time.[5] Led by three faculty "coordinators" – Anderson, Sheila and Vitor – about half of the researchers were faculty in the Department of Collective Health at the university, and half were graduate students, post-docs or visiting collaborators from universities near and far. The professional and disciplinary backgrounds of the researchers varied, but virtually all of them had at least some first-hand experience working in public healthcare, either as medical professionals (doctors, nurses) or as administrators or policymakers. And all of them were either trained as or in-training to become qualitative social scientists in the field of collective health.[6]

To briefly contextualize the group itself, collaborative research groups and "research laboratories" are quite common in Brazilian social science.[7] A recent review found that, between

[5] Beta University is also a pseudonym.

[6] Broadly speaking, I thought of many of the researchers as qualitative sociologists, with the caveat that their degrees were often in "Collective Health" rather than sociology per se. This qualification torqued their social scientific investigations in interesting ways not reducible to sociology as traditionally understood, as I explore both in this chapter and in Chapter 2.

[7] At public universities in Brazil, social science research "laboratories" are legion. Generally speaking, these are small, semi-permanent groups devoted to the study of a specific sub- or inter-disciplinary area of social importance. At USP-FSP, for example, several laboratories and centers operate with permanent office space and anywhere from one to ten researchers on staff, all of whom are typically faculty, students or post-docs. Strolling down a basement hallway at USP-FSP, one could visit, one after the other, the RMSP Health Observatory, the Center for Health Law Research, and the Big Data and Predictive Analysis Health Laboratory — each of which publishes individual and multi-

1976 and 2017, Brazil saw 385 different health-focused "research groups" register with the National Council for Scientific and Technological Development (CNPQ) (Cruz et al. 2019). The number of such groups that registered each year began to grow substantially in the late 1990s, with notable boomlets in 2002 and 2014. Cruz attributes this upward trend to a general increase in public investment in "science, technology and innovation", as well as to enhanced efforts within the Ministry of Health to "monitor and evaluate" SUS beginning from 2000 onward. I would add that the very creation of SUS (founded 1990) created incentives for elected governments to fund research into the system's problem-areas, given that executive administrations (whether federal, state or municipal) were seen as bearing responsibility for the operation of SUS. A robust plurality of the 385 groups (40.5%) pursued projects related to either the "evaluation and monitoring of health interventions" or "evaluation of specific interventions", with *interventions* defined as "health systems, programs, services, actions and [or] practices". In its focus on the Santa Cecilia Emergency Hospital, BRG was a typical health research group in this regard ("evaluating interventions"). And as Cruz suggests for these groups in general, BRG was incentivized toward these objects of study by specific funding mechanisms. The group's two-year funding came from a public initiative known as the Research Program for SUS, or PP-SUS, which was administered by the Research Support Foundation of the State of São Paulo (FAPESP) in partnership with the federal government. PP-SUS aimed to support research into "priority problems in healthcare and the strengthening of SUS

authored research focused on the evaluation of health policy and administration, as well as scientific "outcomes" of various types (epidemiological, fiscal, ethical). Beta Research Group had less permanence than these laboratories insofar as it only existed in relation to a specific research project (and would have to reconstitute itself through a consequent funded project, if researchers sought to persist as a group).

in the State of São Paulo".[8] BRG's research was an investigation of two interventions that were aimed at a "priority problem" in healthcare — hospital overcrowding.

BRG investigated two technologies, each of which was designed to intervene in different dimensions of overcrowding in the Santa Cecilia Emergency Hospital. The first technology was the Manchester Triage System, first developed in the UK in 1997 and imported to Santa Cecilia to better manage "flows" of spontaneous demand for emergency care. "The Manchester", as BRG referred to it, equipped nurses to prioritize each incoming patient's level of "urgency" according to five color-coded levels, from less to more urgent. The Manchester replaced an existing three-level triage system that was considered ineffective. The second technology was Kanban, an approach to hospital "bed management" adapted from just-in-time logistics. This technology was originally developed in Japan and is one of the most recognizable intellectual exports of "Toyotism". In the emergency hospital, Kanban was introduced as a way to make more efficient use of the hospital's scarce quantity of beds. The hospital counted 175 beds for hospitalized patients (thus not including "temporary" beds and gurneys used during acute emergency care). As I explain in more detail below (see *The Technologies*, page 45), in industrial situations, Kanban is known for instituting a "signal" between production and supply, such that production only kicks into gear when supply is low. This technique makes production demand-driven and is intended to prevent crises of overproduction. Adapted to hospital bed management, Kanban institutes a different kind of signal – through regular "Kanban meetings" attended by "multi-professional care teams" – such that "recovered" patients do not occupy a bed any longer than absolutely necessary. This is intended to reduce overcrowding by freeing up beds more quickly.

[8] From the FAPESP PPSUS home page, available here: https://fapesp.br/4819/ppsus

Militant Cartography

BRG researchers were card-carrying sanitaristas — *militantes* for collective health.[9] They pursued what medical sanitarista Emerson Merhy (2004) has called "the militant knowledge of the implicated subject". That is, to varying individual degrees — often somewhat a function of age — BRG researchers had been involved in 1980s Reforma Sanitária and the subsequent construction of SUS. The oldest researchers had been practicing medical sanitaristas by the late 1970s, while the youngest had never known a Brazil without SUS (founded in 1990). But even the younger contingent of BRG (graduate students and post-docs) had worked in SUS. All of the researchers were thus "implicated" to some degree in the construction of SUS and the ethical principles of the health movement. BRG's collaborative study of Kanban and Manchester was understood to figure into this foundational commitment to collective health. In this regard, their project aimed not so much at the "evaluation" of Kanban and Manchester — e.g. did the interventions alleviate overcrowding? — as engaging with these technologies in the creative pursuit of "new connections" and paths forward for collective health. As Coordinator Anderson once remarked, recalling Isabel (see Introduction), "The point is not to denounce, but to transform!" BRG researchers were indeed hopeful that Kanban and Manchester would have positive effects on overcrowding, but they did not set out to pass judgment in that regard. Rather, they sought to produce findings that would contribute to the defense and improvement of SUS, as well as to the well-beings of its individual patients and workers. Their approach to studying Kanban and Manchester reflected this "transformative" ethos.

Beta Research Group refused any precise methodological labels that might have constrained the kinds of analysis that they could produce, instead characterizing themselves capaciously as

[9] As noted in the Introduction, *militante* translates literally to English as "militant", of course, but is used more typically to indicate "activist" or "radical". It can be either a noun or an adjective.

simply "qualitative researchers". At the same time, their stance was informed by radical approaches to knowledge production that had been in vogue on the Brazilian academic left since the 1980s. In particular, BRG used techniques that were associated with "cartography", an approach to social science inspired broadly by the work of Felix Guattari and Brazilian psychoanalyst Suely Rolnik (Guttari & Rolnik 2007 [1986]). In crude shorthand, "health cartography" was described to me as an approach wherein the researcher attends to "how the patient produces his/her own care". The definition of "care" is left undefined at the outset, such that the researcher might follow the patient along whatever "map" she produces — perhaps producing care for herself across a motley collection of sites like the public clinic, the ice cream aisle in the grocery store, and the bar down the street from her house. In more sophisticated theoretical terms, health cartography seeks to enable "the construction of a viewpoint that contemplates not only subjects [of research, e.g. patients], but also considers the multiple modes of living life and the interface of these modes with the process of health and sickness" (Conceição 2018, 8). Agreeing with this basic approach to collective health, BRG's research aimed to contribute to "the construction of new connections in order to widen dialogue with theories and thoughts from other areas, making possible the development of health tools and devices that are sensitive to singularities and able to contribute to the creation of new possibilities of existing in the world" (Conceição).

In this spirit, individual researchers wrote copious fieldnotes that captured many different details of the hospital and its technologies. In turn, every two weeks, Beta Research Group convened to analyze notes collaboratively. BRG's biweekly meetings were long (two to three hours) and academic (focused on the research at hand), but they also at times bordered on *fun*. Since having left the field, when I have listened to audio recordings of meetings, I am often struck by how much

laughter I hear.[10] Researchers teased one another for persistent foibles (often involving the perceived inability to navigate a laptop) and cracked jokes about politics and everyday life. Many of the researchers in the room had known each other for decades, and even the graduate students (typically being advised by one or several faculty in the room) came across as confident and comfortable in their interactions. BRG researchers *liked* one another. They were "a very affective group", as one of them once commented. Outside of meetings, long "reply all" email chains circulated among the group at all times, typically featuring a mix of "housekeeping" topics, fieldnotes and related analysis, and playful banter about ancillary social activities. Major life events (such as when a graduate student became pregnant) were celebrated warmly in these chains.

As for actual meetings, these were usually held in a seminar room at Beta University that was structured like a mini-auditorium, with four rows of seating ascending slightly out from a low "stage" at the front of the room. At each meeting, usually formally scheduled for 2:00PM on a weekday, researchers typically sauntered in slowly until Anderson called the meeting to order around 2:15. With booming gravitas in his voice, Anderson often began by speaking in grandiose terms about the state of the research – sometimes excitedly, sometimes with a more deflated air. He posed guiding questions and highlighted particularly striking findings that were coming in from the observations. And he used these moments of commentary to open up the technologies under study, as he did one day in late 2017:

> Thinking about issues like the participation of the doctors [in Kanban meetings], it raises this question of . . . what is the position that he occupies, objectively, when he's observing [the meetings]? He participates, he speaks, he distributes assignments, he disputes, he accepts, he divides – and on the other hand, he *sees*, right? It's interesting, that point of view, the doctor is seeing everything. And we [BRG] want more, we need more impressions, [we have] some doubts . . . The doctor disappears, no one knows exactly where he goes, so this demands … a certain methodological refinement.

[10] BRG recorded their meetings with a digital audio recorder, and kindly shared these with me (although I was of course present at the meetings, as well).

> [. . .]
>
> [The Kanban] is an instrument of power, but not a dominating power, necessarily. But it's another form of producing. I don't know if it's 'lesser', if it's 'worse', who knows – but it's a, it mobilizes souls, let's put it that way, it mobilizes a certain sensibility.[11] It makes sense to the nurses to work in that particular way. For example, traditionally [the nurse] looks for forms of control, more explicit, systematic forms of registering things. She used to have to do all of that very alone. Now she has an instrument that she brings to a space where the doctor is! Where the clinic is. It's very interesting. How does the doctor see himself in that new design?[12]

Long stretches of speech like these were common, as individual researchers often described an observation or insight for several minutes at a time. Although contextualized by the often-playful, affective nature of the group, these moments were intellectually substantial. For me, they were magnetic, as I watched the researchers build and re-build their research problem and findings over and over again from one meeting to the next.

Overcrowding: Interpretations and Policies

In Brazil and elsewhere, health services researchers generally agree that overcrowding should not be reduced to a simple formula of supply and demand (Morley et al. 2018). In other words, while aging populations and related factors create increased demand for hospital services, the problem is unlikely to be resolved by simply expanding supply. First of all, expanding hospital "supply" is an expensive and often impractical option. Second, in the universal healthcare context, increases in supply are today thought to stimulate disproportionate increases in demand, such that demand will tend to overwhelm any expansion. Since the founding of SUS in 1990, millions more

[11] "Mobilizing souls" is an intentional riff on Foucault, whom Anderson had mentioned earlier. Several members of BRG had recently attended a seminar on Foucault held by a scholar at another university. See for example Foucault 2009.

[12] The gendering of nurse and doctor here is suggestive, but in this particular case Anderson seems to have had two actual people in mind: a female nurse and a male doctor. There were of course doctors and nurses of both genders in the hospital.

Brazilians have had access to healthcare than was previously the case. As a result, demand for healthcare has consistently grown year over year. Between 1981 (before SUS) and 2008, the number of Brazilians treated in primary care clinics increased 450%, for example (Paim et al. 2011). Such an explosion in measurable demand is to a significant degree a *consequence* of increased supply, not necessarily a sign of its insufficiency.

In the hospital emergency services (HES) context, supply is considered only one important variable among many that may affect overcrowding. "The hypothesis of an excess of demand for these [emergency room] services is insufficient to explain the unfavorable clinical outcomes that result from the phenomenon of overcrowding," concludes a recent Brazilian journal article (Sacoman et al. 2019). This broadly shared conclusion has led healthcare policymakers to turn to ideas about "efficiency" in the management of existing resources, in lieu of expansions thereof. "The growing disproportion between the number of hospital beds offered and the real needs of users has shown the necessity not only of an expansion of supply but also the importance of the management of the beds themselves, including monitoring of length of stay, an important indicator that makes it possible to measure efficiency, efficacy and effectiveness of management" (Mattos et al. 2019).

Since the early 2000s, overcrowding has been an important target on the radar of Brazil's Ministry of Health. In separate pronouncements ("ordinances") in 2004, 2010, 2011 and 2013, the Ministry established a series of programs and guidelines intended to help hospitals address the problem. These programs included both "conceptual" and "financial" support to public hospitals (Sacoman). In the most recent such pronouncement, the 2013 National Hospital Care Policy (PNHOSP) described above, the Ministry introduced the concept of the NIR (Internal Regulation Center) as well as various "qualifications" of what the NIR should achieve. Administrative units like the NIR are "structures for managing installed capacity [permanent infrastructure], with the goal of organizing access to appointments, diagnostic and therapeutic services, and, principally, hospital

beds" (Mattos). In turn, while hospital-level technologies like the NIR are intended to "monitor" overcrowding in general, finer technologies like Kanban and Manchester have often been introduced in order to more directly intervene in it in the everyday.

In the 2010s, Kanban and Manchester became increasingly popular local "wagers" (as BRG researchers put it) for municipal hospitals to deal with overcrowding. If these wagers were successful, then administrative organs like the NIR would register decreases in average length of stay for hospitalized patients, for example, and take this to indicate improved quality of care.

The Technologies

From the Brazilian perspective, both Kanban and Manchester were foreign technologies with genealogies that long predated their arrival in the country. As a form of triage, Manchester can be traced back to 18th-century warfare, when triage was first developed as a way of determining which injured soldiers were to be treated or removed from the battlefield (Sacoman et al. 2019; Lähdet et al. 2009). The tool in use in Santa Cecilia was of more recent vintage, of course, first developed for use in hospitals in Manchester, England in 1997. Formally known as the Manchester Risk Classification System, the hospital tool orients nurses to classify an emergency room patient according to five levels of color-coded "risk" based on a predefined list of clinical conditions. After classification, patients' risk levels are intermittently reassessed ("dynamic reclassification") while they are waiting to be treated. The five levels and ongoing-ness of the tool are thought to be an improvement on less "sensitive" triage techniques, such as the non-dynamic three-level tool used in Santa Cecilia previously. (Before the three-level tool was introduced in 2009, there had been no "tool" whatsoever; patients were treated in order of arrival, with ad hoc priority introduced for cases perceived to be more urgent.)

Kanban, in turn, got its start in 1950s Japan as the latest in the 20th-century history of Fordist

and post-Fordist technologies of "rational" production. Meaning "sign" or "signboard" in Japanese, Kanban was first used in Toyota manufacturing plants to more precisely align factory production with consumer demand — what is now generally known as just-in-time (JIT) production or "lean manufacturing". The basic principle is that production levels should be determined by real-time levels of demand. That is, rather than try to predict what demand is going to be in the future, and set levels of production on the basis of that prediction, Kanban institutes a "signal" such that production kicks into gear automatically whenever supply is low. This makes production responsive to and determined by real-time demand. Supply is thereby kept perpetually low (hence "lean"), such that manufacturers are less likely to enter a crisis of overproduction.

Since its original development in the automotive industry, Kanban has been used in many other domains. Beginning in the 2000s, its principles were adapted to hospital settings for use in bed management. In the Brazilian hospital context, Kanban is used to "give visibility" (*da visibilidade*) to how the hospital's beds are being used. In other words, obviously, the hospital cannot simply "produce more beds" to mitigate overcrowding in the short-term. Indeed, in the Brazilian context, "overcrowding" (*superlotação*) can in fact refer to an abundance of beds in a limited space (as in Luiz's example above). Instead, in this context, Kanban is used to introduce the principle of an *ongoing signal*. It is used in the hospital to make multi-professional care teams (doctors, nurses, etc.) more aware of how the beds are being used over time. The aim is to make the teams very sensitive to how long each patient has been hospitalized, and to enable the team to discharge a "healthy" patient as soon as possible after recovery. In theory, this prevents a bed from being occupied by a particular patient any longer than absolutely necessary, and alerts care teams to patients who have been hospitalized for longer than expected.

In material terms, at the Santa Cecilia Emergency Hospital, Kanban and Manchester were enacted differently from one another. In order to create an ongoing signal, Kanban was constituted

as a brief and regularized meeting of specific multi-professional care teams. Different clinical departments held meetings with different levels of frequency, but generally speaking, teams held a Kanban meeting one to three times per day, five to seven days per week. Across the different departments, each Kanban had slightly different characteristics, which BRG attributed to hierarchical and interpersonal dynamics within each care team. "There is no 'Kanban'," Vitor once noted, "there are *Kanbans*", plural. During BRG meetings, researchers discussed the contrasting ambiences of the different Kanban meetings — one Kanban was relaxed and conversational, whereas another was "cold" and strictly technical, for example. BRG researchers took note of these different qualities but were more interested in the fact of difference itself, which they took to indicate the "plasticity" of the technology, as I discuss in the eponymous section below (see page 55). Although the professional composition of each care team varied slightly, Kanban meetings were generally attended by one or more attending physicians, several types of nurse, a physical therapist, a social worker and a psychologist (hence between about six to ten professionals). Each meeting was led by a nurse holding a printout of an Excel spreadsheet; the spreadsheet contained information about each patient and his/her status (including how long the patient had been hospitalized). At the end of the Kanban, a nurse affiliated with the NIR would collect a formal record of the state of the bed economy. "Kanban does all the Kanban management of the beds," observed Debora, a doctoral student who had worked as a nurse for about 30 years, at a BRG meeting. "And then afterward NIR does a summary: who goes, who stays, how many beds are empty, how many beds do they need to get. They do this in the ICU [intensive care unit], too. They only arrive after [the Kanban meeting] to find out how many empty beds they have."

Thus in its adaptation to the hospital, Kanban had to be enacted through regular group conversations, rather than through a truly "automatic" signal. This lent the hospital Kanban a certain palpable human quality that we do not usually associate with just-in-time logistics. The technology's

functioning did not depend on an electronic signal sent out by a computer, but rather on signals that had to be collaboratively constructed, over and over again, by teams of clinical professionals. This made Kanban, in the words of Anderson, "a technology of negotiation, of creation". Manchester, for its part, was a more straightforward tool applied by a single triage nurse upon the arrival of a patient to the emergency room. With its five-level system, Manchester was "more structured" and gave "less autonomy" to the nurse wielding it, in Debora's view. The nurse evaluated each patient in standard medical fashion (checking temperature, blood pressure, etc.) and then entered the resulting risk classification into a computer, and gave the patient a bracelet with the appropriate color. BRG detected "reconfigurations [of Manchester] under the table", however, such that "even with the rigor of a harder technology, it is molded to the perceptions, the needs" of the nurse and the emergency room at a given moment.

Logical Contexts

There were many other administrative "logics" besides Kanban and Manchester in the Santa Cecilia Emergency Hospital. Beta Research Group chose to study these two for several reasons. First, they told me, these two technologies had been instituted in the 2010s in response to new policies in the federal Ministry of Health, which since 2013 had been pushing hospitals to better "rationalize the use of resources" (see Portaria 3390, in Note No. 2 above, this chapter). The technologies were a "bet" on the part of Santa Cecilia in this regard. BRG was interested in seeing how this bet was playing out. Second, the technologies specifically dealt with overcrowding, one of the more intractable problems in SUS. Third, these two technologies connected in different ways to questions of "accessibility" and "equity" of healthcare, two ethical values of great importance to sanitaristas. (I discuss these and other ethical values of Reforma Sanitaria more directly in Chapter 2.) BRG researchers wanted to see how Kanban and Manchester did and did not realize these values

in practice. Fourth, with regard to Kanban specifically, this was a "multi-professional" technology which, researchers hypothesized, had the potential to alter traditional hierarchical relations of power inside the hospital. The group was interested in classic medical-sociological questions of the medical doctor's authority here (cf Parsons 1951, Chapter 10), but refracted through the more contemporary lenses of cartography and micropolitics (see Chapter 2, this dissertation). Fifth and finally, these two technologies were "connected to" many other processes within and without the hospital. BRG was interested in the hospital as a key site of public healthcare — but not the only site. They picked these two logics because they suspected that they would in fact prove to be tied up with other interesting hospital and non-hospital processes. (This speaks to the frequent position of health as a kind of totem that "stands for" the social in Brazilian social politics generally. For social scientists and radical activists, "health" often figured as a privileged metonym through which to discuss the ethics and substance of Brazilian social order.) On that note, BRG had originally planned to study not two but three technologies, the last one being what they called "the production of hospital discharge". This third technology was an innovative municipal program in which a worker called a "supporter" kept track of certain patients recently discharged from the hospital, checking up on them in their homes and reporting back to the hospital as well as to the patient's local UBS. Unfortunately for BRG, this new program was "dismantled" just as they began their research, and the researchers became "prisoners of the hospital", as one of them put it.

This complex rationale was effectively the context of Beta Research Group's biweekly meetings. "Contexts", as Michael Silverstein and Greg Urban (1996) have shown, are not inert backgrounds but rather processes that groups and individuals must produce and reproduce in an ongoing fashion, in deictic relation to the "here-and-now" of discursive interaction (Silverstein 2004). BRG's regular meetings served not only to analyze data that was coming in from "the field" of the hospital, but also to continually rearticulate the significance of the project in relation to

various encompassing contexts. Most narrowly, the project and its emerging findings were significant to the existence of the research group itself. More broadly, in discussing the status of their research every two weeks, researchers reproduced (and rearticulated their findings with) the ethical values of Reforma Sanitaria, the knowledge practices of collective health, and the politico-ethical project of public universal healthcare itself.

Across the next three sections, I work through three analytical foci that effectively organized discussion during many of BRG's meetings. In different ways, each focus operated as what we might call an "interpretive site" around which researchers gathered to produce analysis. These sites became scenes of analytical production by orienting researchers' attention to material objects (including physical spaces like hallways), qualities of the Kanban and Manchester technologies (in particular, their "plasticity") and social relations among hospital workers.

Spaces, Objects, Flows

"The Kanban is a device for creating space," Anderson said at one meeting, "and it messes with times and spaces. Without Kanban, the hospital was exploding. And without Kanban, for example, the hospital would be providing less access. *Puxa vida*[13] — 'who goes?', 'who stays?', '20 days without vacancies', and all of that." Prior to the implementation of Kanban and Manchester, the Santa Cecilia Emergency Hospital had been "chaos", I was told several times. "They used to call the hospital 'Baghdad, SUS'," Vitor said, characterizing the space as a war zone. "You know that place with the explosions, [*feigns screaming/gasping*], screaming, at that level. Chaos. Everything. The workers, it was miserable. Nobody wanted to be manager of that hospital, nobody wanted to work there." Before beginning their fieldwork, Beta Research Group had expected that much of this

[13] Generic exclamation, like *wowee* or *my God!* Literally "pulls life".

chaos would persist, even with the new technologies. Instead, they were rather shocked to find that these two technologies had completely reordered the spaces and affects of the hospital. "When we got there," Anderson said, "I went armed with presuppositions and prejudices, like: it's a machine, it's all full, everybody is working at an insane pace, everybody is getting sicker. [But] nothing supports that." This element of surprise struck the team as a good premise from which to build the publications that they expected would result from the research. "I think our article[s], our work is going to be very original," Anderson said, "maybe because there is not a lot of [research] into Kanban in Brazil. But also because of what we are trying to construct through reflection. For example, why does Kanban function? Why is it that it goes right? That's the question, isn't it?"

Notwithstanding the magic worked by Kanban and Manchester, the physical spaces of the hospital remained "tight" (*apertado*) and "like a labyrinth", in researchers' words. "Big demand, big usage, little space," a researcher murmured to me once while Anderson was speaking. In this particular phrase, demand becomes a "big" problem specifically in relation to space. Put differently, problems like overcrowding manifested as spatial problems. Unlike demand per se, for sanitaristas like the BRG researchers, the supercrowd was never an abstraction but rather always a material force predicated in lived spaces and events. (This contrasts the more ethereal ways that similar "large values" motivate interventions for non-sanitarista administrators and politicians, as we will see in Chapters 3 and 4.) For BRG researchers, the answer to Anderson's question of *why does it function?* was embedded somewhere in this spatialized socio-materiality.

On the whole, members of BRG were extremely well-read students of philosophy and social science. They were well-aware of the wealth of late-20th-century thought on questions of space, place and territory, for example (cf: Lefebvre 1991 [1974]; de Certeau 1984; Harvey 2014 [1985]; Deleuze & Guattari 1987; Santos 1978). But while they routinely deployed notions like "tactics" (de Certeau) and "flows of relations" (Deleuze & Guattari), and while they clearly understood space to be

something "produced" (Lefebvre), these kinds of high-theory analytics were mostly implicit in relation to more grounded, emic analytics. Researchers built an inductive analysis by engaging with the banal materiality and spatial phenomenologies of overcrowded social life. More "theoretical" approaches to studying space were often cited in conversation, but rarely pursued at length. While discussing how Kanban "creates space", for example, Anderson referred to some questions raised by Gabriela, a Portuguese sociologist and long-time interlocutor of the group who was visiting from Lisbon. "Gabriela brings this question about places, and the spaces, the flows, the signage, right? Everything that refers to space and place. There is a theoretical distinction that we could make, as to what is space, what is place. But in any case, the flows, the signs, the nametags, the uniforms, the scissors of the guard who cuts [one's hospital bracelet] . . ." Anderson worked methodically through a series of objects and spaces in the hospital, eventually arriving at the qualities of the spaces themselves. "It's got those moments of emptiness, right, the emergency room seems emptied-out, and then after, it fills, the overcrowding, the little space in which to move. There are a bunch of questions that end up having to do with a strong relation between space and care, too. A bunch of questions linked to too-little space, hence a dramatic aspect of the hospital, banging your butt on the gurneys, you can't get by, if there's an emergency you can't get through."

In this instance, Anderson names a series of objects and qualities in the space of the hospital that, he suspects, are relevant to the question of *why does it function?*. By enumerating that series of objects, he is able to bring the materiality of the hospital into the collective discussion — object by object, quality by quality. If he is correct that there is something happening in the materiality of the space, then this act of enumeration is a necessary condition of analysis. At the very least, it is intended to orient the attention of the research group to materials and spaces.

Part of what is striking about Anderson's speech pattern here is that it realizes the image of a dense hospital space through two linguistic "functions", to use Jakobson's classic framework (see

Waugh 1976).[14] First, denotationally (or referentially), Anderson builds out a series of material objects that can be found in the hospital. Notably, he names those objects as things that might be meaningful to the objectives of BRG's research, hence *technically meaningful* vis-a-vis Kanban, Manchester and the supercrowd. Second, poetically, as I have transcribed it here, Anderson's speech consists in short clips that often lack verbs, carrying on at length, without significant pause, so as to perform what we might call a poetic quality of density. This recalls Luiz's description of beds in the beginning of the chapter. Not only the objects themselves (the denoted referents or "denotata") but also the quality of the speech (its poetics) create a sense of crowdedness in the listener. In turn, this crowdedness figures as a semiotic quality that the research team more broadly seemed to be constantly cultivating. In their biweekly meetings, researchers took turns offering observations and arguments in relation to the topics and data being discussed on a given day. Researchers would seem to riff for anywhere from two to five minutes, building emphatic declarations in poetic structures quite similar to Anderson's. The denotata (things referred to) varied but were very often spatial or administrative. "Because the Kanban does all the management of the beds," researcher Rafaela explained one day, distinguishing Kanban from another technology called NIR, "and then afterward NIR does a summary: who goes, who stays, how many beds are empty, how many beds do they need to get." Another day, Vitor pointed to a series of sites outside of the hospital to explain why emergency classifications ("red" and "yellow" risk) spiked on some days [populating the hospital with things that came before it]: "When yellow explodes, when red explodes, it says much more about what's happening before the hospital than about what's going on in the hospital. It's much more [about] the network, Basic Care, it's mobile pre-hospital care, or fixed [pre-hospital care]."

[14] Famously, Roman Jakobson identified six functions of language: the emotive, referential (or denotative), poetic, phatic, conative and metalinguistic functions. See Waugh 1976.

The tightness of space was a running theme throughout the months-long process of analysis. Importantly, in the example regarding "banging your butt on the gurneys" above, Anderson is describing the state of hospital space *after* Kanban and Manchester have been implemented. What makes these technologies impressive is not that they somehow undo the crowdedness of the space, but rather that they modify how things move through those spaces. In so doing, Kanban and Manchester seemed also to modify the qualities that attached to the supercrowd. Not only did BRG find that workers experienced the crowded spaces differently after the technologies' implementations (something I explore in more detail below, in the *Plasticity* and *Relations of Care* sections), but they also declared, based on their own observations, that the hospital was *both* crowded *and* not particularly chaotic. The technologies were able to reconfigure "flows" of patients and objects in space such that the same volumes of flow were experienced differently, and produced different qualities of care. These were the effects that mattered most to Beta Research Group. I explore *how* Kanban and Manchester achieved these effects, technically speaking, in the next section, *Plasticity*.

Plasticity

For sanitaristas like the BRG researchers, there was an element of risk in implementing technologies like Kanban and Manchester. On the one hand, sanitaristas were committed to finding creative ways to lessen overcrowding and improve patient care generally. On the other, efficiency-oriented technologies like Kanban and Manchester were linked to a capitalist history of flexibilized production. "It's a mode of producing rationality, producing modes of work, producing power, and subjectivizing," Anderson noted. In other words, it would not have been entirely surprising if Kanban had improved "efficiency of bed management" by making healthcare professionals miserable or treating patients like anonymous "bodies" (e.g. "in the hallway"). Much to the

researchers' fascination, to the degree that there were any such dystopian effects, they were mitigated by what they called the "plasticity" of the technologies.

At one meeting, Anderson told a quick story of a sociology graduate student who he said had wanted to study Toyotismo (just-in-time production) in a Toyota factory in Brazil. Unsurprisingly, Toyota denied her access to the plant. Instead, she began spending time at a social club where the workers hung out and began collecting stories there. "That's how she began to unveil the suffering, the pressure, the increases in productivity," Anderson said. In contrast, at the Santa Cecilia Emergency Hospital, they were not finding such unequivocal suffering. Some nurses did describe an increase in "stress" and "pressure". But researchers also found that, on the whole, nurses seemed to prefer the rhythm of the new technologies. Most nurses felt that they enabled better care overall. And each technology had given "agency" to relatively low-level workers (nurses and nurse technicians, in particular) by way of specific technical features.

One of the researchers, Debora, was a graduate student who had spent more time observing than most anyone on the team. "I think that what differentiates the hospital as a whole is Manchester," she said, meaning that this was the technology that was most responsible for calming down the hospital's former explosiveness. As Vitor put it in agreement, "I think Manchester creates control [by the nurse] over the doctor and control over the door to the hospital." Manchester introduced an increase in the number of levels of risk from three to five, and introduced, furthermore, dynamic reclassification. On the surface, these new features asked more of the nurses who used the tool. However, it also empowered the nurses to more finely control the flow of patients. Previously, Vitor said, with a less fine-tuned tool, nurses had less control over what he called "the rhythm" of the flow. Instead, doctors ended up making finer triage decisions after patients had been admitted and classified. By putting a better tool in the hands of a single nurse at

the "door" to the emergency room, nurses acquired more power over the process of care and calmed the overall rhythm of the hospital.

As for Kanban, Anderson described how the technology had "transformed the worker from an operator of the machine to the manager of the machine. The manager of the machine takes care of the machine, he has a team, he is multi-prepared, better trained, he dis-aligns himself from Fordist work." How could a just-in-time production technology achieve such a radical effect?

In its adaptation to hospital bed management, Anderson said, Kanban was "a device of negotiation, of creation". That is, as I described in prior sections, Kanban's "ongoing signal" had to be constituted through regular daily meetings of individual multi-professional care teams in each department of the hospital. These meetings involved numerous professionals, for example, in the ICU (intensive care unit) Kanban: on-duty nurse, on-call nurse, pharmacist, physical therapist, speech therapist, doctor(s), nutritionist, and psychologist. These meetings were led by the on-duty nurse, who read patient information aloud from a spreadsheet printout. By requiring that an entire multi-professional team come together to briefly discuss the status of each individual patient, Kanban enabled the development of a "signal" that was deeply human, in a crude conventional sense. Each signal had to be constructed through discussion in which the nurse was normatively expected to lead the task. While BRG found that doctors did not seem to cede any authority in these meetings (ultimately having the last word on patient care), Kanban did create a kind of ongoing flexibility in which back-and-forth exchange was normative. This enabled different modalities of care and engagement among the hospital workers.

Beta Research Group characterized these features of Kanban and Manchester as "plasticity". While Manchester was thought to play a bigger role in getting the emergency room itself under control, Kanban was the far more "plastic" of the two technologies. Indeed, this was what most fascinated BRG about Kanban. "When we think of instruments, devices," Vitor said, "we think of

the order of technology, we think of hard technology. But there [at the hospital], no! Kanban has a mobility, an adaptability." He noted, for example, that Kanban engendered all kinds of practices that were not part of the technology per se. A whole second set of worker practices emerged in order to prepare for the meetings, which BRG called the "pre-Kanban". "None of the guidelines mention WhatsApp," Vitor said, referring to the popular smart phone messaging app. "But it's strongly used in preparation for the Kanban," as the various care team members communicated with one another to share details and update the spreadsheet prior to the meeting. "It's on the order of 'molding'," Vitor said, "it molds itself to the reality. It molds itself to the design" of care. Hence by making Kanban into a human-signaled technology, BRG concluded that it had in fact introduced a startlingly flexible, humane mode of efficient management.

Relations of Care

Both Kanban and Manchester had the effect of "redistributing" responsibilities among professionals in the hospital. Nurses, in particular, took on new roles in which they effectively mediated and moderated the plasticity of the technologies. BRG researchers paid close attention to these changes and frequently read the technologies' effects through the lens of "relations". They concluded that Kanban and Manchester had enabled "new relations" among healthcare professionals as well as between professionals and patients. The technologies had therefore altered something in the lived qualities of patient care, generally, as well as of ethical values like access, specifically.

As the simpler of the two technologies, Manchester introduced fewer changes to the inter- and intra-professional dynamics of the hospital. I have already discussed these changes above (see *Plasticity*). In contrast, Kanban drastically changed healthcare professionals' experiences of their work. Prior to the introduction of Kanban, nurses reported having less contact with doctors (who

were often difficult to physically locate in the hospital) and described not always knowing "what was going on" with individual patients. Information about patient care was not being updated and shared in anything like real-time. Through Kanban, nurses had formal, regularized moments of contact with not only attending doctors but numerous other professionals. BRG observed that, through regular multi-professional Kanban meetings, each patient's care was transformed into an object of collective knowledge and collective concern, thus combating "fragmentation" of care across disconnected specialties and professionals.

Notwithstanding these perceived improvements, Kanban also engendered more ambivalent effects in care. In order to be prepared for Kanban meetings, nurses had to manage spreadsheets that listed each patient's status and medical goings-on (e.g. exams ordered, medications taken, etc.). As a result of this responsibility, nurses reported, they spent more and more time doing "administrative work" with the spreadsheet, and spent less time at patients' bedsides. The effect was a double-edged sword. On the one hand, nurses "knew" the patients less well and were unable to "bond" with them on a personal level. On the other, nurses developed much sharper grasps of the totality of each patient's care. "I know more about him from head to toe," as one nurse put it, "but I don't know anything about his face."

Some nurses regretted that they had less personal contact with patients, and that they had taken on more administrative labor. However, on the whole, BRG researchers found, nurses celebrated Kanban as a revolution in patient care. At the same time that there was a certain human loss in stepping away from the bedside, nurses believed that patient care had *improved* by becoming more spreadsheet-focused.

This was a striking finding that spoke to the meaning of "care" (*cuidado*) as well as to the distinctiveness of Kanban as an especially plastic technology. Vitor distinguished Kanban from other methods of hospital management which, he said, were more straightforwardly economic in their

approaches. "You'll find application of those traditional management methods, which are oriented very much to work processes. So they apply them to warehousing, to [hospital] cafeteria, to hospitality, to security and circulation of the patient, to management of the line, to scheduling." Kanban was different insofar as it incorporated collective, in-person interpretations of care at its core. "The other [method, Kanban] has much more to do with the field of collective health, the field of the production of SUS . . . It's strongly produced beginning from experiences that join together policies of humanization with the national network of urgent-emergency care, the experiences [we've had] messing with emergencies. It's those experiments" in public emergency care that made space for Kanban. In turn, it was Kanban that made space for a logistical intervention into overcrowding that was both more efficient and more humane.

Conclusion: Kanban and Manchester in Collective Health

In the final months of 2018, after all of the fieldwork and much of its analysis had been completed, BRG went about the difficult work of planning next steps. They decided that the research would not be published as a book but rather as a series of standalone articles, as was usually the case for collaborative projects like these. For all their connection-oriented "experimentation", they would ultimately have to compartmentalize and discipline their findings in order to appeal to individual journals. Outside of discussion-oriented editorials and essays, even the flagship journals of collective health expected empirical research to be presented according to certain traditional standards. At writing in 2021, BRG has published a small number of articles in Brazilian academic journals, and several of its doctoral students are nearing completion of their degrees. (BRG's faculty members recounted students' doctoral theses and individually authored articles as evidence of the group's "productivity", since these projects were developed on the basis of spin-off research that students conducted individually at the Santa Cecilia Emergency Hospital.) In these final months, the

group also began devising a new project that they would later successfully pitch for another PP-SUS grant.

Notwithstanding the disciplining of their research into journal form, BRG also went on to present their findings at various academic conferences in both Brazil and Portugal. For these venues, they wrote bold abstracts that reflected the experimental spirit and radical politics of their project as I had experienced it in their meetings. They won awards for their research as presented at the annual meeting of the Brazilian Graduate Association of Collective Health (ABRASCO), the flagship collective health institution (the significance of which I describe in Chapter 2). In these settings, they were rewarded for maintaining and circulating the exciting flair that had characterized the analytical process.

CHAPTER 2: MICROSOCIAL HEALTH DEMOCRACY

> We are militants, managers, health professionals, specialists in health, all of us who have dedicated ourselves to research in Collective Health, seeking, in some form, to evaluate what we have made, the advances that have been possible, the impacts of the policies that we don't cease to formulate, the transformations in care beginning from models of management and techno-assistance that we do not cease to design and propose.
>
> – Luiz Carlos de Oliveira Cecilio, *The "Double/Triple Status Issue" in Studies about Management and Health Organizations in the Brazilian National Health Care System*, 2014

Micropolitical Intimacy

In a widely cited 2014 article in *Forum Sociológico*, medical sanitarista Luiz Carlos de Oliveira Cecilio explored what he called "The issue of the 'double/triple status' in studies about management and health organizations of the Unified Health System in Brazil". Cecilio coined this term, "double/triple status", to conceptualize the ways that individual sanitaristas' roles had often shifted since the founding of SUS in 1990. The Health Movement (*Movimento Sanitario*) had emerged in the 1970s during a period in which the repressiveness of the military dictatorship had softened somewhat. In the first decade after the 1964 coup, sanitaristas had been forced into silence or hiding, although they often continued to work as medical professionals and exchanged ideas clandestinely (see Galeano et al. 2011). With the lessening of censorship in the mid-1970s, sanitaristas emerged from their hibernation equipped with a range of critical ideas typical of the era. "The Health Movement," wrote Cecilio, "… took the relation between State and Society as an object of comprehension and critique as much as it made the State itself [into] the territory to be disputed in a counter-hegemonic project of strong Gramscian inspiration" (2014, 1). In their successful campaign to establish the world's largest universal health system (see Harris 2017), the sanitaristas had "infiltrated the state" (Falleti 2009) and painstakingly cultivated ethical frameworks

that were rooted in a broadly social-democratic vision.[1] This ethos was informed by all manner of critical thought, but especially Structural-Marxist and Gramscian, and was developed in dialogue with the Latin American social medicine movement pioneered by Argentine physician Juan Cesar Garcia (Galeano et al. 2011). It was "counter" to several existing approaches to medicine and public health, each of which allowed for durable institutional distinctions between haves and have-nots, such that the millions of Brazilian have-nots accessed subpar healthcare through charity and spotty public programs. Sanitaristas had seized — through a "supra-partisan parliamentary base" (Cecilio 2014) — the machinery of the State in order to institute a new hegemony in which a new set of ethical values and dispositions would form the foundation of Brazilian healthcare going forward.

In the two-and-a-half decades since this achievement, Cecilio argued in 2014, sanitaristas had not often reflected on the affordances and limitations engendered by what he called their "double/triple status". After the 1980s, sanitaristas had moved "from a position of critique to the position of protagonist of construction, or better put, [protagonist] of the *invention* of a health system, [and] simultaneously to the production of knowledge about it" (Cecilio, 2, emphasis in original). In other words, Cecilio pointed to a shift in the roles of sanitaristas: from critics, in the pre-SUS era, to professionals who were both building a system and producing knowledge about it. The double/triple status resided within this latter position, in which many sanitaristas were either a "researcher/medical professional" or a "researcher/manager" or all three ("researcher/medical professional/manager"). Cecilio himself was in such a position of "triple status", as he had long

[1] Political scientist Tulia Falleti (2009) has argued that sanitaristas "infiltrated the state" long before the return to democracy, implementing their ideas in rural settings in which there was little-to-no state presence. The conservative military government sent sanitaristas to such locales precisely in an effort to create such a presence by providing minimal public healthcare infrastructure. Ironically, this made it possible for unsupervised, leftist sanitaristas to incrementally lay the groundwork for a coming universal health system. Falleti argues that the "gradual changes" introduced by sanitaristas were decisive in enabling the processes of "universalization" and "municipalization" that would be pursued as official policy after 1988 (see Part 1 of the present chapter).

worked as a medical sanitarista (doctor) before turning to management and "planning" (hence the construction of SUS) and eventually to research as a sociologist at the University of Campinas (an important sanitarista hub in the third-largest city in the State of São Paulo) and then the Federal University of São Paulo (in São Paulo proper). For Cecilio, the double/triple status was not problematic, but was rather something that ought to be reflected upon insofar as its emergence instantiated a historico-epistemological fulcrum. "If critical thought in the previous decades was oriented toward the big determinations, toward the big categories like State, Civil Society, Social Classes, [then] now it deals with micropolitical processes that are becoming more evidenced or are more valorized in the task of constructing the new health system" (Cecilio, 3). As a function of sanitaristas' closeness with the new health system, they began to orient their attention less to "big categories" and more to the "micropolitical processes" through which SUS operated in the day-to-day.

Hence for sanitaristas, the development of the double/triple status corresponded to the emergence of a question that had not been possible before SUS: how does the Unified Health System work? After sanitaristas had taken the lead in building SUS, they were understandably interested to know how their designs were playing out. Over the years, as public perceptions of SUS hardened into various expressions of ambivalence, questions like these became more urgent as sanitaristas sought to improve on the shortcomings of the system. However, what we might call "the turn to micropolitics" was focused primarily on institutional and technocratic aspects of SUS itself. As another sanitarista, Amelia Cohn (2009, 1615), put it just a few years before Cecilio's article, "Beginning in the decade of the 90s . . . one sees a shift in academic and non-academic production from the big questions involved in the original proposal of Reforma Sanitaria – democracy, the role of the State, structural dimensions of the health/disease process, a national project for the nation – to studies of a pragmatic and technicist character". Cohn granted that a pragmatic perspective was

understandable – the construction of SUS was a complex undertaking, after all – but lamented "the loss of the reflexive character of the production of the field, subsumed by the technicist vision of implantation, or implementation of SUS".

In his reflections on the double/triple status, Cecilio sought to deliver a corrective to this "loss of reflexive character". As he presented it, the double/triple status spoke to the sanitarista's thick situatedness within the system. On the one hand, this meant that the sanitarista could not deliver a critical analysis of SUS "from the outside". The sanitarista was deeply implicated and involved in the production of SUS. On the other hand, the double/triple status was also evidence of the sanitarista's intimacy with and presumed deep knowledge of the system. The double/triple sanitarista had perhaps often focused on "pragmatic and technicist" problems, as Cohn put it, but Cecilio was suggesting that the sanitarista's gaze merely had to shift. The field could regain its "reflexive character" through studies that focused not on institutional structures and prescriptive norms, but on what Cecilio called "the unexpected singularities produced in the user-worker encounter, the acts of non-care, but also the good care that is realized but is invisible to the eyes of the manager" (Cecilio, 4). Double/triple sanitaristas needed to look to real people and their practices in the production of care, many of which were thought to be mysterious or elusive, so as "to capture *that which brings the water to boil* [*aquilo que fervilha na água*], that which is of the order of the contingent, of the multiple, of the everyday, that which makes up the world of [healthcare] work" (emphasis in original). This was what it meant to pursue "a more intimate and sensitive micropolitics", as Cecilio put it. One had to find "that which brings the water to boil".

Divided into two parts, with an "ethnographic intermezzo" between them, this chapter accompanies sanitaristas as they circumscribed difficult-to-specify tokens of the micropolitical. Like the dissertation as a whole, the scenes I discuss are situated in relation to the specific political-historical context of the Temer presidency. In Part 1, I discuss the conditions through which

collective health and the health movement emerged in the 1970s. While this might be called "historical background", it is worth noting that sanitaristas were constantly referring to this earlier period in their struggles with the politics of the 2010s. To wit, in Part 2 of the chapter, I consider three "roundtables" held in October and November of 2016 by the Paulista Association of Public Health (APSP). This series featured twelve different prominent sanitaristas, each of whom spoke on questions related to "Challenges for SUS in the Contemporary". Note that the roundtables were held just a few months after the impeachment of Dilma Rousseff and just a few weeks before the passage of the "ceiling amendment" that was to "freeze spending" on SUS for 20 years. At the roundtables, speakers tried to articulate how SUS had ended up in such dire straits as well as how the health movement might ultimately salvage its project. Through a careful analysis of their comments, I suggest that sanitaristas understood the success or failure of SUS technologies through micropolitical analytics that I call "proximity" and "disjunction". Importantly, such analytics were more visible in para-ethnographic spaces like the roundtables, public health classes, or BRG meetings, than in published empirical research that was subject to journal requirements.

Between these two parts, I return to Beta Research Group to offer an ethnographic account of a sanitarista graduate student who struggled in her own pursuit of the micropolitical. The intermezzo operates as a sort of ethnographic metaphor that tells a concrete story in which the micropolitical eludes the gaze of a determined researcher. This contrasts somewhat the more abstract discussions carried on by sanitaristas in Part 2.

Part 1: Collective Health Democracy

State Health

Historically, sanitaristas have always thought of themselves as having a certain intimacy with those Brazilians who lived in poor and under-developed areas. Historian Gilberto Hochman (1998)

has described how the first 20th-century iterations of Brazilian public health focused on combatting yellow fever, smallpox and Bubonic Plague in urban Rio de Janeiro (then the federal capital). Then, from 1910 to 1930, advocates of sanitary reform shifted their focus decisively to poor rural areas, having "discovered the countryside, its abandoned and sick inhabitants and the possibility of curing them and integrating them into the national community" (61).[2] Notwithstanding the many different forms that public health institutions took over the ensuing decades, sanitaristas have always maintained a vocational identity in which they identify with both state structures and altruistic outreach to the underserved.

As sanitaristas frequently noted in public speeches during my fieldwork, the contemporary Unified Health System (SUS) is the product of a chain of events that began during Brazil's last military dictatorship (1964-85). Prior to the 1964 coup, there had been rumblings that a "nationwide network of services" might be built under the purview of the federal Ministry of Health (Lima et al. 2005). But the right-wing military government that took power in March 1964 had no interest in such designs. For the first decade of the dictatorship, sanitaristas were marginalized and unable to openly float their nascent ideas about new approaches to public health. During this time, the right-wing government basically stuck to existing structures and programs wherein access to medical care was deeply unequal. In lieu of a universal public system — examples of which had by this point been established in several western European countries — the government doubled down on "preventive medicine", a minimalist approach to public health imported from the United States in the 1950s (Arouca 1975; Paim and Almeida Filho 1998; Escorel et al. 2005). The basic premise of the field was that public health could be efficiently ensured through proactive practices of "prevention" rather

[2] Since the turn of the 20th-century, public health has repeatedly figured as a vehicle for state- and nation-building in Brazil. Hochman's book is one of the better known historiographies of this early "era of sanitation", and was recently (2016) translated into English by Diane Grosklaus Whitty. See also: Lima et al. 2005; Fonseca 2007; Silva 2014.

than the building-out of costly public systems. To a degree, the preventive approach was progressive insofar as it de-emphasized the "curative" hospital as the place where health was achieved. For this reason, "Departments of Preventive Medicine" (DMPs) attracted medical sanitaristas-in-training who were interested in considering the social determinants of health and disease. However, sanitaristas would eventually turn against preventive medicine because it remained a basically reactive clinical practice: it had no tools through which to actually intervene in those social conditions that produced poor health outcomes (Arouca 1975). By the mid-1960s, sanitaristas were already skeptical of preventive medicine, but the military government made it the new norm by making DMPs obligatory in medical schools nationwide in 1968 (Escorel, 63).

Meanwhile, the government maintained a longstanding "duality" between "public health" (*saúde pública*) and "pension medicine" (*medicina previdenciaria*) (Teixeira and Paiva 2018, 431-435; Lima et al. 2005; Fonseca 2007). Public health encompassed preventive medicine and consisted in lean "vertical" campaigns to vaccinate populations, eradicate specific infectious diseases and conduct epidemiological monitoring.[3] Outside of these disease-specific efforts, there was no national "public healthcare system" as such. As had been the case since the first Vargas government in the 1930s (see Fonseca 2007), public health was centralized and top-down, meaning that authority was concentrated in the federal Ministry of Health. Pension medicine, in turn, was a system of public insurance somewhat akin to Social Security in the United States. Workers gained access to insurance and thus medical care through formal employers, who could be either public or private. As a national system, pension medicine suffered from the obvious shortcoming that it did not provide

[3] Such programs are characterized as "vertical" because they beam down from the federal government into specific places to deal with specific problems (typically an endemic or epidemic disease). They are targeted, limited and overseen by a centralized federal bureaucracy. In contrast, a "horizontal" approach would build out a fuller healthcare infrastructure for ongoing management by local actors.

healthcare access for the unemployed or for those who we would today call "informal" workers. In 1960s Brazil, this latter category included most rural and domestic workers. Those who did not have access to pension medicine had to rely on "philanthropic" hospitals of varying quality and geographic availability (Almeida et al. 2001). Again, rather than consider the development of a universal healthcare system, the military government doubled down on the existing system, developing a series of largely unsuccessful programs to expand insurance access to informal workers in the late 1960s and early 1970s (Teixeira and Paiva 2018).

For the first decade of military rule, sanitaristas could not openly advocate for anything like a universal healthcare system. The military hardliners who ruled between 1968 and 1974, in particular, were fanatically paranoid regarding anything resembling "communist" thought. This infamous period featured intense censorship, police surveillance, dissident torture and the exiling of many public intellectuals (Skidmore 2010, Chapter 7). In 1974, however, the more moderate General-President Ernesto Geisel took office and initiated what he famously called the "slow, gradual and certain" transition to democracy. During his administration (1974-79), the repression of the preceding years lessened and critics of the government were once again allowed to air their views.

Democracy would not actually be reinstated until 1985, but sanitaristas burst back onto the public scene in the interim. After 1974, they would found civic organizations, academic centers, scientific journals and, of course, the new discipline of collective health itself. Through it all, they engaged in rigorous critiques of preventive medicine, dualistic healthcare and centralized public health. The coming universal system would be built on conceptual technologies that rejected these legacies in both spirit and letter.

Clearing a Field

In 1973 and 1975, two now-famous doctoral theses were defended at DMPs in São Paulo State. One was Cecília Donnangelo's (1975) *Medicine and Society*, defended at the University of São Paulo in 1973, and the other was Sergio Arouca's (1975) *The Preventivist Dilemma*, defended at the University of Campinas in 1975 (Nunes 2008). Each of these theses, as well as Donnangelo's (1979 [1976]) follow-up "teaching dissertation" (*livre docência*), *Health and Society*, struck an important conceptual blow to the healthcare status quo of the time and contributed to the "transformation" of preventive medicine into collective health (Vieira da Silva and Pinell 2014, 439). In different ways, each work critiqued the parochialism of preventive medicine in relation to its social contexts. For her thesis, Donnangelo conducted 150 interviews with physicians at the University of São Paulo's prestigious Hospital das Clinicas (HC). She explored the ways that medicine was conditioned not only by abstract technoscientific values but by situated capitalist labor relations and class structures (Nunes 2008). These "social factors" influenced health and medicine over and above the questionable modifications introduced by preventive medicine. In turn, Arouca (1975) expanded on Donnangelo's conclusions and addressed the field of preventive medicine directly. He argued memorably that preventive medicine prescribed a mere change in the individual doctor's "attitude", rather than any substantive reform to the practice of medicine itself. As a result, Arouca concluded, preventive medicine appeared to be nothing more than a modestly preemptive mode of existing clinical practices.

Donnangelo and Arouca's theses are remembered today as the original footholds of "collective health" — although this phrase appears in neither of them. It was in the years immediately after their publications that "collective health" emerged as the preferred nomenclature of the new field. This came about in part through efforts to institutionalize sanitaristas' emerging critical perspectives. In 1976, the Brazilian Center for Health Studies (CEBES) was founded by a group of sanitaristas at the University of São Paulo (Teixeira and Paiva 2018) in order to promote

"discussions that reaffirm the intimate relation between health and social structure" (L'Abbate 2003). The now-famous journal *Saúde em Debate* ("Discussing Health") was founded as the vehicle for CEBES' discussions, taking as its first motto "health and democracy" (L'Abbate). In 1979, the Brazilian Graduate Association of Collective Health (ABRASCO) was founded to institutionalize collective health as a scientific discipline and to codify graduate programs pursuant to it (Teixeira and Paiva). ABRASCO persists today as arguably the most important venue through which sanitaristas share research and ideas (at regular meetings and academic conferences all around the country). At the time of their foundings, these new institutions gave sanitaristas durable space in which to develop conceptual alternatives to preventive medicine.

Collective Health Democracy

Eventually, collective health would be formally structured as an interdisciplinary "field of knowledge" consisting in three broad disciplines: epidemiology; human and social sciences in health; and health policy, planning and management (Osmo and Schraiber 2015). However, from the inception of collective health through to the present, sanitaristas have refused a substantive definition of collective health per se. A wealth of academic reflection attests to this (see: Donnangelo 1983; Nunes 1994; Escóssia 2009; Vieira da Silva and Pinell 2014; Osmo and Schraiber 2015). In this literature, sanitaristas posit collective health as less a fixed domain of knowledge than a permanent disposition of searching and questioning. Even while structured according to its three sub-disciplines, collective health itself is understood to be "a creation that overflows disciplinary boundaries" (Nunes 2005). As Donnangelo herself put it in 1983, "collective health should be understood as an approximate delimitation of the field (of health) not through formal definitions, but consider[ed] as a point of departure, that . . . expresses itself in the present as a set of tendencies [characterized by the] widening and recomposing of its space of intervention or, correspondingly, of

its field of knowledge and practice". In other words, collective health is defined precisely by the reflexivity of its practitioners and the impermanence of its boundaries. In turn, the dynamic that drives the field's vitality is the very intersection of the substantive "health" with the modifier "collective". For sanitaristas, this phrase denotes a vital kernel — an elusive thing-in-itself or *objet petit a*, to recall Kant or Lacan/Zizek, respectively — that structures sanitaristas' project in a dynamic and ongoing fashion. By predicating *health* as a *collective* thing, sanitaristas in the 1970s-80s meant to destabilize the objective of biomedicine (health) as it was traditionally understood. Donnangelo (1983) again: "The commitment, even when generic and imprecise, to the notion of collective, implies the possibility of commitments to particular, historical-concrete manifestations of the collective sphere", which, in turn, will in their historical specificity differently determine the substance and meaning of "health". For sanitaristas, the collective is both concrete and vital; therefore, the *health* in *collective health* takes on this dynamic quality, as well.

Sanitaristas' reframing of health through the collective was intended to overturn both preventive medicine and dualistic healthcare. With regard to the latter, collective health signaled attention to shared social conditions in a total and exception-less sense. For sanitaristas, who were accustomed to working with less privileged populations, a two-tiered healthcare system was immoral on its face. The 1970s status quo, in which there was minimal, vertical public health (for the poor) and generally reliable pension medicine (for the formally employed), was thought to be both morally wrong and technically ineffective. Among sanitaristas, it was something of a truism to observe that health could not be both collective and dualistic. (For the American observer, this recalls the infamously flawed logic of segregated education in the Supreme Court decision in Plessy vs. Ferguson, "separate but equal".) Hence the basic concept of collective health implied a "universal" and "equitable" system.

Sanitaristas continued conversing, writing and advocating through the 1980s, as popular opposition to the military government grew more vocal and organized. In 1985, after years of incremental moves (e.g. the return of direct elections for offices below president), the military ceded power to a civilian executive, marking the return to democracy. From 1986 to 1988, a Constitutional Congress wrote the new Constitution that would be promulgated in 1988. Also in 1986, sanitaristas held the 8th National Health Congress (CNS), a watershed event that would formally produce the principle of health as the "right of all and the duty of the state" (language that would find its way into Article 196 the Constitution) (Escorel and Arruda de Bloch 2005). Presided over by Sergio Arouca, the 8th CNS brought together grassroots actors, medical professionals, healthcare workers and government officials to discuss proposals for healthcare reform in the new Constitution (Osmo and Schraiber 2015). In addition to the principle of the "right to health" itself, the resulting "final report" of the 8th CNS advocated: a broad state interpretation of the conditions and substantive meaning of "health" (e.g. collective health); the development of a Unified Health System (SUS), to be structured according to the principles of "universality, equity, integrality"; institutional space for "popular participation" in and "citizen control" of the management of healthcare, in the form of Municipal Health Councils (CMSs); and "decentralization", or the devolution of control over public health from the federal Ministry of Health to individual municipalities. To differing degrees, all of these principles would be incorporated into either the Constitution or the ensuing federal legislation that founded SUS in 1990. Moreover, the 8th CNS itself — marked by broad civic participation — became a symbolic model for how collective health ought to be demarcated and explored in the political sphere.

To wit, the promulgation of the Constitution in 1988 initiated a juridical interpretation of health known as "health democracy" (*democracia sanitaria*). Like collective health, health democracy was conceived around a dynamic social kernel — in this case, "the people" or "participation". In

addition, again like collective health, health democracy obtained its vitality by putting the social ("the people") in conversation with health as such. Health democracy derived from the right to health at the same time that it was its own technology: "The right to health, by being a right sensibly linked to each of us, and by also being a right determining of life and of the dignity of being human, demands that the state organize and create conditions for the rise of democratic juridical institutions and decisive participatory processes" (Aith 2017, 14). Toward such ends, and as part of the process of decentralization or "municipalization" (Dallari 1985), the legislation that established SUS specified mechanisms for "citizen control" (*controle social*). These new mechanisms were intended to ensure that healthcare services would be subject to very localized democratic control.[4] The principal such technology was the Municipal Health Council (CMS), a formal local body that would approve or disapprove policy in each and every municipality in Brazil. Elected citizens would compose half of the CMS in each municipality (50%), and the remaining half would be staffed by health administrators (25%) and workers below administrators (25%). Finally, while the Ministry of Health would oversee SUS and various aspects of public health policies and standards, SUS itself would always be administered at the municipal level by the Municipal Secretary of Health.

Part 1 Conclusion

Collective health made space for sanitaristas, as well as health professionals who were not card-carrying members of the movement, to develop many different concepts, technologies and institutional programs over the years. Health democracy can be read as one fruit of this movement (and one of the most important). Health democracy encompasses its own rich vocabulary of

[4] In Brazil, there are three levels of federal government: federal, state and municipal. Municipal governments are "autonomous" in roughly the same way that state governments are in the United States.

concepts and technologies, like "participatory management", "health law" and "judicialization of the right to health".[5] Other products of collective health thought include the three ethical values that serve as the official "principles" of SUS, "universality, equity, integrality", as well as ancillary high-value concepts like "accessibility" and the right to "humanized" care.[6] Altogether, sanitaristas have intended these concepts and technologies to enable the universal healthcare system, SUS, to be dynamic and highly responsive to the expectations of the society which it seeks to serve. In another light, these concepts are meant to enable sanitaristas themselves to engage, represent and respond to society. Sociological concepts like "inequality", for example, have mediated sanitaristas' epistemological access to Brazilian society as such, as was pointed out by a sanitarista in the roundtables that I discuss in Part 2 of this chapter. Many sanitaristas came to "know" Brazilian society in the 1970s and 80s through social scientific research that sought to measure inequality. In turn, values like "equity" reflected sanitarista sensibilities as to the specific problems of Brazilian society (e.g. inequality), particularly as such problems were understood in the 1980s. Yet by the 2010s, sanitaristas were losing faith in the technical and semiotic efficacy of these concepts and technologies. That is, sanitaristas found that many of these concepts did not, in fact, enable SUS to

[5] "Judicialization" refers to the patient's use of the justice system in pursuit of the right to health. Generally, this occurs when a citizen sues a public body (e.g. the Ministry of Health) for access to a particular medical treatment or service, on the basis of Article 196 of the 1988 Constitution. Judicialization is controversial, even among sanitaristas, and is a major topic of study among Brazilian legal scholars and healthcare researchers (see for example Bucci and Duarte 2017). It has also been carefully examined in English by anthropologists João Biehl and Adriana Petryna (2013b, 328). As they note, "Although lawsuits secure access [to life-saving medicines] for thousands of people, at least temporarily, this judicialization of the right to health generates intensely complex sociomedical realities … and significant administrative and fiscal challenges which, officials argue, have the potential to widen inequalities in health care delivery".

[6] "Humanization" (*humanização*) is a movement within Brazilian healthcare generally (visible in both public and private settings), wherein an emphasis is placed on treating patients holistically and with respect. "Humanized" care is often cited as one of the objectives or characteristics of a given health institution's mission. It contrasts with care that is "bureaucratized" or "inhumane" (*desumano*).

respond dynamically to the needs and expectations of its users. Nor did most Brazilians understand or identify with concepts like "universality" in the ways that sanitaristas used such terms.

Part 2 of this chapter examines how sanitaristas arrived at these conclusions through discussions in para-ethnographic spaces of collective health in late 2016. In the public forums that I describe, sanitaristas came together to conduct winding conversations in which they articulated successes, failures, challenges and possible paths forward for the health movement. Speakers drew from published scientific work as well as from anecdote, news articles, personal experience and ideological instincts to articulate their opinions as to how to "rethink and retake the principles of Reforma Sanitaria". The rich conversations that ensued were grounded in the sciences of collective health as well as the first-hand experiences of many participants who had worked in SUS. At the same time, however, the "roundtables" that I will describe embodied the open-ended spirit of collective health as Donnangelo had articulated it: they were envisioned as "points of departure" in the "re-composition" of collective health itself, rather than as attempts to move toward closed "matters of fact" (e.g. Latour 2004).

Ethnographic Intermezzo: Proximity and Enigma

The Brazilian academic year runs reverse to North America's: school typically begins in March and continues until December, when the summer holidays begin. Hence at a Beta Research Group (BRG) meeting in late June 2018, much of the research team was absent, as we had arrived to the end of the first semester of the year, and were teetering on the edge of a brief winter hiatus. The meeting was accordingly laid back as we discussed odds and ends and focused on troubleshooting some team members' doctoral projects in Collective Health. For Diana, one of those doctoral students, the unrushed ambience belied pressing anxieties about the state of her project. Diana was in the process of collecting life histories of patients with chronic diseases who had at some point

been hospitalized. Like other doctoral students in BRG, she used her research access to the Santa Cecilia Emergency Hospital to build a standalone study as a sort of spin-off to the team's main project. Thus Diana had obtained permission from the hospital and various ethics boards to contact and conduct interviews with individual patients who had been hospitalized there recently. At the BRG meeting, attended by Anderson and Vitor, who were not only coordinators of BRG but also members of Diana's dissertation committee, part of the meeting was devoted to Diana's rich accounting of her progress — or lack thereof, she worried.

At Anderson's suggestion, Diana first described the state of a literature review she had been conducting, guided by the question "How have life histories, oral histories, life narratives, narration in general — how have these been used in collective health [research], and why have they been used?" Working through online bibliographic databases, she had meticulously organized different search terms and parameters, limiting her scope to recent publications in some searches and opening herself up the entire history of collective health in others. In her first stab, searching only the last five years in the top five collective health journals, her search netted a mere seven results. "That can't be," she told us she said to herself — out of many hundreds of articles published across these journals in that timeframe, surely there must be more than seven that used oral histories? But after repeated searches, Diana found that the pickings were just that slim. As she widened her parameters, she eventually collected 81 articles that fit her criteria, if she included no chronological limits. About half of these, she said, turned out to make no mention whatsoever of life histories or narratives. It was "a mystery" as to how they were picked up by the search. That left Diana with about 40 articles (dating as far back as the 1980s) that used life histories, oral histories or other invitations to narrative to "produce knowledge" in the field of collective health.

Anderson and Vitor shared in Diana's surprise at what they perceived as a relative dearth of sources. For a science that prided itself on its proximity to collective lifeways, how had so few

collective health researchers inquired into people's lives in this richest of formats? Vitor suggested a text off the top of his head that Diana had not seen, but otherwise he and Anderson were persuaded that there was an odd gap in the collective health literature. No matter — Diana had done the work of scouring the discipline and had reached a valuable conclusion in this regard. What was proving less amenable to sheer work ethic were her life history interviews themselves, however.

At the same time that she had been compiling her literature review, Diana had begun pursuing patients to interview in "the field" (*o campo*). In February, the Santa Cecilia Emergency Hospital had granted her access to patient records and even gave her a list of patients that they believed met her study criteria. The idea was that Diana would contact patients after they had been discharged and introduce herself and her study over the phone. As it turned out, patient's phone numbers were often wrong or out of service, and those patients she did reach were uniformly uninterested. Changing tactics, Diana asked the hospital if she might shadow a medical team during daily rounds, during which they interacted individually with patients in-person. "Carla," Diana asked, speaking to one of the head doctors who BRG researchers knew well, "would it be possible for me to come along on the rounds? Because during rounds I could get better proximity [*aproximação*] [to patients], I could make first contact with the users, etcetera." The hospital approved the change and the new approach seemed to bear fruit. Diana was introduced to patients briefly during rounds and then would return to some patients' bedsides later, individually, and introduce her research in a quick spiel. She asked to be able to contact them after they were discharged to conduct interviews in their homes or wherever they felt comfortable. While some patients still declined participation, Diana was excited that several responded enthusiastically in the affirmative.

Up until this point in her research itinerary, Diana had encountered several obstacles (scarce literature, hospital bureaucracy, difficulty reaching respondents) but had dispensed with them fairly

quickly. As she turned to actually conducting interviews, however, she encountered some of the more intransigent challenges of qualitative research.

For each tentative participant she met in the hospital (just four, as of our June meeting), Diana followed up by calling them on the phone after they had been discharged. She described each of these patients as remembering her and continuing to express interest over the phone. With each one, she set up a time that she could come to their home or workplace and conduct an interview or series of interviews, depending on the nature of each life history. The participants all lived in Santa Cecilia, hence Diana had to commute by train, metrô and/or bus from her apartment in São Paulo, which usually took about an hour each way. The problem was that, at the same time that her prospective research subjects expressed what appeared to be sincere enthusiasm, they were incredibly unreliable. By the time of our June meeting, Diana had only been able to complete one interview in its entirety, while she had conducted several short interviews in bits and pieces with a subject who repeatedly interrupted their progress. Other tentative respondents had been more confounding, inviting Diana to Santa Cecilia but then ghosting after she arrived.[7] At the BRG meeting, Diana described her cat-and-mouse game with each individual respondent in fine detail, repeatedly eliciting laughter from her colleagues and I as she punctuated her experiences in a well-structured, self-deprecating style. Everyone in the room, including me, could empathize with the frustration of recalcitrant research participants. As Diana moved from one case to the next, I had the sense of a scientist in a permanent state of limbo, always-almost consummating an event of critical scientific value. And like limbo in its Biblical sense ("Purgatory"), Diana's liminal position

[7] In contemporary American slang, "to ghost" is to be in contact with someone through text, email or social media and then, without warning or explanation, to simply stop communicating. Diana was "ghosted" insofar as respondents stayed in touch with her and even arranged for her to come to Cecilia, but then seemed to disappear, suddenly declining to acknowledge her or respond to her texts.

transpired in real spaces and times. There was a tangible materiality to Diana's non-interviews. Her research, she worried, was devolving into a kind of non-study in which her time and energy were devoted entirely to traversing geographic spaces between São Paulo and individual sites in Santa Cecilia. This was palpable in the case of a promising respondent whom she did not name:

> For example, this user, he was a really nice person. I went to talk to him [in the hospital], he was nice, a barber, imagine. Within a minute and a half of starting to talk to him, he told me he was HIV-positive and asked my advice as to whether he should tell the people close to him or not. As if I should tell him what to do . . . I thought to myself, "Wow, this would be really easy to get his life history, because I'll arrive to his place, and he'll just tell me his life story." All good. He left the hospital [later]. I called him. He was really nice to me. "Let's schedule it!", all that. We scheduled. On the day that we scheduled, I did an "initial contract" with him, regarding time, regarding the issue of interruptions. That first time, I was with him for 22 minutes exactly, and he had already interrupted us two times to answer client phone calls. All good, ok. I said "Ok, look, if you let me come back, could I just come back and we could converse a little more then?" "Sure, sure you can come back, it would be a pleasure! Could it be next Tuesday?" "Of course, whatever day you want, the easiest for you." So what I was doing at the time, even with a day scheduled, confirmed, made sacred [*laughs*], I was still getting in touch with [participants] a day in advance, or some period in advance, in order to confirm that everything was good and all of that.
>
> So the second time we scheduled, when I called him [the day before], he said "Oh look, I've got a client appointment, I'm not going to be able to receive you." "No problem at all, whenever is best for you." "Next Tuesday." … On the next Tuesday, I sent him a [text] message, he didn't respond, and I was on my way there and he [responded] "Oh! Today is not going to work. I am by myself in the hair salon and so it's not going to work. Can we reschedule for Wednesday?" "Of course, let's schedule for Wednesday." Wednesday, 9:00AM. At 9:02, I was there in the doorway of the salon. He passed by in the hallway and saw me, says, "Oh I lost your phone number! I was going to warn you, today is not going to work for us to talk, because I'm alone in the salon." This guy is giving me the run-around. He said, "If it's all right, could we mark for another time?" I said, "Ok, we can, but I am going to propose something to you. I am coming from São Paulo. We can schedule another day, but maybe, seeing as it is still early, we could start, we could just sit here and start, and if we have to, we just interrupt ourselves [if a client arrives]. Could we do that?" "Sure," he says, "come on in". So I go in . . . Then he kept speaking in enigmas that were impossible to understand absolutely anything.

During the BRG meeting, Anderson and Vitor offered various pieces of advice and feedback to Diana, but she remained nervous about her progress. At this rate, she worried that she would not be able to collect enough interviews to develop a dissertation of adequate "density", as she put it. The meeting wrapped up with no clear resolution for her.

After the meeting, BRG researchers slowly milled out of the room and I packed up my things while Diana chatted more intimately with Anderson. "I haven't forgotten about you, Jack!" she yelled as she glanced in my direction near the door. She joked to Anderson, "Now I have become the object," as she prepared to shift roles and tell me about her work over coffee. At the time, I had been meeting with members of the research team individually, asking about their personal research trajectories and how they had ended up working with BRG. Diana and I had planned to meet after that day's meeting. I told her not to rush as I said goodbye and made small talk with other lingering researchers. Eventually the two of us wandered down four flights of stairs and stepped across the street from the Collective Health Building, where the research team often gathered at a cafe-restaurant (*lanchonete*) for post-meeting coffee and banter. True to routine, several researchers were already gathered there — including some regulars who had been absent from our meeting — and Diana and I took two seats at the end of a long table that slowly filled with boisterous sanitaristas.

Over espresso and *pão de queijo* (cheesy bread puffs), Diana told me how she had become interested in collective health. When she was a teenager, a family member had had a sudden medical emergency that left him bedridden.[8] Diana's experiences helping to care for that family member piqued an interest in healthcare, although she was not sure exactly what she wanted to do in the field. In college, she studied clinical psychology, and afterward she did an *aprimoramento* (literally "enhancement", which she described as "a kind of one-year residency") at the University of São Paulo's Hospital das Clínicas ("HC"). Up until this point, she told me, her training had been very hospital-based, caring for patients within the hospital setting. But as part of the *aprimoramento*, students were allowed to choose a specific clinic within the hospital where they would specialize.

[8] I keep this description vague to protect Diana's privacy and out of respect for a very personal experience.

Counterintuitively, Diana's choice took her *out* of the hospital. She opted to work in a department known as the Interdisciplinary Home Care Nucleus (NADI, *Núcleo de Atendimento Domiciliar Interdisciplinar*), which specialized in providing in-home care to long-term patients.[9] "NADI is territorial. At the time I worked there, NADI attended to a radius of twelve kilometers out from the HC. You had the whole team, everybody is in the same car. Nurse, psychologist, phonologist, physiologist, and such. And what grabbed me was that I realized that I didn't like hospital [care], I liked that [territorial] type of care." I asked Diana why she "identified with" that type of "territorialized" care, as she put it. "Because for me it makes sense. So it makes more sense to work in a team. It makes more sense to do appointments as a group. It makes more sense that I can make [a whole team] responsible for a group of users, and not just for one person." For Diana, something about being a team in the territory just "made more sense".

Diana's interest in territory was shared not only by the other researchers in BRG but by sanitaristas in general. Historically, of course, geographic territories have long been objects of public health investigation, particularly in relation to epidemic diseases (Ferreira, Castillo-Salgado and Ribeiro 2017). Investigators like the 19th-century's John Snow have often used maps to make sense of the uneven spread of disease across a territory, for example, as Snow famously did to establish a link between cholera and specific sources of contamination in London (Johnson 2006). Yet while there are plenty of epidemiologists and geographers in the broad field of collective health science, Diana's use of "territory" was typical of a less strictly scientific kind of sanitarista pragmatism. For Diana, the concept of territory was just a starting-point. It was a way to begin attuning one's scientific practice to the complexity and unpredictability of concrete social worlds. From within a territory, a properly reflexive sanitarista could calibrate her technical practices and concepts to the

[9] In Portuguese, the term for what we call "home care" in English translates literally as "home hospitalization" (*internação domiciliar*).

meanings and materiality of concrete situations. In turn, proceeding inductively, a sanitarista expected to observe that individual users and families were "producing" their own care in conjunction with complex "networks" of public and private healthcare institutions (cf: Franco and Merhy 2009; Cecilio et al. 2014). In other words, going to the territory helped substantiate the idea that health was produced as much from the "bottom-up" (by users) as from the "top-down" (by institutions). Care was observed in such scenarios to be "coproduced by users and [medical] specialists" (Cecilio et al. 2014, 15). Broadly speaking, the goal of collective health was to engage with just such "naturally occurring" processes of production as they unfolded in real territories. "It was by way of NADI that I discovered that my place was in collective health," Diana told me.

As a doctoral student, Diana had shifted from a practitioner role (a psychologist on a multi-disciplinary medical team) to a researcher role. Such a back-and-forth movement across this professional "slash" was precisely what Luiz Carlos de Oliveira Cecilio (2014) had referred to as "the double status [of] health researcher/health professional". In turn, the challenges that Diana faced as a researcher – namely, that her individual research subjects were hard to get close to – bore some resemblance to the challenges that were facing the public healthcare undertaking more broadly. That is, by the 2010s, it was fair to say that SUS itself was a well-established institution (founded in 1990) – but sanitaristas had become acutely aware that something was out of whack at the conjunction of "SUS" and "society". Like Diana and her individual respondents, SUS often seemed unable to connect with its users in ways that sanitaristas hoped would be mutually enhancing. In published works spanning the 2000s and 2010s, sanitaristas concluded repeatedly that the healthcare system was not, in fact, articulating adequately with users' agentive practices of care production (see: Franco and Merhy 2003; Merhy 2004; Cohn 2009; Cecilio et al. 2014; Melo et al. 2017). Nor was the field of collective health producing concepts that might help bridge that gap. Instead, they worried, users thought about and produced their care one way (so to speak), and meanwhile SUS and collective

health were operating along totally disjunctive tracks. The resulting "system" exhibited stubborn dysfunctions and engendered public ambivalence about the value of public healthcare. By the 2010s, sanitaristas were concluding that they did not know how to truly calibrate their science and their system with the society that they sought to serve.

As with Diana's changing tactics in approaching prospective research subjects, sanitaristas were keen to develop better-calibrated modalities of *proximity*. That is, beginning from territory, in Diana's case, and other analytics that I discuss in Part 2 below, sanitaristas sought to get closer to lived worlds, values and subjectivities. At the same time – and again, as Diana herself found – even when they achieved physical or affective proximity, something often seemed to elude the sciences of collective health, just as they eluded the user-facing design of SUS. Off-handedly, Diana called instances of elusion "enigma"; I call them "disjunctions", and I describe attempts to resolve them through scientific investigations and institutional arrangements "approximations". Part 2 of this chapter is about efforts to resolve semiotic, technical and sociological disjunctions through the meta-analytics of "proximity" that I call approximations.

Part 2: Disjunction and Approximation

Of Coups and Crisis

During the PT presidencies of Lula (2003-2010) and Rousseff (2010-2016), sanitaristas had more influence inside the Ministry of Health than they had had during the 1990s, when more conservative presidents had ruled. (President Fernando Collor de Mello in fact line-item-vetoed much of the law (No. 8080) passed to establish SUS in 1990; the Congress had to override his veto by passing a companion law (No. 8142) that same year.) Sanitaristas' influence was inconsistent and far from sufficient to overcome problems like underfunding, but they were usually in the room and sometimes in charge of its proceedings. In 2016, the impeachment and removal from office of

Dilma Rousseff brought an unambiguous end to this period of relative influence. Shortly after Ricardo Barros was appointed Minister of Health by Acting President Michel Temer in May 2016, Barros famously commented that "the size of SUS needs to be revisited".[10] He would go on to make a series of startling comments regarding the perceived inefficiencies of SUS, arguing, for example, that Brazil's 7,500 public hospitals were excessive, and that "we could resolve everything with 1,500 hospitals".[11] I examine Barros' reforms to the health system, which focused on new efficiencies to be introduced by the "informatization" of health, in Chapter 4.

In the remainder of the present chapter, I explore sanitaristas' efforts to grapple with the unsettling political events of 2016. Of course, this includes not only the impeachment of Rousseff, which sanitaristas and other leftist groups characterized as a "coup" (*golpe*), but also the Brexit referendum (June 2016) and the shock election of Donald Trump in the U.S. (November 2016). For sanitaristas, events abroad indicated a growing right-wing populism worldwide, while the domestic rise of Temer was a more technocratic-elitist expression of disregard for the will of the people. Sanitaristas felt that the Temer government was basically illegitimate and that Rousseff had been removed on cynical partisan grounds. Now, with Barros at the helm of the Ministry of Health, it seemed likely that an unelected government would begin to "dismantle" SUS without any democratic accountability. PEC 241, the proposed Constitutional amendment known as the "Ceiling Amendment" aimed at the "freezing of spending" on social programs like SUS and public education, was the most concrete threat in this regard. It was proposed in June 2016 and finally passed as Constitutional Amendment 95 ("EC 95") in December. Not incidentally, Temer's approval ratings were consistently and notoriously low during his 2.5-year presidency, and he was ineligible to run for a full term in 2018. Just a few weeks after taking office as Acting President in

[10] Colluci, "Tamanho do SUS", 2016. See Introduction, Note No. 13, page 20.
[11] Furlan, "Para o ministro", 2017. See above: Introduction, Note No. 14, page 20.

2016, he was convicted of having violated election laws, and was barred from running for public office for eight years.[12] Again, for sanitaristas, this only cemented the perception that Temer's policy reforms were unaccountable by design.

Conversation

Since their movement had burst into the open during the Geisel administration in the 1970s, sanitaristas had been engaged in a culture of active, ongoing public conversation. After groups like ABRASCO and journals like *Saúde em Debate* were launched at the end of that decade, sanitaristas never looked back. Major political events, whether the historic election of Lula in late 2002 or the impeachment of Rousseff 14 years later, were incorporated thematically into the rhythm of intermittent public roundtables and workshops. Typically, such events were held at universities or research institutes in major cities like São Paulo, Campinas and Rio de Janeiro (these three forming a de facto "triangle" in Brazil's southeast region).

In that spirit, in October and November 2016, a series of three roundtables (*debates*) on the topic of "Challenges for SUS in the Contemporary" was held by the Paulista Association of Public Health (APSP). APSP is a premier "civic organization" that acts as an institutional space for the health movement in the State of São Paulo. It has regional chapters throughout the state and is intended to bring together "workers, professionals, researchers, teachers and students who act in the field of Public Health and Collective Health in the State of São Paulo".[13] APSP hosts one-off events like the 2016 roundtables, as well as more regular events like its biennial state-wide Congress and its

[12] Greenwald, Glenn. "Credibility of Brazil's Interim President Collapses as He Receives 8-Year Ban on Running for Office". *The Intercept*. June 3, 2016. Available here: https://theintercept.com/2016/06/03/credibility-of-brazils-interim-president-collapses-receives-8-year-ban-on-running/

[13] Per the APSP website: https://apsp.org.br/apsp/

monthly podcast, AvanSUS ("Advance SUS"), launched in 2019. In São Paulo proper, APSP's membership is heavily populated by students and faculty from USP-FSP and other universities, as well as sanitaristas who work in SUS itself. Hence many APSP events, such as the 2016 roundtables I discuss here, are held at USP-FSP.

The three roundtables were called as a general response to the gravity of the times, especially within Brazil and in relation to the dismantling of SUS. The President of APSP, Marilia Louvison, framed the rationale this way in her opening remarks at the first roundtable: "This cycle of roundtables, the proposal is that we produce a roundtable in order to discuss this really grave political moment that we are living, and rethink and retake our principles of Reforma Sanitaria, of SUS, of the public health system, [rethink and retake] what mobilizes us today in the everyday, in order to continue living, continue resisting, continue producing knowledge and continue believing, above all." For sanitaristas, the political horizon had grown dark and the path forward was unclear. In keeping with the ethos of collective health, the roundtables were proposed as a point of departure from which they might begin to "rethink and retake" their shared project.

Toward that end, each roundtable hosted three heavy-hitters in the world of collective health, plus a moderator. Several roundtable participants, such as Louvison herself (a presence at all three events but a formal roundtable participant in the second iteration), were professors at USP-FSP. Others were from universities in Rio de Janeiro and Campinas. Notwithstanding the high social status held by virtually all of the participants, the roundtables were remarkably inviting and conversational in tone. Organizers had proposed the series in order to cultivate solidarity and a truly vital exchange of ideas. The resulting conversations were envisioned as a kind of effervescent basis through which to confront what Louvison had called "this really grave political moment". "Where do we go?" asked Sueli Dallari, renowned legal scholar and one of the founding figures of health democracy, in the third roundtable. "I think it's a moment of serious crisis. We have to do politics,

and politics in the proper sense of the word: to discuss the life of the city, to look for the path." Dallari was an incorrigible reader of the ancient Greeks. "I think that the route is to have more conversations. It can never be too much. If there is salvation, it will be for us to converse and to *speak* [in English] as much as possible."

Gravity notwithstanding, organizers aimed at cultivating "happy affects", as Carlos Botazzo, Louvison's colleague in the Department of Practice, Planning and Management, put it in introducing the second roundtable. "Thinking about what brought us here, it's affects. Affects in the best Spinozan sense … The good encounters, right? This thing that permits us to be here, not expecting sadness . . . We are here because we are in an encounter, and a good encounter. So in that affectionate manner, welcome." The point of the roundtables was, in a sense, to begin generating not only new ideas but new affective infrastructures through which to pursue collective health after 2016. Louvison reinforced Botazzo's point moments later, adding, "This roundtable was [proposed] exactly to deal with the spirit of, of what we are looking for — looking for reasons, reasons and affects."

Roundtables were held in one of two auditoriums at USP-FSP. In both settings, participants sat side by side at a long table on a slightly raised stage at the front of the room. They spoke into microphones and often had notes on hand, but none of them seemed to "read a talk" and none of them used props like Powerpoint. Each roundtable responded to the broad topic of "Challenges for SUS in the Contemporary" through the lens of an individual sub-theme: "Integrality and the Production of Macro- and Micro-Politics in Health" (Roundtable No. 1); "Reforma Sanitaria and SUS: Affects and Reasons" (Roundtable No. 2); and "Equity and the Right to Diversity: Health and Democracy" (Roundtable No. 3). Each participant was invited to speak for about 20 minutes, hewing more or less closely to the assigned theme as they saw fit. Outside of the "titles" of the individual roundtables, and the introductory comments of organizers like Louvison and Botazzo,

there was no further program or description of the series. Each sub-theme was articulated contingently in the speeches and ensuing conversations themselves. To wit, after each roundtable participant riffed on the topic at hand, a rambling Q&A would begin with the 40 to 50 people seated in the audience. The Q&As lasted about one to two more hours in each case, bringing the total length of the roundtables to between two and three hours each. Each roundtable was broadcast live on YouTube (where the videos remain posted at writing in 2021) as part of APSP's effort to cultivate an accessible civic dialogue.

Disjunctions

Each roundtable proposed a particular point of entry into the contemporary politics of SUS. Yet all three managed to converge on structurally similar problematics. Participants were in broad agreement that the concepts and technologies of collective health had become disjunctive from the very "collective" — society itself — that they were designed to serve. Put differently, sanitaristas were finding that many of the radical tools that they had designed in the 1980s were turning out not to be neither functional nor meaningful outside of sanitarista circles. Sanitaristas' ethical values were often unintelligible to the uninitiated. "What have we learned?" asked Amelia Cohn, a well-known activist and critical theorist of Reforma Sanitaria, at the third roundtable. "That SUS, universal health, health as a right, etcetera — it's something extremely abstract for society." Sanitaristas' project had not germinated in society in the way that they had hoped. "It's very difficult for the population to understand what we mean when we say, 'Defend integrality!' They don't have a way to relate that with a health service," noted Jose Ricardo Ayres, a professor at USP's Department of Preventive Medicine and a participant in the first roundtable. Not unrelatedly, democratic technologies like "health councils" had proven to be relatively weak and unpopular avenues for citizen participation. "What we were doing was the right thing, may have been the right thing, had it

been 200 years ago," Sueli Dallari reflected, in reference to these technologies. "And today it doesn't work, it doesn't add up, so it doesn't work to just keep thinking about expanding . . . But not only that, the idea of democracy itself, all the big ideas of modernity, that are not working right now. How are we going to get out of this?"

In accordance with the individual sub-themes of each roundtable, most participants spent some of their speaking time exploring the "reasons" that the health movement had originally developed such concepts as "integrality", "equity" and "health and democracy". They considered what these concepts had been used for in the 1980s and whether they were still useful in the present. On the whole, they did not conclude that this rich archive should be burned down and replaced with something new, but rather that that archive needed to adapt to the circumstances of 2016. Indeed, several participants described the ways that these concepts had been integral to the achievement of the right to health — which was itself very popular, even in 2016.

Emerson Merhy, for example, spoke at the third roundtable, with Dallari and Cohn. Merhy is cited repeatedly in Cecilio's "double/triple status" article and was another highly-regarded sanitarista. At the third roundtable, Merhy offered a critique of the political left broadly, arguing that "many things have gone on changing in the world, except the political left . . . the way in which the left sees the world, the way in which it talks about the world, and what it thinks it's going to do with the world" had remained static for decades. Reflecting on his time as an activist sanitarista in the 1970s and 80s, Merhy explored why certain ethical values had become so central to the health movement generally as well as to sanitaristas personally. "For example, equity," he said. "Why was equity so fundamental for us? What did that communicate to us?" He went on to describe the ways that social "inequality was self-evident" and hence equity was "a way for us to institute, in a profoundly unequal society, strategies in the field of social policy that could work against the production of that intense and brutal inequality". "The themes of poverty, wealth — it's a duality

that we produced a lot in the 60s and 70s," he noted. Merhy did not regret this "production": "The way we looked at the world, for me, 40 years ago," he offered a bit wistfully, "it seemed very faithful, true" to the world. However, he concluded, "obviously, this is *our* way of looking at it, isn't it?" In other words, sanitaristas read the social world through sociological analytics like inequality and intervened in it through ethical values like equity, but many other Brazilians did not.

Other sanitaristas waxed with similar nostalgia about earlier days of Reforma Sanitaria and SUS. This was part of the search for a path forward, given that the 1980s movement had been successful in achieving the right to health. Speaking at the second roundtable, Marilia Louvison described having done her medical residency in 1986-87, thus identifying as "a medical sanitarista forged in Reforma Sanitaria". "But what about solutions, right?" she said, reflecting on 2016. "At the previous roundtable that became pretty clear, 'What are we going to do?' . . . I think the older folks who lived that movement that we call Reforma Sanitaria, today they are thinking, 'How did I do that?' Right? How did we do that in that moment, we did so many things." Sueli Dallari offered a similar observation, somewhat tongue-in-cheek. "During Reforma Sanitaria, we knew how to fix it. We knew exactly what to do, just right. [*She laughs.*] Because we thought we knew!"

In reflecting on how collective health had become disjunctive, roundtable participants did not frequently invoke problems like underfunding. Underfunding might explain why SUS did not function as well as it should have, but it could not necessarily explain why the Brazilian public had such little buy-in to collective health. The roundtables were a reflexive undertaking, focused not on external actors — like the political forces who kept funding low, against the wishes of sanitaristas — but on the sanitaristas themselves.

In this vein, a colleague of Botazzo and Louvison's known for her work on the concept of micropolitics, Laura Feuerwerker, observed in the first roundtable that the health movement had lost its steam after 1988. "We had a multitude in the fight for the conquest of SUS," she said,

"different social movements, different characteristics in different places in Brazil. And when we came out the other side: manager, worker, user. That is, a brutal reduction." Sanitaristas' own efforts to establish SUS had led them into a "brutally reduced" kind of technocratic thinking — much the opposite of the vitalist ideals of collective health. Feuerwerker observed that the utopian vision of collective health, wherein all Brazilians would participate in the construction of their healthcare, had not come to pass. "[Policymakers] think about the work principally on the formal plane. It seems that people think that it will work to create SUS just with rules and ordinances, just through 'words of order'. There is no process of construction. They say that they're doing a meeting, they say, 'now things will be like this', and then you'll see that now things are like that." For Feuerwerker, universal health had become an abstract and formal practice. Collective health had imagined that its richness would derive from an intimacy with people's subjective lifeworlds, but SUS had instead become focused on its own institutional practices.

Similarly, sanitaristas like Luiz Carlos de Oliveira Cecilio — who was not only the author of the "double/triple status" article discussed above, but also a participant in the second roundtable — suggested that the health movement had been slow to let go of ideas that didn't work. He articulated this as a sort of developmental problem in the unfolding "rationality" of collective health. "I think that we are living, in this moment, that we are passing through *l'enfant terrible*, and we are in a phase, which could be the 'second moment' of our rationality, which is the moment when we have the risk of hardening into dogma, or into an overly coercive rationality. It falls to the scientist [the sanitarista] to contradict this second moment." Cecilio worried that "we have become deprived of a capacity for more critical reflection, that we have become very stuck to the idea that what we proposed [during Reforma Sanitária] was always good." As in his article, Cecilio suggested that, notwithstanding missteps and failures over the years, there remained an important role for the sanitarista to play in producing a robust — and perhaps reformed — universal health system.

Approximation through Micropolitics

If the health movement and its technologies had become disjunctive from Brazilian society, then salvaging the universal health project required a turn to the micropolitical. In its Brazilian career, this term, *micropolitics*, could be traced back to French philosophers Michel Foucault, Gilles Deleuze and Felix Guattari, each of whom left an indelible impression on the Brazilian political left. (Guattari co-authored a book with Brazilian psychoanalyst Suely Rolnik, titled in English, *Molecular Revolution in Brazil* (2008 [1986]); its original Portuguese title is *Micropolitics: Cartographies of Desire*.) In its more formal theoretical iterations, micropolitics refers to very fine, often unconscious processes whereby individual and collective "subjectivities" are produced (see Guattari & Rolnik). In para-ethnographic practice, among sanitaristas, micropolitics had a much wider and more pragmatic range of referents. In general, to invoke micropolitics was to advocate for a return to scenes and scales of social life that sanitaristas thought had been lost to disjunction. These scenes and scales varied from literal units like "the street" or "the neighborhood" to more conceptual figures like "the concrete" or "society" as such.

Marilia Louvison noted during the second roundtable that Reforma Sanitaria had been driven not by sanitaristas alone, but by sanitaristas in alliance with numerous other parties. "Including the doctors, the workers, and various segments [of society], the political parties — they were all together in this construction." The original project had been "centrist" (*centrão*) rather than leftist, something I heard sanitaristas of this generation articulate a number of times. But this centrist quality had been lost as public healthcare had become associated, especially during the Lula-Rousseff years, with the PT. Louvison suggested that a micropolitical response was the first step to producing a public health politics not exclusively associated with the left. "I am a medical sanitarista forged in Reforma Sanitaria. I began to work in [public healthcare] in January '88. As such, for me, the

production of health is going to the territory, going to the street, and producing politics. Go! How are we going to know what the population needs? Go to the meeting of the neighborhood association, go talk to people. The recent election [of conservative João Doria, several weeks prior] shows us that maybe we have stopped talking to people." For Louvison, it was self-evident that health politics depended on the street. Rather than propose this or that policy reform, Louvison's vision was open-ended: go to the street, talk to people.

Similarly advocating for micropolitics, Luiz Cecilio reflected on the decentralization process that had transpired across the 1980s and 90s (see Viana 2014). "We don't have municipal managers with the capacity to do everything that [federal] policy articulates. We bet on municipalization [in the 1990s], but the subject wasn't there," Cecilio observed. Municipalization had been intended to devolve power from the federal Ministry of Health to local Municipal Secretaries of Health (SMSs). But many, many municipalities simply did not have the infrastructure or personnel to support this move. "The subject wasn't there." Sanitaristas had anticipated this and expected to be able to provide help through federal assistance, but the results were uneven. "With all of our force," Cecilio continued, "the micropolitical transformations, they are less than we were expecting . . . Who is the health worker? It's a poorly resolved question."

Cecilio was a well-established advocate for thinking about figures like the worker and the user. "We achieved a strong degree of institutionalization" during the Lula-Rousseff years, he noted. "… The incorporation of new ways of thinking. Removing the user from the place of 'object' [so that] he is a thinking subject, with desires, with dignity, to be listened to, right?" For Cecilio, these health "protagonists" were the active subjects of micropolitics. In turn, the micropolitical milieu transpired somewhere just beyond what he metaphorically called the "hardware" of SUS. "We can think about two 'rationalities' of SUS. One is a hard rationality, composed by a juridico-legal framework, the physical network of services, the staff. It's *duro*, it's *hard* [*in English*], it's *hardware*

[*English*]. And there is a part of the construction of SUS that is light, it's soft [English], the software [English]. [The latter] is the exercise of thinking new modes of SUS that you want to construct. So at the same that you produce the [hard] structure of SUS, there's a feature of construction that is very much ours, Brazilian, that we go about experimenting with various forms of rationality." In other words, for Cecilio and other sanitaristas, SUS should take on precisely those vital features of collective health. "Care" was produced as much by users as by healthcare professionals. This, too, was micropolitics, but most professionals in SUS struggled to recognize it, Cecilio thought. "The [medical] teams have difficulty sitting down with a person and recognizing what she is saying, that she produces her own care."

Several roundtable participants described the need to produce services that would better articulate with such micropolitical productions of care. Jose Ricardo Ayres argued that many Brazilians did not have a sense of why SUS was important in "the everyday" of their lives. He framed this as a problem of communicating value to people. "How to produce a rhetoric — in the noble sense of the term, in the sense of a capacity for conversation — that is able to transmit something that the technical-scientific community of Collective Health identified as an important value, like integrality. To be able to translate it into the horizon in which users look for health every day. This is a big challenge." But he was careful not to reduce micropolitics to a question of communication per se. Like others at the roundtables, he was keen to think about how users could participation in the "construction" of tangible healthcare practices. "The more we consolidate certain practices that the population considers to be of value for them, and that they don't want to give up, [the better] . . . Here in SUS you have this task of constructing the everyday, constructing a health practice right there, that people identify as important for them, valuable for them, [so that] they want to fight for them." For Ayres, like Louvison, the point was to approach users where they

were, and to let them construct health in and as "the everyday". This pseudo-temporal construct, "the everyday", was another articulation of micropolitics.

For Gastão Wagner de Sousa Campos, another well-known medical sanitarista who participated in the first roundtable, there was a concreteness to health micropolitics that was a bulwark against the difficult political times. "In spite of conservatism [in the Ministry of Health], it's not going to destroy SUS. Because SUS has a fortress that is its concrete existence. 50%, 60% of Brazilians use SUS regularly . . . Fifteen years ago it was 20% . . . 80% of people with diabetes or hypertension use SUS. 90% of people living with HIV regularly use SUS. SUS has 4 million workers." Campos believed that SUS was a sort of self-sustaining reaction. It could not be destroyed precisely because of its concrete existence in the lives of millions of Brazilians — a kind of micropolitics. "Our life is connected to SUS," he continued. "So the defense for SUS is SUS itself. And the problem with SUS is SUS itself. It's paradoxical. But that's what it is. Because it's insufficient. Coverage is not good, it's underfunded, the personnel policies create all these problems . . . Problems that are important." But, in some contrast to Louvison, who emphasized going to the street and hearing what people had to say, Campos felt that the message of the health movement was the key. "I think that the strategy of the health movement has to be a strategy of the defense of rights, of the rights of democracy." To this, he added, "We have to bet on the autonomy of the user."

In the spirit of such a "bet", virtually all of the roundtable participants felt that solutions to the impasses of universal healthcare had to come from the users or "society" itself. "It's not going to work to make SUS without the workers and the users. It's not going to work!" Laura Feuerwerker declared with gusto. "How can we articulate SUS, as a policy, with the everyday of life, the everyday of the production of care in our different spaces?" she asked. She worried that "we have been constructing SUS in a way such that we have made the users and the workers out to be consumers

of SUS, and not constructors of SUS." Feuerwerker contrasted this with the early days of SUS, when she had worked as a medical sanitarista in Campinas. "In the beginning of SUS, there was a lot of invention. In Campinas, people were involved in the construction of SUS in the everyday, and from there they questioned some portion of things." On the basis of users' and workers' involvement in the "construction of SUS in the everyday", they had been able to participate in the molding of SUS to their expectations, in Campinas.

To close the chapter, I leave the reader with a portion of Amelia Cohn's closing remarks. Reflecting on the shortcomings of the health movement, and the present untrustworthiness of the state, she argues that "society" is the only way out:

> Until very recently, I thought the State capable of formulating, implementing public policies, as a form of advancing SUS. Under current circumstances, I don't see that possibility. We'll only leave [the Ministry of Health] empty-handed. The big chance seems to me to be in society. And the health movement has to leave its circle, its limits, its field, and go struggle in search of new social forces and of new representation . . . That is, to retake the dream of a democratic construction that makes sense in the lives of people. Above all: that it make sense. How do we translate SUS, universality, equity, right to healthcare — into something that has to do with the everyday lives of people? . . . I think that now we have to return to society, without weariness, without melancholy, and always being there to hear, to help, to reinvigorate health as a right.

PART 2: INNOVATIONS

"You have to have flows, right?" — Patricia, UBS Nurse

"It's obligatory that it function." — Raquel, UBS Nurse Technician

On the ground in SUS, in the UBSs and offices where I spent much time in Terraville, very few workers were self-consciously invested in the field of collective health. The physicians, nurses, nurse technicians, receptionists, administrators and others whom I met were typically competent and committed professionals, but they were not sanitaristas. When asked, most workers would say that they were fortunate to live in a country that guaranteed the right to health — even if they were quick to voice sophisticated, well-worn critiques of SUS. In their critical ambivalence, workers had much in common with sanitaristas like Isabel, but they approached public healthcare from a rather different footing.

At the Serra Boa UBS, a nurse technician named Raquel once explained to me a curious duality in the politics of healthcare work. A new assistant manager had recently joined the UBS staff, replacing someone who had worked there for several years (and who was sent to work in a different job for the municipality). Raquel noted to me that while the new manager seemed competent, it would not matter if he was ultimately bad at the job. "No one gets that job without knowing somebody in the mayor's office," she said, adding that she was only speculating in the case of this new worker in particular. He would be protected by his connections downtown even if he were bad at the job, she reasoned. Raquel said this was known as a worker's "IQ", which in Portuguese is reversed as QI, for *Quem indicou?*, meaning *Who picked?* The joke is a play on the fact that most workers, like Raquel, had to score highly on civil service exams (*concursos*) to get their jobs (thus demonstrating a high IQ), whereas others were hand-picked by politicians with opaque motivations. As Raquel went on to explain the technical intricacies of public healthcare employment to me, she

also commented — as I heard many others say as well — that the Serra Boa UBS functioned unusually well. Pointing back to her earlier comment that it wouldn't matter if the new manager was bad at his job, I asked her how the post could function so well under these conditions. "Because it's obligatory that it function," she said. "Because if it didn't function well, they would come and ask why it's not working. There's already a set way to do things that has been around since long before these people [e.g. the new manager]. Things have to flow, right?"

Raquel described a contradiction wherein political power protected the jobs of "QI" workers at the same time that it placed demands (*cobrar*) on all workers to make the system function. Obligation as such would ultimately make things flow.

In Part 2 of the dissertation, I step out of the tight-knit intellectual world of the sanitaristas and into everyday scenes of logistical reason in RMSP healthcare. In both of its chapters, I draw from a mix of ethnographic sources: participant observation in Terraville; conversations with policy experts and health information technology (IT) professionals in São Paulo proper; and public records that describe pertinent policy reforms that were unfolding at local and national levels (2016-18). The resulting ethnography is not devoid of sanitarista thought — SUS itself is rooted in the sciences of collective health, after all — but it is nevertheless anchored more in the material circumstances and commonsense ideas of professionals who had little personal interest in collective health democracy.

Strikingly, however, workers enacted logistical reason in language quite similar to that used by the sanitaristas we encountered in Part 1. Workers often described the normative expectation and technical necessity that people, documents and medical objects (e.g. syringes, vaccines) "flow" through the system without undue barriers. They grappled with problems of permanently high demand. And they often struggled both *to provide* access to healthcare and *to access* healthcare themselves.

In Chapter 3, I explore the role of the number "zero" as both a symbolic aspiration and a practical modality of healthcare administration in RMSP. The chapter focuses on a spectacular effort "to zero the line" of users waiting for high-complexity medical exams. Lines or wait-lists (*filas de espera*) were indispensable infrastructures in the administration of public healthcare. But they were also — predictably — often seen by users as obstacles to access. In this chapter, I inquire into the grammar of zero as an intervention into existing logistical reason. I suggest that, in its political success and popularity, this number and its grammar crystallized a particular vision of the logistical social wherein metropolitan excess was "zeroed" out.

In Chapter 4, I examine the moral technics of proliferation and "too much" (*demais*) in primary healthcare administration. The chapter opens with a brief account of the exponential demographic and material growth that São Paulo underwent from the late 19th-century through the 1970s. I then pivot to explore present-day tropes that center on problems of proliferation in the healthcare context. During fieldwork with clinic administrators and medical staff, I collected critiques in which my interlocutors attributed dysfunctions in public healthcare to minor defects or transgressions which, over time, grew into existential threats to the municipal health system. Ethnographically, the chapter attends to the material reality of proliferation by examining the work of administrators, to whom fell responsibility for managing overwhelming "flows" of patients, paperwork and medical materials in the clinic. I focus in particular on administrators' efforts to manage the storage and circulation of *the file* ("patient health record") in the context of "informatization" – a shift from paper to electronic record-keeping which had the effect of "doubling" each paper file by making an electronic copy.

CHAPTER 3: ZERO-SOCIAL

> It is worth more to eliminate a line than to build a viaduct.[1]
>
> — Mayor of São Paulo, Bruno Covas, April 9, 2018

> Zero is not an absence, not nothing, not the sign of a thing, not a simple exclusion. If the natural numbers are signs, it is a signifier. It is not an integer, but a meta-integer, a rule about integers and their relationships.[2]
>
> — Semiotician Anthony Wilden (1972)

Contemporary Zero

In the preface to his 1987 book *Signifying Nothing*, mathematician and philosopher Brian Rotman asked of the number zero, "What sort of phenomenon is zero? Does it, outside of elementary arithmetic and computer binarism, carry any contemporary intellectual or cultural charge?" Listing a curious series of pop-cultural artifacts he encountered while writing the book — a song called *Down to Zero*, a novel titled *Woman at Point Zero*, a movie called *The Zero Boys* — Rotman concluded that, yes, something seemed to be afoot. But as he was not a student of contemporary culture, he declined to investigate the late-20th-century zero, pursuing instead a semiotic analysis of zero as it had appeared in art, finance and mathematics beginning in 14th-century Europe. Yet having led with his puzzlement as to the "contemporary charge" of zero, Rotman's preface was peppered with questions that he did not ultimately attempt to answer. "Is there a zero-phenomenon out there, some actual preoccupation with an extreme or terminal state, with the condition of being a cypher . . . ?" he asked. "Whatever the phenomenon is, we (or at least I) seem to be still passing through it, and as Hegel said 'the owl of Minerva spreads its wings only with the falling of the dusk'." He concluded with a hope that the book might "in a more oblique way, make it clear why somebody

[1] Diogenes, Juliana. " 'Mais vale eliminar uma fila do que construir um viaduto', diz Bruno Covas". *Estado de São Paulo* (newspaper). April 9, 2018.
[2] To give credit where it is due, I encountered this quote and Wilden's work through Rotman (1987).

might consider the question [of contemporary zero] worth pursuing".

This chapter picks up where Rotman left off to examine zero's role as a common symbolic orientation for and intervention into 21st-century technopolitics. In recent campaigns for "zero emissions", "zero carbon", "zero plastic", or "zero waste", entities as different as BP, Greenpeace and the People's Republic of China have invoked zero as a moral and ethical ideal. In Brazil and elsewhere, governments and NGOs have aimed for "zero hunger", "zero zika", "zero mosquito" and "zero trash", among other things. Zero has thus become a rather ubiquitous presence on political and policy stages at all scales, inviting audiences, consumers and constituencies to imagine a variety of collective problems in relation to a spectacular logic of zero. But what exactly is that logic? What does zero promise and what does it do as an intervention into complex social worlds?

Owl of Health

My immediate ethnographic impetus for these questions comes from a spectacular effort to "zero the line" (*zerar a fila*) of patients waiting for high-complexity medical exams in the municipal health system of São Paulo. In January 2017, ten days after being inaugurated Mayor of São Paulo, João Doria (PSDB)[3] launched a program called *Corujão da Saude* ("Owl of Health", henceforth "Health Owl") that aimed to quickly provide exam appointments to 485,000 patients who were at that time registered "in the line" or "the waitlist" (*fila de espera*) of the public municipal health system.[4] The premise and source of the name "Owl" was that the program would zero the line by scheduling patients for exams after-hours and even overnight, when scarce medical equipment was

[3] Brazilian Social Democracy Party (Partido da Social Democracia Brasileira). This is a center-right, business-friendly party that has done very well in São Paulo State since its founding in the late 1980s. Since 1995, only PSDB politicians have been elected to the Governorship.
[4] Cambricoli, Fabiana. "Corujão atenderá 16% da fila de exames no primeiro mês". *Estado de São Paulo* (newspaper). January 10, 2017.

otherwise sitting unused. Health Owl targeted six types of exams, each of which had a lengthy waitlist: ultrasounds, tomography ("CT scan"), mammography, echocardiograms, densitometry and magnetic resonance imaging (MRI).[5] On January 10, Doria declared that, over the next 90 days, his new administration would put healthcare resources into overdrive to eliminate the line in short order. In so doing, he would be making good on the state's duty to ensure "access" to the public health system, at the same time that he would be putting the system on better footing overall and proving to his new constituents that he possessed a unique managerial brilliance.

Health Owl combined well-established line-reduction tactics with several innovative features (the latter of which, again, Doria sought to keep closely associated with his image). In municipalities throughout Brazil, it is routine for the local Secretary of Health to attempt to shrink a waitlist and provide immediate healthcare access by holding what is known as a *mutirão*. In the healthcare context, a mutirão is a multi-day event (usually transpiring over a weekend, for example, when services would normally be closed) in which a Secretary of Health provides a specific health service on-demand, without an appointment, in rapid-fire fashion. For example, in Terraville, it was common for the municipal wait-list for mammograms to grow to unwieldy numbers; every now and again, the municipality would announce a weekend mutirão focused on mammograms, during which people from any town (and of any citizenship) were free to show up and receive a mammogram on a first-come, first-served basis. Alternatively, the municipality sometimes contracted a call center to individually call patients in the waitlist and schedule them for an appointment during a mutirão. (Health Owl followed this latter mode, calling patients to inform them of an individualized appointment availability.) In either case, the goal was to perform as many exams as possible and for the municipality to enjoy a shorter wait-list come Monday morning.

[5] Ribeiro, Bruno. "Tempo de espera por exame em SP nao caiu, diz auditoria". *Estado de São Paulo* (newspaper). July 13, 2018.

Health Owl was effectively "a mega-mutirão", as one administrator put it to me. It pursued the same basic objectives as any other mutirão, but with several caveats. I identify four of them here. First, its scale was unmatched. Health Owl targeted not one but six types of exams, and was to last not a single weekend but rather 90 days. Second, Health Owl offered appointments at night (hence the name "Owl of Health"). This was perhaps the program's cleverest innovation. Doria pointed out that, in the Brazilian city with more first-class hospitals than any other, there was an abundance of high-complexity technology sitting unused in both public and private hospitals in São Paulo for some 12 hours per day. Doria used discretionary spending to contract with private "partners" — including several elite "hospitals of the rich", as he put it in a suggestive gaffe[6] — and to cover the costs of overnight exams in public facilities. Some exams were scheduled between 6:00PM and 10:00PM – after normal business hours but well before "the middle of the night" (*na madrugada*). Doria called this timeframe the "priority" or target of Health Owl. But at least tens of thousands of appointments were made late into the night, and some hospitals made appointment slots available all night long.[7] Doria's use of night-time capacities was considered bold and somewhat controversial, as travel at night was dangerous and difficult in many parts of the city (and, to some degree, in any part of the city).[8] Commuter trains and the Metro shut down by 11:00PM, for example, and many bus lines stopped running as well. Newspapers documented elderly Health Owl patients arriving to hospitals late in the evening and staying all night, waiting for the Metro to open at 6:00AM.[9] In addition, people were offered appointments without any respect to where they lived in the city, hence patients complained of traveling as far as 20 kilometers (12.4 miles) across a vast metropolis in

[6] Silva, Marcos Sergio. "Pobres em 'hospitais de rico' citados por Doria representam 4% de exames do Corujão". UOL (periodical). March 10, 2017.
[7] Cambricoli, "Corujão atenderá 16% da fila", 2017. See Note No. 4 above.
[8] See Caldeira (2000, 2008) on "the talk of crime" in São Paulo.
[9] Cambricoli, Fabiana. "Corujão tem idoso na madrugada e exame sem reavaliacao medica". *Estado de São Paulo* (newspaper). January 11, 2017.

the middle of the night. Notwithstanding these critiques of the night-time dimension, users reported being generally satisfied with the service and happy to have received their exams.[10] For those that preferred not to travel during the night, they were allowed to decline the offer of an appointment without any penalty (and would remain in the waitlist, to be scheduled during normal hours as soon as that became possible). As such, Doria seemed to benefit politically from the boldness of his idea. Virtually everyone I spoke to about Health Owl noted that participation was optional, and that, for whatever limitations the night-time dimension imposed, Doria was within his political mandate to use creative means to reduce the waitlist.

Third, in the rhetoric used by Doria and his Secretary of Health, Wilson Pollara, to represent Health Owl, the use of private institutions figured more prominently than in other mutirões. As many as 50 private institutions participated in Health Owl (the exact number is actually disputed) but about five in six exams are estimated to have been performed in public hospitals.[11] The "purchase" of private facilities and services by a public municipal health system was not itself remarkable, especially in São Paulo.[12] Indeed, elite private hospitals like the Albert Einstein Hospital and the Sírio-Libanês Hospital routinely promoted their "philanthropy" in devoting some portion of their services to "SUS patients". (Although "philanthropy" is the term used, this term is usually specious insofar as the hospitals are typically reimbursed by the government.) But in frequent use of phrases like "thanks to our partnership with private initiative" and "using all the resources available, including private hospitals", Doria and Pollara created a sense that this mega-mutirão was enabled

[10] Bocchini, Bruno. "São Paulo: usuarios do Corujão da Saúde aprovam atendimento mas pedem melhorias". *Agencia Brasil* (periodical). February 11, 2017.
[11] Ribeiro, Bruno and Fabiana Cambricoli. "1 em cada 6 exames do Corujão é na rede privada; fila cai". *Estado de São Paulo* (newspaper). March 13, 2017.
[12] Bocchini. "São Paulo: usuarios do Corujão", 2017.

only by hitching the public healthcare system to the private.[13] In so doing, they further naturalized the idea – already nearing something like hegemony in São Paulo and Brazil – that private healthcare is strong and good, whereas public healthcare is weak and incapable.

Fourth and finally, Health Owl differed from other mutirões in its spectacular use of the number zero. Virtually all mayoral administrations in São Paulo came into office with plans to reduce the size of the line – "They all arrive with their eyes on the line," one Secretary of Health worker told me – but only Doria entered promising to zero it. For example, Doria's predecessor, Fernando Haddad (PT),[14] took office in 2013 with a promise to reduce the line for surgeries. (Notably, elected officials typically take aim at a specific line or set of lines, and are subsequently evaluated by journalists and government auditors as to whether they "complied" or achieved stated objectives vis-à-vis specific lines or programs.) Haddad built a new network of 32 surgery-performing clinics from scratch, each of which was capable of performing 200 surgeries per month.[15] However, subsequently, the line for surgeries *grew*: as more capacity was introduced, so did demand grow beyond what it had previously been. Meanwhile, Haddad did in fact reduce other healthcare lines – including the line for exams – but headlines focused on his "unmet" promise in relation to surgery lines. Regardless, even if he had reduced the surgery line, he would not have offered a symbol anywhere near as salient and seductive as zero. Unlike "reducing" the line or "expanding" services, "zeroing" the line tapped into something vital in the average citizen's experience of the city. This chapter explores what that "something" was.

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[13] Cruz, Elaine Patricia. "Prefeitura anuncia que Corujão da Saude zerou filas por exames medicos em SP". *Agencia Brasil* (periodical). September 11, 2017.
[14] Partido dos Trabalhadores ("Workers' Party").
[15] Ferraz, Adriana and Fabiana Cambricoli. "Haddad descumpre meta da saude e fila da cirurgia vai 63 mil". *Estado de São Paulo* (newspaper). March 3, 2015.

In what follows, I move ethnographically through the social and administrative architectures that were targeted by Health Owl. That is, recognizing Health Owl as an intervention, I trace some of the broader metropolitan social conditions that the program was imagined as a response to. Most obviously, of course, the campaign intervened in "the line". Yet its import, I submit, was much broader than that. To discover the contours of that import, I propose that we think less about Health Owl itself and more about its oft-cited modus operandi: "to zero the line".

Zero, in this rendering, is significant not only as an imagined endpoint (as with *zero emissions*, *zero plastic*, etc.), but as a practical process. In other words, "to zero" (*zerar*) is an infinitive verb, suggesting an ethical practice or modality of governance wherein zero figures as a normative ideal. The political success of Health Owl, which I return to in the final section of the chapter, is connected to the viability of zerar as a widely embraced ethical orientation in governance. As Teresa Caldeira (2008) has argued, São Paulo has endured a relative lack of "master narratives" since the collapse of developmentalist ideals of "progress" and "growth" in the 1980s. "The citizens, administrators and social scientists of São Paulo frequently find themselves ill-prepared to address the present configurations of the city," she writes, ultimately identifying an ascendant neoliberalism as a partial successor to developmentalism. Zerar is a decidedly less stable and coherent imaginary than those discussed by Caldeira, but, I argue, it is a powerful, incipient sociotechnical imaginary nonetheless.[16]

In order to establish why zero and zerar were able to capture such sway in Paulista imaginaries, this chapter explores those features of social life that were targeted by the mutirão (whether Health Owl or another), to wit: the line, the appointment slot (*vaga*) and the ever-present qualities of super-crowding in the metropolitan experience. Moving through ethnographic scenes

[16] On sociotechnical imaginaries, see Jasanoff & Kim (2015).

which express each of these components in different ways, I invite the reader to notice that the sections of this chapter move from peaceful, quiet settings to increasingly situated and visceral experiences of super-crowded social life. Zerar, I submit, is a novel mode of governance which intends to "attack" that experience and to rearrange the socio-material relations through which it is constituted in lived space and time.

* * *

On April 3, 2017, João Doria announced that the line he had inherited from the Haddad administration had been zeroed in just 83 days. Out of 485,000 patients in the waitlist when Health Owl began, 342,000 exams had been performed (about 70% of the original total in the line).[17] The remaining 143,000 patients had not been given exams for various reasons: some no longer needed them, and others had been waiting so long (six months or more) that Health Owl required them to be reevaluated by a primary care doctor before being given an exam appointment. Many people had likely sought exams through a private hospital or clinic, as was common for those who could afford it. Others had merely not shown up to their appointments (and thus been removed from the list) or could be not be reached to be offered an appointment. Numerical caveats aside, it was widely accepted in the media and patient perceptions that Doria had, by some criterion or another, zeroed the line.

Slots Central

In Terraville, Regulation Central (*Central de Regulação*) was not particularly easy to find. Known colloquially as the *Central de Vagas* ("Slots Central"), the office was located in a cavernous two-floor building just behind the Municipal Hospital — effectively a kind of annex. Regulation was

[17] Cambricoli, Fabiana. "Gestao Doria anuncia ter zerado fila de exames medicos". *Estado de São Paulo* (newspaper). April 3, 2017.

the office tasked with monitoring "supply and demand" of appointment-based, outpatient services in Terraville. As part of this, it was also the office that managed all municipal health waitlists, and granted "priority" status to urgent (but not immediately life-threatening) cases. Other health workers in town thought of Regulation as a sort of gatekeeper for scarce "appointment slots" (*vagas*), hence the nickname "Slots Central". Unlike Coordination[18] — which was located in downtown Terraville, near City Hall and the busy bus-and-train station in town — Regulation was quiet and out of the way. On my first visit, I wandered into the hospital itself at two different (incorrect) entrances as I attempted to find the office. When I finally located the annex, I found a large, empty foyer with no one immediately around. At opposite ends of a long hallway stretching to my left and my right, there appeared to be offices, but they were quiet. Directly in front of me was what appeared to be an auditorium; with the doors cracked open, I could see that inside there were stacks and stacks of boxes piled throughout the audience seating, apparently filled with paperwork. I suspected these to be expired patient health records, abandoned in a big, out-of-the-way space (see Chapter 4, this dissertation).

I saw no signage indicating that this was Regulation Central, but as I stood there awkwardly gazing around, a woman eventually happened to wander out of one of the offices on the left end of the hallway. Catching my gaze, she said, "Good morning?", seeming to sense that I was lost. "Good morning," I said, "excuse me for bothering you, but do you know where the Central de Vagas is?" She looked at me quizzically and said, "The Central de Vagas? Um . . ." And then added, "Do you know who you're looking for?" In a moment of stage fright, my mind blanked on the name of the doctor I'd been told by folks at Coordination to ask for, so I quickly turned to my phone and started

[18] "Coordination" refers to the Basic Care Coordination office of the Secretary of Health. Coordination is effectively the headquarters of primary care in Terraville, "coordinating" the 20 primary care clinics spread around the municipality.

flipping through my notes for the day. "Doctor Paula," I finally said, and the woman said, "OK, give me a second." Without confirming whether I'd found Regulation Central, she wandered back into the office, where I heard her say, "Doctor …" and inaudible chatter unfolded out of sight. After a minute, a white woman in her 40s with long, light brown hair strolled confidently and stone-faced out of the office, clad in a dark navy sport jacket and matching slacks. "Good morning," she said, not indicating her name. I extended my hand and we shook. "Good morning," I said, not sure whether this was the doctor. "I'm Dr. Paula," she finally said, to which I responded, "Oh! It's a pleasure to meet you, I'm Jack." An awkward beat passed as I realized she did not know who I was. "Did Coordination let you know I was coming?" I asked. She shook her head. "Nobody told me," she said. "Oh, I'm sorry — I'm a doctoral student in anthropology, I'm doing research on healthcare here . . ." I launched into my brief elevator speech, telling her that I had been told it would be okay if I spent a few days at Regulation, getting to know how they managed "flows of patients" through the municipal system. Despite her closed demeanor, Dr. Paula proved to be very receptive, murmuring "mmmm" affirmatively when I mentioned "flows" as my object. "Well today we have a meeting," she said, "so if you only have a few questions, then we can talk right now. But if we run out of time, you can come back another day." I told her that that sounded great, that I would love to ask just a few questions. As we turned toward her office at the end of the hall, I apologized for interrupting her morning and thanked her for taking the time to chat. "*Imagina*," she said, the polite Brazilian way of saying "don't even worry about it".

The office was the size of a high school classroom, with three desktop computers in different corners and a circular table near the center of the room. We took a seat at the circular table, which was covered in an illegible mess of papers and charts, with Dr. Paula and I sitting on opposite sides. Dr. Paula immediately launched into a description of their work. "So we have two kinds of flows here," she said. "One is urgent care — the beds and things over there," indicating the hospital

next door, "and the other is outpatient care and exams, scheduled appointments. Which are you interested in?" "The second," I said, as my work had become increasingly absorbed by questions of appointment slots and schedules. "OK," she continued, "because here we do the second, everything outpatient. There in the hospital they do beds [in-patient] and urgent care."

As we chatted, Dr. Paula explained that the "primordial function" of Regulation was "to show the supply and demand to the [administrative] teams" at the UBSs[19] and in Coordination. "This way they know whether things are balanced, if there's too much wait, whether to buy more services [e.g. hire more people]." As a secondary function, she said, they received and evaluated requests for urgent appointments, granting them "technical priority". Three doctors worked in Regulation (Dr. Paula being one of them), alongside a staff of six administrators, each of whom served a slightly different function. But overall, these were the two main tasks of Regulation: (1) to "show supply and demand to the teams" and (2) to regulate access to what Dr. Paula called the "technical reserve" of "priority" slots.

Dr. Paula and others in Terraville all described the "demand" for healthcare services as being "high". When you have "many people," another administrator told me, "it causes big waits". In our conversation, Dr. Paula cited this concept repeatedly, describing "overflow" (*sobrecão*) as the general condition and primary focus of their work in Regulation. "When there is overflow . . ." she said again and again, users were placed in waitlists or, in urgent cases, given a priority slot. Priority slots were not visible to administrators in the UBSs – who normally were tasked with scheduling patients' appointments – hence only Regulation could grant such access. When even these were full, and a case was urgent, Dr. Paula said, "we fit it in" (*encaixar*). I asked her what she meant by this, to which

[19] UBS is an acronym for Basic Health Unit (*Unidade Básica de Saúde*). These are also called "health posts" (*postos de saúde*). The UBS is considered the "gateway" to SUS. It houses general medicine physicians (primary care providers) as well as several specialties, which vary depending on the UBS in question, but often include gynecology, psychiatry, pediatrics and dentistry.

she responded, "We make an appointment where none [no slot] exists".

This latter idea — "to make one where none exists"— was also how an administrator in the Municipal Secretary of Health (SMS) in São Paulo proper explained the concept of a mutirão to me: "The slots don't exist", but the mutirão finds a way to make appointments anyway. In effect, this was the modus operandi of almost all interventions into the waitlist, including Health Owl. The response to "many people" and "overflow" was to create something in the place of nothing.

Yet simply creating more slots was not seen by healthcare professionals as a durable solution to "overflow", whether the expansion was temporary (mutirão) or permanent (building-out more clinics and hiring more doctors, for example). A few days after I talked to Dr. Paula, when I returned to Regulation Central to spend a morning with the administrators "beneath" her, a young workhorse named David explained the problem to me. David was one of four administrators who worked in the office adjacent to Dr. Paula's. The other administrators were tasked mostly with processing requests for priority slots, and with referring certain kinds of cases to the state-level regulatory system. (This occurred primarily in cases in which a patient needed a type of procedure that Terraville simply did not have. As described in Chapter 2, a whole other series of services and waitlists existed at the state level.) In contrast, David was the point-person for monitoring the many different municipal lines, supplies and demands that existed within the Terraville municipal system — hence he was critical to the "primordial function" of Regulation Central. David, the other administrators all noted with affection, always seemed to be the busiest worker in the bunch.

On the morning of my second visit to Slots Central, I sat with David in his cubicle nested against a window, looking out onto a lawn on the hospital grounds. He clicked rather quickly through various line graphs on his desktop computer, each of which showed a level of demand (y-axis) over the months of the year (x-axis) for a given medical specialty or exam. "These lines," he said, "they're dynamic." "Uh-huh," I responded. "One day, for example: today I could say that there

is no waitlist for a given specialty," he continued. "But at any moment, let's say: a doctor in that specialty in our network could quit, he could get sick. And then the waitlist begins to grow [*E aí começar a represar a fila de espera*]. So I mean: it changes and it gets mixed up, that's how it goes." Here David used the phrase *represar a fila*, literally "to repress the line". What he actually meant was that the line itself emerged unexpectedly, with the result that would-be demand for a given service became "repressed". The phrase was misleading (but conventional) because it was in fact the demand that had become repressed, as David knew, while the line – which did not exist moments earlier – suddenly appeared as a result. In turn, the existence of the line created conditions of what was known as "repressed demand" (*demanda reprimida*). Dr. Paula cited this concept to me repeatedly in our discussion of overflow. Repressed demand referred not to demand that was visible qua wait-list, but rather to pent-up demand *beyond* the wait-list. That is, the existence of a wait-list was thought to discourage health users from even bothering to try to make appointments in the public system. Health professionals like David and Dr. Paula used this concept to explain why it was that, even when they expanded supply, demand often quickly exceeded it. There was always-already more demand waiting to surge, so to speak.

As David and I chatted, I sat relatively silent, trying to keep up cognitively as he sped through a series of real and hypothetical scenarios, throwing out numbers and dates and lengths of (wait-)time. Eventually, I asked him to come back to this idea of the dynamic line.

"When you say that the lines are dynamic," I asked, "what do you mean by that?" "So, for example," he said, "we're conversing right now. In the moment that I [started] talking to you, it could be that I had 100 patients [in a given list]. I go looking right now, every time I click 'refresh', the number here goes changing, look." He pointed to the computer screen. "124." Before I could even note which waitlist he was referring to, David was clicking into a new example and another explanation. "I'll show you ultrasounds," he said, click-click-clicking. "As we're talking here, at every

moment, do you know how many ultrasounds [patients] enter [the waitlist] per day?" I began to demur as David said, "More or less 300 patients." "Per day?" I asked. "Per day. 300. 10 days, 3,000. So it's, it's –" David began to stutter as he struggled to communicate the intensity of the phenomenon in question – "it's a line that's difficult for us to – you always have a line. Here, the municipality is offering a quantity of nearly 7,000 slots [for ultrasounds] per month." But even then, he said, "a line with nearly 6,000 patients" above the 7,000 slots offered. "For less than a month, it's a really big number," he concluded.

For David, a mutirão was a useful tool that could be used to "wipe" (*enxugar*) or "straighten up" a big line. (The verb here, *enxugar*, was a figure of speech. Normally, it was used to mean "to rinse off", "to dry off" or "to wipe down" something that was dirty or messy. Hence in its healthcare usage, the line is a sort of messy object that can be "cleaned up" by a mutirão.) As recently as a few months prior, he noted, there had been 10,000 patients in the line for ultrasounds. As David monitored the line and reported numbers to the Secretary of Health, the municipality eventually did a series of weekend mutirões to "clean up" the line. Thus, as we chatted, the number had ebbed to a relative low of 6,000.

However, David was emphatic that simply "generating slots" – as he put it – could not permanently reduce the line. Indeed, the very nature of the line was to be "dynamic" – and generally in an upward-growing direction. For David, in his professional role, adding more capacity merely preceded a sort of scaling-up of the supply/demand proportion itself. "The more you offer," he said, trailing off as we concluded our conversation. I knew the implication because I had heard it so many times before in Terraville: the more you offer, the more demand there will be. This was precisely what Haddad had encountered with his surgery clinics in São Paulo: the municipality built out more "supply", and provided more surgeries, but the line grew. "And the population of Terraville has grown, too, you understand?" David said after trailing off. "So we're working with a

quantity that is, that doesn't arrive at —," again, David entered into a semi-exasperated stutter as he tried to communicate the squirreliness of the quantities he monitored. "I think that ultrasound," he continued, turning back to his grounded example, "back in the day, I think that if it had arrived to 2,000 patients [in the line], that would have been a lot. Today, I think— like I told you: 300 enter [the line], in 10 days 3,000." Even as ultrasounds were being scheduled and performed every day in Terraville, and hence thousands of patients were leaving the line each week as they received their exams, thousands more patients were simultaneously being added to the waitlist, and a count of merely 2,000 was a world away (or ago).

In our conversation, David returned us repeatedly to the present moment: "today", "as we're talking", and so on. In contrast to the banal consistency of our immediate circumstances, seated in a quiet and unchanging cubicle, he suggested, the line was an unruly force that jumped and shrunk and at times appeared as if from nowhere. And for David, the line itself was a kind of quantity, a "dynamic", willful number. "We're working with a quantity that is, that doesn't arrive at …" With this in mind, it becomes clear that David saw "overflow" as an inevitable function of the line's unruliness. Overflow was not, he or Dr. Paula would say, an effect of dysfunction, shortage or breakdown. Quite the contrary: overflow was a kind of intrinsic quality of the social world itself. More specifically, overflow emerged at the interface of that social world and a "universal, equitable, comprehensive" healthcare system. The line was merely a technology that articulated and quantified the phenomenon that transpired at this interface. For more on how the line figured into understandings of universal health as such, I turn now to the Congress of Municipal Health Secretaries of the State of São Paulo (COSEMS-SP).

'The line has to move'

High in a sleek office building overlooking the Pacaembu Stadium(soccer) in the Vila

Madalena neighborhood of São Paulo on a Tuesday afternoon in 2018, I met with two representatives of the Congress of Municipal Health Secretaries of the State of São Paulo (COSEMS-SP). COSEMS is an official state body, recognized under federal law, tasked with providing "support" to Secretaries of Health in São Paulo State's 645 municipalities. In short, as municipal governments change and Secretaries of Health undergo frequent turnover in leadership, COSEMS tries to act as a sort of "first among equals", maintaining a durable political space through which Secretaries can organize and make appeals to other levels of government (state and federal). Although I had encountered flashes of COSEMS in public seminars and news coverage, this was my first time actually making contact with the organization. Over an espresso cordially offered to me by Mariana, a Director at COSEMS, I chatted with she and Carla, a well-read intern currently working on her Master's in public health at the University of São Paulo (USP), about a range of public health topics. A good deal of our discussion revolved around the distinctiveness of São Paulo — both state and city proper — and the politics of the line.

"Since it sounds like you have gotten to know Brazil, you must know that the wealth is concentrated in the south and southeast," Mariana said. As a result, healthcare tended to be "more robust" in southern and southeastern cities like São Paulo. "You have more *polos de referencia*," she added, using a term that indicates the top institution in a regional hierarchy. For a hospital to be a *polo de referencia* meant that it was considered to be an authority with regard to a particular specialty (e.g. cancer, orthopedics), and, to some degree, that patients with complex or severe conditions would gravitate to such "poles". A *polo de referencia* was always in this sense an "end of the line" for patients seeking care, because one could not find a superior institution. In São Paulo state, "you have ten, twelve" cities that contained *polos de referencia* in regard to one specialty or another, Mariana said, which was unusual in Brazil. The abundance of *polos* was further aided by a "distinguished network of highways" that set São Paulo State apart from other states, which tended to have fewer

developed highways as a rule. "Even between small cities" in São Paulo, she said, "you have good roads." This facilitated the physical "accessibility" of health services, which could be easily reached by car or bus, in contrast to "the Amazonian region, where you have municipalities that are three hours by boat from the nearest *referencia*".

Of course, in São Paulo city, where we were sitting, the concentration of wealth and *polos de referencia* reached its apex in Brazil. The city was *diferentão* in this regard, Mariana said, meaning *really* different. Yet the mechanics of universal healthcare in general, and of the line in particular, remained basically the same as anywhere else. "Insufficient supply, greater demand," Mariana said. "Given that there is not an appointment slot [*vaga*] for everyone, you have to work with a waitlist." For Mariana, there was nothing problematic about having a waitlist per se. Indeed, she read the line as a normal – and perhaps even normative – feature of universal health. "If I have 50 thousand [slots] capacity, and 70 thousand [slots] demand, I will always have a line," she said. Moreover, as we saw with Haddad's surgery network and David's ultrasounds, simply increasing supply – say, to 70 thousand – did not tend to diminish the line, anyway.

In contrast to David, whose job was to "accompany" the line as it fluctuated hour to hour, week to week, Mariana and Carla were significantly removed from any particular line. Hence whereas David construed an active, almost living kind of line that moved before our very eyes, Mariana and Carla spoke in abstract terms about fixed states of affairs. 50 thousand and 70 thousand were given hypothetical quantities that did not ebb or flow. Nevertheless, these two professionals understood full well that there was a dynamism behind the numbers. Even while using fixed numbers that abstracted away from David's lively quantities, Mariana emphasized that the line itself was only acceptable (normative) insofar as the line *moved*. "All universal systems have lines, even in rich countries. Canada has a line, England has a line!" she told me. "The problem is not having a line. The problem is to be *stopped* in the line. The management of the line. The line has *to move* [*andar*,

literally *to walk*]."

A mutirão like Health Owl was one way of making the line move – quickly and toward a defined endpoint. On the other hand, as a mutirão, Health Owl was also a one-off event that had nothing to do with "management" in any durable sense. Indeed, even as the line was being zeroed over those 83 days in early 2017, a separate line was growing back. That is, Doria promised to zero the "deficit of exams" that he "inherited" from the previous mayoral administration (Haddad), but he allowed that "the line will always exist" in some form or another.[20] During Health Owl, requests for new exam appointments jumped 83%, from an average of 120,000 new requests per month to 200,000 in March 2017, and 220,000 in April.[21] Just like with David's ultrasounds in Terraville, an expansion of supply made the demand increase. Secretary of Health Pollara interpreted this increase as a sign of already-existing repressed demand, even celebrating the boom in actual demand as an indication of the excitement that Health Owl had introduced into the city: "We're finding that this [demand] was something that was still repressed, and hadn't been requested. People have been stimulated with the exams of Health Owl."[22] Doria, for his part, explained that the goal had never been to do away with the institution of the line, but rather to transform it into something "administrable". "Thanks to our partnership with private hospitals," he said in September 2017, five months after zero had been realized, "we achieved our objective, which was to zero the stock of exams left by the previous administration [Haddad]. We were able to do it in 83 days. There are lines, but now they're administrable, with a term of 30 days [to get an appointment] for urgent exams and 60 days for the rest of the exams. The line will always exist. But it's no longer out of control." Doria had not permanently expanded the supply of healthcare services, but he had – he

[20] Cruz. "Prefeitura anuncia", 2017. See Note No. 13 above, page 105.
[21] Cambricoli, Fabiana. "Pos-Corujão, pedido de exame cresce 83%". *Estado de São Paulo* (newspaper). May 11, 2017.
[22] Cambricoli. "Pos-Corujão, pedido de exame cresce", 2017.

argued – used a mega-mutirão to clean up the line and transform it into something that could be managed.

When I asked Mariana and Carla about Health Owl, they were relatively agnostic about the more spectacular features of Doria's intervention, such as the intensified style of mega-mutirão and the use of night-time appointments. Similarly, whereas some commentators on the political left criticized the use of private facilities to supplant the public system,[23] Mariana said she had no particular objection to this (and Carla stayed noticeably silent when I asked). "[Doria] got in touch with some private hospitals, where their equipment [MRIs, etc.] was sitting unused in that period [overnight], and contracted with them to use the equipment. Up to this point, all good," Mariana said. "In addition . . . You can give the person the option: either you can get an MRI at midnight, or you can wait for a year in the line." In practice, people who declined an overnight exam generally did not have to wait a year, because by offering so many night-time exams, Health Owl also freed up appointments that would have been claimed during the day. If Doria is to be believed, he zeroed all of the exams that were on the books on January 1, 2017, when he took office, in 83 days. Thus Mariana's hyperbole might a bit off here, but she articulated a perspective that I heard virtually everywhere, which was: you can get it done now at night, or take the risk that it might be a while before you are able to schedule an exam. Mariana continued, "All good, it's the choice of the citizen. Personally I think I'd even prefer to just do it at midnight to get it over with." Others told me the same. She went on to acknowledge that there were other challenges, like getting to a hospital that might be far away. "I live in Vila Mariana," she said, a neighborhood nearby to where we were sitting. "And I have a car, I can get in my little car and come here to Hospital das Clinicas [nearby] or Einstein Hospital, and get it done. If I live in Capão Redondo [far away], maybe this wouldn't be

[23] Bocchini. "São Paulo: usuarios do Corujão", 2017. See Note 10 above, page 104.

so simple. Leaving there to get to Einstein by public transportation, it's not such a simple logistics." Nevertheless, she concluded, "But all good: it's the strategy [to zero the line] that [Doria] used." "Up to this point," as Mariana put it repeatedly here, she had no particular objection to Doria's mutirão, even if it had limitations. Even if there was nothing wrong with having a line per se, it needed to *move*, and Doria's intervention was one ambitious way to make that happen. "It helps," Mariana said.

Yet in other ways, as Mariana was hinting, Health Owl fell short of her and Carla's ideals. Primarily, they were skeptical of the 143,000 patients who did not receive exams during the mutirão, but were removed from the line. Many of these patients were those who had been waiting more than six months for an exam. As I noted above, these patients were supposed to be removed from the line and sent back to a UBS to be reevaluated. In medical terms, and on paper, this feature seemed reasonable enough, insofar as it would ensure that people were getting relevant exams that they actually needed. But Mariana walked through the insidious implications of this practice, calling it "cruel". "If I were waiting for an MRI," she said, hypothetically, "because the orthopedist ordered one because I have a problem with my knee, and I had been waiting for a year, I would leave the line, they would take me out of the line. And they would say, 'Now you have to request a new appointment [with an orthopedist].' How am I going to make an appointment with an orthopedist? I have to pass through a Basic Health Unit [UBS], for an appointment with a general medicine doctor, which can take one or two months [to get an appointment]. Depends. That generalist is going to refer me to an orthopedist, for which I'm going to wait eight more months for an appointment, for him to order the exam again. This is the principal failure, in my opinion," of Health Owl, she said. In other words, one could not simply schedule an appointment with an orthopedist in SUS, but rather had to pass through a UBS and get a referral. An appointment with a specialist like an orthopedist usually had a longer wait, and one could not get a referral for the MRI without the orthopedist. Carla chimed in to point out, "You're taking people out of the line and putting them

into other lines," even though these other lines were not included in Doria's accounting. "Health Owl says, 'Nobody can be waiting more than six months in the line.' So it takes you out of the line. If you do it like that, then it's pretty easy to reduce the line, isn't it?" Mariana added.

Mariana said that, while she wanted the line to move, she was not so much concerned with how many users were in the line as she was with "the wait-time" (*tempo de espera*). When she taught classes on "regulation" (e.g. management of supply, demand, appointment slots), she said, "I always say this, 'It doesn't matter how many people are in the line. What matters is the average time they are there.'" Returning to her 50 thousand/70 thousand example, she again declared that with those numbers, "I'm always going to have a line! But if those people are waiting two, three months for an ultrasound, then it's not a problem." A line, she said, in language reminiscent of David, "is a photograph of 'right now'. Today, at 5:20 in the afternoon," she announced, glancing at a clock on the wall, "I've got people entering the line!" Carla nodded, "Yes." Mariana continued, "And I've got people leaving the line right now, because they've done their exams! So, what number is this? What does it mean, 'there are 100 thousand people waiting for an MRI'? That number doesn't tell me anything. What I want to know is the average: how long are they waiting in the line?"

On this measure, Health Owl's performance was disputed. As quoted above, Doria had promised that, after the mutirão was over with, the maximum wait-time for an exam would be 30 to 60 days. More specifically, the promise was that an exam would be *scheduled* within 30 to 60 days of being placed in the wait-list – meaning that one might wait another 30 to 60 days for the actual appointment, after having waited in the line for 30 to 60 days (bringing us to a maximum wait-time of 120 days or four months, in principle). In the words of Secretary of Health Pollara, in September 2017, "With the finishing of the line, we didn't end all our efforts. We are keeping up with the same pace [*ritmo*] of work. Today I have 74 thousand exams requested and 97 thousand exams offered [slots available]. So a line doesn't exist. There is no more lack of exams. There is more supply than

exams sought."[24] However, in July 2018, an audit by the Municipal Accounts Board found that the average wait-time had scarcely improved in comparison with Haddad's tenure. Evaluating municipal wait-list data, auditors compared the average wait-time for the six exams in question in October 2016 – two months prior to Doria taking office – with May 2017, one month after Health Owl had finished. They found that the average wait was 99.9 days in 2016 and 99.7 days in 2017.[25] While they confirmed that Doria had indeed zeroed the line, auditors demonstrated that, for whoever entered the line after January 1, there was no practical difference in wait-time. Put differently, Doria had not changed anything in the day-to-day management or offerings of healthcare services. By November 2017, the wait-list for the six exams sat at 234 thousand patients.[26] This was a marked improvement over a high of 607 thousand in December 2016, but, as Mariana had argued, if the wait-time had not changed, then this was not much more than a sleight of hand.

Doria disputed the findings of the auditors. A spokesperson for the municipality said, "In one particular case or another, it can happen that there is a slightly longer wait-time, which is what causes the higher average."[27] In left-wing media, critics seized on the Municipal Accounts Board report as more evidence that Doria didn't really have any "management" skills, as he liked to say, but rather merely did "marketing". (In part, this was a derisive reference to Doria's three-decade career as a multimillionaire media executive.) Declaring that Doria "didn't zero the line for exams", the left paper *Brasil de Fato* ("Brazil in Fact") wrote that the Mayor had "engaged in statistical manipulation in order to propagandize unmet promises".[28]

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[24] Cruz. "Prefeitura anuncia", 2017. See Note No. 13 above, page 105.
[25] Ribeiro. "Tempo de espera", 2018. See Note No. 5 above, page 102.
[26] Gomes, Bianca and Fabiana Cambricoli. "Sob Doria, fila para exames cai, mas cresce demanda por consulta e cirurgia". *Estado de São Paulo* (newspaper). December 26, 2017.
[27] Ribeiro. "Tempo de espera", 2018. See Note No. 5 above, page 102.
[28] "Corujão da Saúde de Doria não zerou fila dos exames médicos em São Paulo". *Brasil de Fato* (periodical). October 16, 2018.

'Your slot is still ahead'

Back in Terraville, just a few weeks before speaking to Mariana and Carla, I visited my friend Matheus at the Santa Teresa UBS.[29] I had gotten to know Matheus when he worked in the "Health Vigilance" department (*Vigilancia Sanitaria*) at Serra Boa, the UBS where I did several months of sustained fieldwork in 2017 (and then intermittent visits thereafter). "Vigilance", as the department was referred to in shorthand, served several administrative functions inside the UBS, such as "registering" patients with new SUS cards (see Chapter 4, this dissertation)[30], but was mostly associated with epidemiological monitoring. In short, Matheus and his co-worker Milton helped produce neighborhood-specific epidemiological data that the municipality could track. I spent many afternoons chatting with Matheus and Milton in their office on the second floor of Serra Boa, where things tended to be more peaceful than on the first floor, where patients checked in and were triaged.

In 2018, Matheus had been plucked from Vigilance at Serra Boa and appointed the Manager (*encarregado*, literally "the in-charge") of the Santa Teresa UBS. While I was surprised at the suddenness of the change, I was not surprised that Matheus had caught someone's eye. He was an affable, polite guy with a sophisticated grip of the ins and outs of the Basic Health administration. He was also "the responsible one" in Serra Boa Vigilance, as another worker put it to me (and which

[29] Pseudonyms, both the UBS name and Matheus.

[30] As described in Chapter 4, a "SUS card" or "National Health Card" was a sort of "master" ID card that a patient used to access public healthcare. In principle, each health user should have one card, and hence one "SUS number", and would use this number and this card to access healthcare anywhere in Brazil. In practice, the cards were so easy to come by that people routinely had multiple cards. They lost cards, found them, and so on, so the purpose of the SUS number as a master identifier was largely stymied. However, a SUS number was still required to make an appointment, and, in Terraville, the health vigilance department registered new users and printed out new cards for them.

I saw borne out in his work ethic). During our conversations back at Serra Boa, I had always been rather struck by the way his knowledge of healthcare seemed to extend far beyond the specific functions of Vigilancia, even while he had no medical training.

In late 2018, as I entered the final months of my fieldwork, I texted Matheus through WhatsApp to ask if I could come visit his UBS in the Santa Teresa neighborhood and hear how his new position was going. He kindly obliged and I spent a morning being shuffled around the post, introduced to the workers there as Matheus and I traded ideas about universal health.

Like many of my interlocutors, Matheus was curious, particularly at the end of my fieldwork, to know what I thought of Brazil's public health system. "In general, coming from the outside, studying SUS, what's your opinion of the system?" he asked me. Questions like this always made me uncomfortable, as I had not come to Brazil to critique or evaluate its health system, but I also felt ethically obligated to respond, especially to long-term interlocutors like Matheus who had shared so much insight with me. I hemmed and hawed as I tried to deliver an honest answer. "Everyone here tells me that I can't take Serra Boa or any other post as a representative example," I started, with Matheus nodding and offering, "Each [UBS] has its own routine." "So it's difficult for me to say in general," I continued, "but from what I can see, I see something really impressive, in terms of . . ." I trailed off as I paused to think. Matheus chimed in, "In terms of its reach [*abrangencia*, scope]." I agreed, "In terms of its reach, its good competence. Things can't function 100% well, 100% of the time, but there's something – like I've used SUS many times, without any problem. There's nothing chronic—" Before I could finish this thought – which in retrospect might have been building to dubiousness, as there are indeed some chronic problems in SUS – Matheus cut me off with an interpretation of appointment slots and human nature. We had not been talking about slots or wait-times prior to this point, so the pivot is rather striking. I reproduce it in entirety here:

> You've got this—the problem is this: It's human nature [*é do ser humano*] to want everything right now, everything right away, right? So yeah, you want everything already for now, and

> everything perfect. Because you look at what your neighbor needs, and he has da da da ["this this and this"], they give it to your neighbor – [therefore] I want mine. So it's a lot of that. They say, "Ah, but it was three months [waiting for an appointment]!" It was, but in three months I attend to three thousand people. It's not stopped, every day it's attending [to patients]. So. You analyze the system – no, the system isn't stopped! It's that your slot [vaga] is still ahead, with a logic that has a mmmmillion people to serve every day! Your turn will come.

"That's fascinating," I said, struck by Matheus' point about the million or three thousand patients. "It's just that it's a lot of people!" he continued. "Until your turn arrives, there's a delay, just a little."

The slots are few

In the snippet of my exchange with Matheus above, we get a glimpse of the way that the slot (*vaga*) operated as a kind of interface between the health system and the user – much like the line itself, as described by David in Regulation. The user, in Matheus' account, made demands on health in terms of the place-in-time of the slot. By implication, for this stereotyped user, a waitlist or line was unacceptable on its face. That is, technically, a waitlist only existed for those patients who had not been scheduled for appointments. Beyond two or three months into the future, typically, healthcare institutions did not make appointments. If all appointments within that window were booked, then a waitlist would emerge, and the patients on it would be booked later. Under normal circumstances, when a user "got out of the line", he would be scheduled for an appointment that might still be two months away. (This does not apply to a mutirão, which would always have an arbitrary, situation-specific set of guidelines attached to it.) Matheus was effectively describing patients who were not in the waitlist, but were rather impatient to be seen at their scheduled appointments.

Notwithstanding a two- or three-month wait for routine appointments, I was told not only by Matheus but by many other workers – all of whom expressed moderate criticisms of the system,

as well – that the line in Terraville *moved*. Terraville was "better managed" than many other municipalities, a financial officer in the Secretary of Health told me, and so it had shorter wait-times for appointments. A nurse technician at Serra Boa represented the town's superiority in terms of medical treatments, saying, when I asked what was better about it, "You're going to leave [your appointment] with medicine" (*vai sair com remedios*). In Terraville, if not always in other municipalities, the gears of healthcare were indeed thought to constitute a well-oiled "health machine".[31]

Yet as Matheus' pleas for patience suggested, the hundreds of individuals who made those gears turn were not in any deep sense "in control" of the machine. More specifically, and of utmost interest to health users, very few of these professionals had much say-so as to whether there were appointment slots available. Matheus was in charge of a health post that employed dozens of workers – doctors, nurses, nurse technicians, other administrators, receptionists, pharmacists and custodians – but even his hands were mostly tied when it came to how many slots the post offered for any given service.[32]

Just as all of my interlocutors up to this point in the chapter suggested, in one way or another, that "overflow" was a normal feature of universal healthcare, so other health professionals articulated a subtly different vision. For UBS receptionists,[33] healthcare was less about "reach" (*abrangencia*), wait-times or even lines, and more about the slot itself. In other words, in my

[31] The phrase "health machine" is sometimes invoked ambivalently by sanitaristas to characterize the complexity of the healthcare system and its many moving parts, as in this opening sentence to a book co-authored by Luiz Carlos de Oliveira Cecilio (see Chapter 2, this dissertation): "The *health machine* has made itself so complex that it has become a topic for specialists, previously [medical] health professionals, under the absolute hegemony of doctors and, now, and each time more, of the managers and administrators of health" (Cecilio et al. 2014, 13; emphasis in original).
[32] The quantity of available slots depended on various factors beyond any individual UBS manager's control, e.g. how many doctors the municipality could contract, who was on vacation, who had been temporarily "lent" to another post, how many consult rooms there were in the UBS, etc.
[33] Receptionists were of course those workers who checked patients in for appointments, scheduled new appointments for them, and performed a variety of other administrative tasks at the direction of the post manager.

conversations with them, receptionists did not talk so much about the challenges of permanently high demand. Rather, they tended to fixate on the scarcity of appointment slots as such. As the front public-facing line of the UBS, receptionists' work practices revolved significantly around communicating the existence or absence of slots to health users. Almost poetic refrains, the phrases "there is no slot" (*não tem vaga*) and "there is [a slot]" (*tem*) rumbled out quietly from behind the three desktop computers in reception all workday long. Reflecting on the slot rather than the demand, receptionists articulated an image of the social world that was inverted in relation to David's vision of permanent overflow. That is, the quality that was generalized in this world was not "overflow" but something like "slot scarcity". Of course, these were not mutually exclusive frameworks for interpreting social reality; indeed, they were complementary. But in emphasizing the slot over the demand, receptionists more directly articulated the logic of the slot as a general feature of social life.

During my fieldwork at the Serra Boa UBS in 2017, I spent many hours sitting in a spare chair in Reception, chatting with receptionists during lulls and asking questions about specific interactions with health users. Without exception, receptionists expressed feeling undervalued and poorly treated by users. Even though receptionists were ultimately the professionals who mediated users' access to the line and the appointment slot, they were often treated as incidental obstacles on the users' journeys to biomedical access.

Among the receptionists whom I got to know during fieldwork was a go-with-the-flow woman in her 50s named Patricia. On an unusually quiet morning in the week before Christmas in 2017 — during which demand tended to drop as people went on holiday — Patricia let me record her as she reflected on the differences between being a receptionist and working in other healthcare roles. Earlier in her career, she said, she had worked for over a decade as a nurse technician, both in Terraville and in São Paulo proper. But she had ended up working more recently in reception because her last nurse technician job had been outsourced (privatized, *terceirizado*), and when her

contract ended, reception work was all she could find. In what follows, I reproduce large chunks of our exchange so as to show the reader how Patricia's experience of her work was framed by slots. Notably, both she and the health users who she "received" were caught in opaque, shifting matrices of opening and closing slots.

> **Patricia**: Really I'm a nurse technician, I'm in nursing.
>
> **Jack**: I didn't know that!
>
> **Patricia**: Yeah. I used to work in that area here [in Terraville]. But I was working for a private company, outsourced by the prefecture . . . So when my contract was coming to an end in 2010, I took the civil service exam [for nurse technician] but they never called me. And I passed. But they never called me. I sat waiting and they didn't call. But I had also taken the exam for reception. And they called me for reception. So in order to not be unemployed I ended up coming here for reception.
>
> **Jack**: How does that work — you took both exams?
>
> **Patricia**: I did, I took the two of them . . . So then I got it [reception], in order to not be unemployed, I got it and I ended up in reception. But really I am from nursing.
>
> **Jack**: Do you prefer one over the other?
>
> **Patricia**: I would prefer to be a nurse technician. *I love it*. What I want most is to return to that. But it's difficult.
>
> **Jack**: Why is it difficult?
>
> **Patricia**: Because look, the slots [*vagas*] are few, right? And you take the exam, and they already have people in place. So you keep getting pushed back, back, back, and they never call you.

Patricia's account here revolves around the scarcity of work. Notably, while she uses the word "slot" (*vaga*), she is talking about "employment slots" rather than "appointment slots". The word is the same and was ubiquitous in São Paulo in discussions of both employment and healthcare access. As I detail below, Patricia mediated access to appointment slots at the same time that she was more generally subject to the logic of the job slot. When her contract as a nurse technician came to an end, she took two civil service exams (*concursos*) in Terraville – one for nurse technician, and one for receptionist. When she says "they never called", she is describing a common experience in

attempts to gain public employment. Upon taking a civil service exam in Brazil, test-takers are publicly ranked in order of score. The public body in question then offers work to people in the list in the order of ranking. Virtually always, more people take an exam than there are slots, especially in well-developed metropolitan areas like Greater São Paulo. Hence while Patricia passed, she was never called back. People in her position are treated as a kind of labor reserve, sometimes being called back years later.

Patricia explained the elusiveness of a slot for nurse technician in the final exchange above, wherein she says "they already have people in place". She is referring here to the fact that a mayor is allowed to appoint a certain number of public positions, without those people needing to take a civil service exam. This is called a *cargo de confiança*, "position of trust". Matheus, for example, had won his Vigilancia position through a civil service exam, but was subsequently appointed manager of the Santa Teresa UBS as cargo de confiança. This was a very common kind of occurrence. The catch was that, whereas Matheus had labor protections in Vigilancia (and thus was difficult to fire), he would not be given these protections in his new position; he could be summarily removed from management by the next mayor, and then would fall back to his default position in Vigilance – which also happened routinely. When Patricia says, "they already have people in place", she is insinuating that the practice is corrupt or at least unfair. Patricia passed her exam, but the mayor already had people in mind, she suspected. And mayors did quite openly use this power to reward people who had helped them win election. (I should note that this was not the case with Matheus, who was disinclined to formal politicking.)

Whether cargo de confiança was the reason that Patricia was not called back or not, she describes not only being stuck waiting to be called but also being "pushed back, back, back". That is, Patricia describes being on the "demand" side of a line, effectively. And like a bad dream, she not only never approaches exiting the line, but rather seems to somehow become *more stuck* over time.

She continued, telling me about how frustrating this was:

> I'm angry about it, if you really wanna know. Of not having gone back to my area [nursing] and being stuck here. Because reception is very undervalued, in spite of being a service that's so — something really important in the post. Without reception, the post doesn't move [*não anda*], the people don't place any value on reception. Sometimes they treat us like dogs, like trash, you know — they yell at us, they're rude. They think that we are unwilling to help them, but it's not that. It's not unwillingness. Sometimes there is no slot [*As vezes não tem a vaga*]! And you don't have anything you can do, and the person gets mad.

Just like in my conversation with Matheus, Patricia ended a fairly forceful interpretation of public health work by shifting, suddenly and without explicit explanation, to the figure of the appointment slot. Even while she expressed anger at being denied a slot as nurse technician, she asked that health users understand that "sometimes there is no slot". And unlike someone like Dr. Paula, who had the power to "make an appointment where there is no slot", Patricia did not have that kind of professional agency.

At this point in our conversation, a woman with a child (of maybe four years of age) walked into the post and arrived to the counter to ask about making an appointment in pediatrics, for her son. She asked if she can make a "return" appointment to evaluate an exam her son has received. The UBS had two pediatricians, so Patricia asked, "Return with whom?" The woman rustled through her purse as she looked for her original appointment slip, unable to remember the name of the pediatrician. "Is it Doctor Artur?" Patricia asked. "If it's Doctor Lourenço, there's no slot [*não tem vaga*], only for Doctor Artur." The woman pulled out a white piece of paper that served as her referral for the exam, handing it to Patricia and asking, "Can you tell who requested it [the exam]?" After a brief pause while glancing at the paper, Patricia said, "Yeah, Doctor Lourenço." "Only in January," she added, indicating when the return appointment could be made. Misunderstanding, the woman said, "OK, you can schedule it." Patricia responded calmly, "His slots are *going to open* in January. The schedule isn't open now." In other words, there was no waitlist for pediatrics — there were openings with Dr. Artur, for example, which could be tapped in case of an urgent need — but

Dr. Lourenço's available appointments had all been booked. In January, a fresh set of appointments would open up (presumably in February or March), at which point the woman could claim a slot.

The woman was patient and not flustered, asking for clarity, "So I would have had to have scheduled it on the day that he ordered the exam?" "Yeah, you would have had to have already scheduled it," Patricia said. "Would you mind looking to see if I scheduled it? Because I don't remember," the woman said. Patricia asked for the "child's document", murmuring, "I think you probably didn't schedule it, because usually we don't" prior to the exam being performed. A verbal pause then ensued as Patricia began to audibly BAP-BAP-BAP on her computer keyboard, typing in the child's name and looking up his scheduled appointments. About a minute passed before Patricia said, "No." "I didn't schedule it?" the woman asked. "No. You'll have to schedule it in January." The woman thanked Patricia in a friendly tone and left with her son.

In this brief exchange, Patricia and a health user each treated each other with respect as Patricia helped her navigate the appointment-making process. We can see that even this rudimentary action — making an appointment — was often structured by rules and obstacles that patients did not anticipate. Patricia performed both a technical task (looking up appointments, etc.) and an interpretive one, as she advised the woman several times that she would likely have to wait to be able to claim a slot. In turn, the woman tried several times, in effect, to see if perhaps she did have a slot or could otherwise get one. She left without any incident, although her question — "So I would have had to have scheduled it…?" — suggested a critique of the appointment-making norms, wherein now that she has proceeded through the prescribed medical itinerary, there were no longer any return slots available.

I detail this encounter here for two reasons. First, it offers an example of how Patricia's encounters with patients were built around fairly rich technical and interpretive engagements with the appointment slot. While Patricia's work was stereotyped as simplistic and not valuable, even a

single encounter in fact involved a good deal of techno-semiotic labor. Second, the episode points to the unruly complexity of appointment-making in the public healthcare domain. That is, at this point, the child had presumably been seen at two appointments (one with Dr. Lourenço, and one with a medical examiner elsewhere). Yet the process had not been consummated, so to speak, because no one had analyzed the exam (and potentially dispensed treatment if necessary). Now several steps into the process, the woman found that she could not even make a return appointment for a few more weeks. Thus even as health users and workers like Patricia longed to get out of the line and nab one slot or another, the goalposts were not fixed. It was never only a question of this slot or that slot, but rather of a social world build around the principle of always-shifting slots as such.

After the woman left, Patricia and I continued chatting. I told her that I agreed with the point she had been making earlier, that reception was a really important point in the healthcare process. Before I could get to a question, she picked back up her thread.

> **Patricia**: Everything starts here. And then afterward things spread out to different places [in the post]. Because look, if we [receptionists] were to stop, then they [doctors, nurses, administrators] wouldn't be able to work, because everything is sent through Reception.
>
> **Jack**: So what would you say is the function of Reception? Or the functions.
>
> **Patricia**: The function? Oh, I think Reception is the principal.
>
> **Jack**: What does that mean, "principal"?
>
> **Patricia**: It's the most important [part of the post]. It's reception that receives [users], reception who takes insults [*laughs*] — everything is reception! Reception is the most important because you're receiving that person. You have to have a lot of calm, you have to have charisma, be happy, because if you're cranky, they'll say, "Wow what a cranky person". You have to have a happy face [*cara boa*] all the time. Nobody cares if you've worked all day, nobody cares if you're tired, if a relative died. You have be seated here with a happy face all the time. If not they'll say, "I pay your salary!" [*laughs*]

'There is nothing of "too little" in my life'

Slots were not only scarce, as Patricia saw it, but even when they existed, they were often difficult to access. Each municipality had different rules for how a patient had to go about accessing

different medical specialties and services, and residents of any given municipality were not supposed to use the services of other municipalities (except in emergency care). (I explore the question of residency and access in more detail in Chapter 4.) In Terraville and São Paulo, people routinely skirted these rules, often with healthcare professionals looking the other way.

In the present section, I describe an exchange I had with Kelly, an administrator in the Coordination office in Terraville. Coordination oversaw the 20 UBSs in Terraville, acting as a sort of headquarters for all things Basic Health. The office was managed by three medical doctors and their seven assistants, who themselves composed a small hierarchy (with two "higher" assistants and the remaining five below them). Kelly was one of the lower five assistants.

Like the Serra Boa UBS, Coordination was an invariably busy scene. Unlike Serra Boa, however, while citizens occasionally stopped by to make a complaint or special request, most of the "movement" (*movimentação*) in Coordination was generated by the workers themselves. Doctors rushed in and out for meetings; officials from other offices came asking for documents; phone calls from individual UBSs cascaded in without stop.

One morning in winter 2017, not long after I had arrived to sit and observe the tumult of the day, Kelly and I crossed paths at the small coffee table located at one end of the office. We took turns pressing down on the head of the tall black coffee thermos, waiting as it slowly spit coffee out into our tiny translucent plastic cups. Kelly had a warm, jovial presence to her, and I always enjoyed chatting with her because even our brief conversations tended to culminate in a fit of giggles. There would be some of that on this day, although with a darker hue to the comedy.

In routine fashion, I said good morning and asked Kelly how things were going. Surprising me, she let out a chuckle. "Ah! There is nothing of 'too little' in my life!" she exclaimed. She then quickly listed a series of serious medical ailments, in an almost self-deprecating tone, adding with a smile, "Nothing of too little". I was caught off-guard by the ailments themselves as well as by her

delivery. I cannot say that I knew Kelly particularly well at that point (four months after having first visited Coordination), but I was surprised that I had never caught wind of any of this before. Coffees in hand, we walked back to her desk on the other side of the room, where I asked if she could walk me through what she meant by "there is nothing of too little in my life". She proceeded to again list her ailments, expanding this time as she went:

> I have a cancer in my eye. I've done three varicose vein surgeries, in my two legs. In one leg, I had a thrombosis. Then that, in one of my feet, affected my Achilles tendon. Then I had surgery in my right foot . . . And the left leg also needed the same surgery. What's happened is the same as saying, "there is nothing of too little in my life". Everything comes as "a lot" to me. My left leg is really bad because of the surgeries. And I run the risk of an embolism, from doing the surgery in my foot, because I spend a lot of time seated … I discovered six months later, an anomaly in the micro-nodules in my lungs, that has to be investigated and accompanied [medically] because of the risk of a metastasis of the cancer [of her eye]. And to close, I got a cold, and then pneumonia [*laughs*]. I got a basic little cold, a little thing, I only got a little sick – [and then] pneumonia [*laughs*]. It weakened my lungs even more [*laughs*]. It's just a little bit – those are the things in my life.

In representing these health experiences to me, Kelly demonstrated a palpable grace and humor. Yet the story itself is dense and hard to follow, jumping from one diagnosis or treatment to the next in an inscrutable chronological sequence. Several features are worth noting. For one, this is a story about Kelly: she is the only character mentioned in the account and she uses the first person throughout. In other words, she does not speak to any kind of solidarity or collectivity here. Next, Kelly appreciates the absurdity of her bad luck — concluding with an attempt at levity in relation to a "basic little cold" turned life-threatening — at the same time that there is something oddly casual about her delivery. Even while acknowledging that this is "a lot", and that it is only happening to her, there is an air of normality in the way she moves swiftly through a series of profound challenges. Finally, while Kelly's tumor was unresolved at this point, all of her problems had been or were being treated. Indeed, there was a flip-side to her ailments: not only did she suffer an abundance of health problems, but she also apparently enjoyed access to an abundance of medical care. And she did it all through SUS.

My readers might suspect that Kelly enjoyed good access because she worked in the Terraville Secretary of Health. Alternatively, perhaps she understood the functioning of health administration such that she was able to navigate the system more deftly than others. I asked her both of these questions directly, and as our exchange below shows, neither was the case. At the same time, her access was certainly mediated by informal connections with doctors and lawyers. At one point in her itinerary, a doctor looks the other way to ignore a residency problem. At another, she gets access to a good hospital because her ophthalmologist happens to work a second job there. All of Kelly's biomedical encounters begin in Terraville, and most of them (her leg and feet problems) were treated there. But her tumor had to be diagnosed and treated in São Paulo proper. This created a wealth of obstacles for her as she struggled to obtain an appointment slot at one of only three hospitals that could treat her. Her story thus continues in a dense register of problems, movements and partial solutions.

> **Jack**: Those experiences in the health system — since you work in SUS, in Coordination, do you think that you experience your appointments differently by knowing what's happening on the administrative side?
>
> **Kelly**: Hmmm — no, no. No. I had a lot of difficulty with that. I sought out the Secretary here, you know.
>
> **Jack**: You began here? In terms of ophthalmology, you were seen in Terraville?
>
> **Kelly**: In Terraville. It was a simple ophthalmology appointment. And the doctor ordered a retinography, a mapping of the retina. The doctor saw that I had a spot [*mancha*], and he asked if I knew that I had this spot there. I said "No, it's news to me." So he referred me to the Hospital São Paulo, where he was a volunteer. So I went there, and there they did a ton of exams that diagnosed the problem. So then I came to Terraville, and I looked for the Secretary of Health [the head of the municipal system], without success. I sought out Central Regulation, without success.

When Kelly describes "looking for" the Secretary and for Central Regulation (which manages lines and appointments within Terraville), she is seeking someone who might be able to flag her case for its urgency, and thereby get her quick access to treatment. She was never able to speak with the Secretary, although Central Regulation ultimately referred her to the Hospital das Clínicas, the

teaching hospital of the University of São Paulo (and considered one of the best hospitals in Brazil), located in São Paulo.

> Kelly: Regulation referred me to the Hospital das Clinicas. I was there two days at the hospital, arriving at six in the morning and leaving at 3:00, 4:00 in the afternoon. Doing exams and everything. I had a day in which I did twee-lllve [*doo-ze*] [12] exams, twelve different exams. Then, they scheduled for me to return the following week. I went and sat waiting for the director of ophthalmic oncology, she came to me and she said, "The Hospital das Clínicas doesn't have anything it can do for you. We don't have anything we can do for you. In São Paulo, it's AC Camargo [Hospital], Einstein [Hospital] and the São Paulo Hospital of the Eye." It's just that none of those has an easy "open door" for SUS.

These three hospitals were private, she explained. They dedicated some number of beds to SUS patients for in order to maintain tax status as philanthropies, but no individual public patient — like Kelly — could be assured access. "I only arrived to AC Camargo with a fight," she concluded.

> **Jack**: I thought A.C. Camargo was a mixture – part private, part public.
>
> **Kelly**: So, in order to arrive through the public [side], to arrive to A.C. Camargo through SUS, there is a "central regulator" in São Paulo, so the request goes there. So what difficulty did I have? I am a resident of Rio Francisco.[34] I passed through Terraville [ophthalmology].[35] In order to get a referral for São Paulo [and A.C. Camargo], I had to also pass through a consultation with a lawyer, [and] pass through ophthalmology in Rio Francisco also. I passed through ophthalmology in Rio Francisco also, I sent my request to the Secretary of Health of Rio Francisco, the Secretary of Health of Rio Francisco responded to me by telephone. "We don't have anything we can do for you. The balance is yours."[36] [Pause] They didn't get involved. So, talking to friends, "I know someone that can maybe help you", which was Dr. Thiago here [in Terraville]. He died a little while ago, some two years ago now, of cancer. And he took all of my documentation. At the same time, I passed through São Paulo. I got the address of a cousin of my mother. I went to the UBS [in São Paulo] with an address that wasn't mine. He [the doctor] knew that I didn't live there. But I was treated very well. I passed through ophthalmology there, and they did my registration [*cadastro*] as if I were a resident of São Paulo. That was the procedure. I had gone to A.C. Camargo three times [to try to make an appointment], and [then] the last time, a rainy day, I got there soaking wet, angry. I got the social worker and I accosted her against the wall – if my husband had been there [trails off] – directly to her face, it was like this, "Now speak, tell me you-all aren't going to treat me." She told me the truth. "You have to pass through São Paulo, ophthalmologist in São Paulo, in order for that slot to come, in order for the Central Regulation of São Paulo [to refer you], because coming from another municipality you can't

[34] Pseudonym (not a real town name).
[35] As a public worker in Terraville, Kelly had a right to use its health services, even though she was not a resident of the municipality.
[36] "The balance is yours" is a sort of formal, dramatic way to say "It's on you to figure it out".

> get in". Because here [in Terraville] we use CROSS [a line-management software system], and I had to enter through SIGA [São Paulo's system] . . . So in order to enter through SIGA, I had to pass through a UBS in São Paulo. Which is what I did.

Kelly's dense story continued. In the end, Dr. Thiago gave her documentation to a lawyer who worked for the São Paulo Legislative Assembly. The lawyer contacted A.C. Camargo, and within a week Kelly had an appointment. After this initial appointment, she was told to wait to actually be examined – again, since she had already done so at the Hospital das Clínicas. "So I had passed through the first appointment at A.C. Camargo," she told me. "So I was stuck in a line that was *loooong* in order to do exams, all of that. 'Stay there, you're going to wait. One day we will call you to do exams.'". After a month of waiting for exams, the lawyer who had helped her get an appointment contacted her. The lawyer was going to be interviewed for an in-depth piece on Rede Globo, one of Brazil's major TV news networks, on the subject of patients who had difficulties making appointments in SUS. The lawyer wanted to know whether Kelly had any interest in being interviewed as well, since they were looking for patients with such problems. Rede Globo could not make any promises, but they said that the national attention might compel A.C. Camargo to handle her case more quickly. "I had nothing to lose," Kelly told me. She was interviewed in her home and was on the national news, and within a week of the segment airing, "I was having my exams done at A.C. Camargo. Can you believe it? [laughs] I did all of my exams."

Without my prompting, Kelly told me that she felt some guilt knowing that she had probably skipped her place in line. The bad publicity for A.C. Camargo had almost certainly incentivized them to treat her ahead of others who had been waiting, and, while the negative attention helped her move forward in her healthcare journey (she ultimately received radiation treatment for the tumor), she knew that nothing structural had changed such that other patients might also receive timely treatment. I did my best to sympathize with her. Indeed, she had not done

anything that people with private health insurance plans – like me – didn't already do anyway: find a way to ensure privileged access to scarce resources outside of an egalitarian social contract.

* * *

I describe Kelly's story at length here in order to communicate the weight of a healthcare problem in São Paulo. Of the many stories I encountered during fieldwork, Kelly's has always stood out to me for the density of its "passages", the many points at which Kelly had to "pass through" particular institutions, systems and nodes. Crucially, Kelly had to go to the doctor again, and again, and again. Sometimes, she was being examined "redundantly" (see Chapter 4, this dissertation), while other times she was merely doing the normative back-and-forth of ongoing medical treatment, wherein one must be "accompanied" by medical intervention over time. It is also notable that Kelly began our exchange by referring to the utter lack of "too little" in her life, "everything comes as 'a lot', to me". In this phrasing, anticipating the thick description that would follow, Kelly experiences super-crowd-like qualities at the level of her body. And while she ultimately partakes of an abundance of healthcare services, many of these are completely unnecessary, medically speaking, and are merely bureaucratic moves in order to get into the São Paulo network.

Kelly's ordeal began long before Health Owl. And it continued well after. But Health Owl was meant to intervene in situations like Kelly's, cutting through red tape to deliver healthcare access. However, the expansiveness of Kelly's story also speaks to the absurd inadequacy of Health Owl as a solution. That is, in a case like Kelly's, an exam could not resolve her problem. Indeed, an exam was almost the first thing she got, in the Hospital São Paulo, from her original ophthalmologist. The next several months were spent trying to get treatment for what her doctor had diagnosed on the basis of that exam and those at the Hospital das Clínicas. Likewise, as Doria's critics pointed out after Health Owl, "You don't have to be a health specialist to know that an exam only makes sense when it's prescribed by a doctor, who is going to evaluate it and indicate adequate

treatment, if necessary".[37] Doria zeroed the line for high-complexity exams in 83 days, but the line for appointments with specialists – who were required to interpret those exams – increased from 439,000 patients when Doria took office to 497,000 in November 2017.[38] Patients had received their exams, but not necessarily their diagnoses or their treatments.

To eliminate a line

Less than a month after zeroing the line for high-complexity medical exams, on May 1, 2017, the Doria administration launched Corujão da Cirurgia ("Owl of Surgery"), which would focus on the line for medium-complexity surgeries.[39] Unlike the first Health Owl, surgeries would be performed only in public hospitals, and getting to zero would take much longer. "It's a much slower process than doing exams," Doria said. "Obviously, it's not the same thing. You estimate that a surgery takes three hours, and many times it will go five, six, seven hours. So it's much different from an exam, which you know, can be done in 20, 25 minutes."[40] Hence Surgery Owl would "zero gradually" (*zerar gradualmente*), in the Mayor's words. But while moving more slowly and relying exclusively on public facilities, the program would intensify the round-the-clock principles of the original Health Owl. Surgery Owl would run not only into the early morning hours, but would schedule appointments 24 hours per day, 7 days per week, until the line of 68,000 patients was zeroed. This was expected to take about a year and a half.[41]

[37] "Corujão da Saude de Doria nao zerou", 2017. See Note No. 28 above, page 121.
[38] Gomes and Cabricoli. "Sob Doria, fila para exames", 2017. See Note No. 26 above, page 121.
[39] Leite, Fabio. "Gestao Doria vai inciar Corujão da Cirurgia em maio". *Estado de São Paulo* (newspaper). April 13, 2017.
[40] Resk, Felipe. "Corujão de Doria quer zerar a fila de cirurgia em um ano e meio". *Estado de São Paulo* (newspaper). May 26, 2017.
[41] Resk. "Corujão de Doria quer zerar", 2017.

Doria did not stay in office long enough to see the surgery line zeroed. In April 2018, after just 15 months in office, he resigned as Mayor in order to run for Governor of the State of São Paulo in the 2018 October elections. Under Brazilian election law, a sitting executive cannot run for another executive office. Bound by the same rules as Doria, then-Governor Geraldo Alckmin (PSDB), a member of the same center-right party as Doria, had resigned the São Paulo Governorship in order to run for President. Since Alckmin's Vice Governor, Márcio França (PSB), belonged to the rival Brazilian Socialist Party, the PSDB nominated Doria to try to retain the seat. Although Doria had signed a pledge during his 2016 run for Mayor, promising unequivocally to serve out the entirety of his four-year term, he justified his resignation by saying that his party had "asked me to" stand for the Governorship, and he was loyal to his party.[42] Pressed during a television interview as to whether breaking his pledge meant that he was now just another politician – contrary to how he characterized himself ad nauseam, as "not a politician" – Doria said no. "Speaking the truth, exactly the truth, I continue being *in* politics, [but] I am not a politician, I'm *in* politics, I demonstrably respect politicians, but I'm an administrator, and it's exactly this [administration] that I intend to do in the government of the state."[43]

Doria's run for Governor followed months of speculation that he would try to leapfrog directly from the Mayor's office to the national Presidency – cutting in front of Alckmin, who had been seen as the party's candidate-in-waiting. Throughout Doria's brief tenure as Mayor, he was criticized, including by members of his own party, for appearing to treat his position as a launching pad for higher ambitions. "We don't have a Mayor" in São Paulo, Alberto Goldman, Vice President of the PSDB itself and former Governor of São Paulo, commented dryly in late 2017. "We have a

[42] "Café com Jornal" (morning television program, interview with Doria), March 20, 2018.
[43] "Café com Jornal", 2018.

candidate for President."[44] On the left, Doria was ritually criticized for focusing on "marketing" over management,[45] famously dressing up in a garbage workers' uniform, for example, and pretending to work sanitation as part of his "Clean City" (*Cidade Limpa*) anti-blight campaign.[46] And although he never dressed up as a doctor or MRI technician, there is no disputing that Health Owl and its zero were quickly transformed into an ongoing spectacle and the principal sign of Doria's administrative brilliance.

The day before his 38th birthday in 2018, São Paulo's Vice Mayor, Bruno Covas (PSDB), was sworn in to serve the remaining two years and nine months of Doria's term. In his first speech as Mayor, Covas spoke in soaring terms about his intentions to focus on health and education. Like Doria, he would maintain laser-like focus on the line. Comparing the zeroing of the line with the building of great material structures, Covas said, "I am one of those that believes that it is worth more to eliminate a line than to build a viaduct." And again, like Doria, he wanted to move fast. "I'm in a rush. There are only 33 months in front [until his term would end] to pay my debt of gratitude [to the electorate]. It's not a lot of time." Quoting Martin Luther King, Jr., and attaching a heavy moral anchor to the urgency of the line, he added, "The time is always right to do what is right".[47]

Doria went on to win the gubernatorial election in late 2018, taking office in January 2019. Covas remained in office through the end of what would have been Doria's four-year mayoral term.

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[44] "'São Paulo ainda nao tem prefeito', diz Goldman sobre gestao de Doria". *Isto É* (news magazine). October 6, 2017.
[45] "Doria aposta em marketing para compensar falta de realizacoes". *Rede Brasil Atual* (periodical). July 3, 2017.
[46] "Em 100 dias, João Doria acelera com choque de marketing". *Carta Capital* (periodical). April 10, 2017.
[47] Diogenes. "Mais vale eliminar", 2018. See Note No. 1 above, page 100.

In November 2020, as sitting Mayor, he won his first election at the top of the ticket, and began his first full term as Mayor in January 2021.

In the months and years following Doria's original Health Owl in 2017, he, Covas and others touted its success and created numerous imitations. As Governor, in 2019, Doria launched a state-wide version of Health Owl in state-level hospitals, promising to zero myriad lines throughout the state.[48] The program would move region by region, first zeroing a line of 155,243 patients in three regions around São Paulo, and then focusing resources on other parts of the state.[49] (It is worth keeping in mind that São Paulo State has a population of 44 million people. If it were a country, it would be the third largest in South America, after Brazil and Colombia, and ahead of Argentina.) In January 2020, just before the coronavirus pandemic took hold, Covas announced the beginning of Corujão do Câncer ("Owl of Cancer"), to "zero the line of oncological exams" within 100 days.[50] Covas himself had been unexpectedly diagnosed with an adenocarcinoma at the junction of his stomach and esophagus in October 2019, with metastases in his liver and lymph nodes.[51] Although not an uncommon cancer, it is considered rare in someone as young as Covas, who was known for being physically active and otherwise healthy. Reflecting on the speed with which he received his diagnosis and treatment – and illustrating a counter-example to Kelly's laborious journey above – Covas said that his experience inspired him to launch Cancer Owl:

> On a Wednesday I was hospitalized to treat a skin infection. On Thursday, I discovered that it had become a thrombosis. On Friday, that there was an embolism because of it. On Saturday, I discovered that there was a tumor. And, on Sunday, I already knew what kind of tumor it was and the extent of it. On Tuesday, I began chemotherapy. It is unacceptable that

[48] Vieira, Barbara Muniz. "Doria inaugura Corujão da Saude em SP e promete fazer 150 mil exames em 60 dias". *Globo* (periodical). March 7, 2019.
[49] "Doria lança versão estadual do programa Corujão da Saude". *Exame* (news magazine). March 8, 2019.
[50] Rodrigues, Rodrigo. "Covas lança 'Corujão do Cancer' para zerar fila de 100 mil exames oncologicos em tres meses em SP". *Globo* (periodical). January 21, 2020.
[51] Magalhaes, Beatriz Borges. "Entenda o cancer que atingiu o prefeito Bruno Covas". *Globo* (periodical). October 28, 2019.

> the mayor, who has conditions to pay for a health plan [insurance], has that type of agility. And the people, who don't have conditions to pay for a plan, have to wait days in order to have access to treatment. That's why we moved ahead with this idea of a Corujão, so that we can eliminate the line . . .[52]

Even before Doria had resigned as Mayor, other prefects and state governors were imitating his model. In 2017, the *Estado de São Paulo* newspaper described imitations in the states of Mato Grosso, Cuiabá, and Paraná. "I don't have a problem saying it," a mayor in the state of Parana (immediately south of São Paulo) said. "I copied it. I think it's good to be copied." In Greater São Paulo, the Mayor of São Bernardo de Campo, a major city in the so-called ABC region south of the capital, was described as emphasizing that "any successful action in the capital spreads, has wide repercussions". "It's natural, therefore," said the prefect, Orlando Morando (PSDB), "that [Health Owl] should be replicated elsewhere."[53]

* * *

Geraldo Alckmin was eliminated from contention in the first round of voting in the presidential election of October 2018. The former mayor who Doria had defeated in 2016, Fernando Haddad, ran in the presidential election on the center-left PT ticket and advanced to the second round.[54] He faced then-Congressman Jair Bolsonaro (no party, at writing) in a head-to-head contest. Bolsonaro won and was inaugurated in 2019. Doria began 2019 as something of an ally to Bolsonaro, but in 2020, as the coronavirus began to devastate Brazil, Doria became Bolsonaro's chief nemesis. As Bolsonaro was criticized for incompetence and wishful thinking a la Donald Trump in the U.S., Doria presented himself as a hyper-competent leader concerned about saving lives. Bolsonaro made his displeasure clear, publicly airing his dislike of Doria for being a wealthy

[52] Rodrigues. "Covas lança", 2020. See Note No. 50 above, page 141.
[53] Ferraz, Adriana. "Projeto de Doria vira modelo para outros prefeitos". *Estado de São Paulo* (newspaper). May 1, 2017.
[54] Haddad was a "Plan B" for the PT, after its preferred candidate, former President Luiz Inacio Lula da Silva, was imprisoned for corruption and made ineligible to run.

"playboy" and show-off. With the future of Brazil's political left still deeply uncertain at writing, Doria is seen as a likely challenger from the center-right to Bolsonaro's extreme-right in 2022.

A rule of relations

As Brian Rotman tells it, zero emerged as a written number sign somewhere in what is today central India around 1300 years ago. For Rotman, it is fundamental to understand that this "number sign" was invented in order to enable a particular system of written numerical notation. That is, zero not only denoted a specific quantity, but also, as a written symbol, served special grammatical functions inside the "language" of Hindu numerals – sort of akin to a question mark in written English. In the number "300", for example, the "3" can indicate "three (hundreds)" *only if* it is followed by two other numerals. Otherwise, it indicates literally "3". For the exact number "300", in which there are no other "positive" quantities to communicate after the "3", the entire notational system of "columns" – e.g. ones, tens, hundreds – is *only possible* if I have a sign like "0" to indicate "nothing in this one". Zero could have been a "-" or a "/", as long as it indicated "nothing here". Thus while the zeroes in this example each communicate a number-value vis-à-vis a "ones column" and a "tens column", they simultaneously make possible the entire notational system, and *change the meaning* of "3" from "three" to "three hundred". Without zero, the ten-based Hindu numeral system collapses.

One of the reasons that Rotman emphasizes the grammatical function of zero is that, by noticing this, we can observe that zero is more than simply a number. It is also a technology, the precise function of which is always to serve a dual role as a number-value and – at the very same time – a "meta-sign" in relation to a given semiotic system. Zero, Rotman says, enables one to change the meanings of the other signs in play. "3" can become "three hundred" through "0" and "0" qua meta-signs.

Likewise, Doria's zero serves a similar meta-social function. Indeed, the active predication of zero as "to zero" is revealing in this regard. Unlike "485,000" – a boring and inert number, merely denoted and only denotable – Doria illustrates that "0" is always an intervention. To invoke it is always-also to invoke *zerar* (to zero), an activity through which some set of objects or signs will be radically reordered. The question for Paulistanos is thus: what exactly does zero reorder here? Most basically, through Health Owl, zero reorders the positionality of the health user in relation to the spaces, times and material biomedical technologies of the city, and therefore also to the state itself. But more profoundly, zero enables a reimagining of metropolitan collectivity and its relationship to civic and healthcare experience as such. In contrast to Kelly's difficulties moving through SUS, and Patricia's conclusion that "the slots are few", zero imagines and instantiates – within very limited, temporary parameters – a metropolitan world in which slots are abundant, lines are trivial and things *move*.

CHAPTER 4: EXPONENTIALITY

São Paulo is an analog city. It's a city of 'more or less'.

— Marcia, lifelong resident of São Paulo

Here, the question is not one of representation — the apparatus of embodied metaphors, similes, or metonyms supposedly 'behind' the mathematics — but on what is revealed by the physical activities themselves, the moving around, visualizing, talking, scribbling, and gesturing involved in learning and communicating the subject.

— Brian Rotman, "Gesture and Non-Alphabetic Writing", in *Becoming Beside Ourselves*, 2008, 34

Growth

The city of São Paulo sits atop a mountain ridge about 40 miles inland from the port of Santos. Founded as a colonial outpost by Portuguese Jesuits in 1554, it was for several hundred years a relative backwater in contrast to bustling centers further north, like Salvador and Rio de Janeiro. In the 19th-century, the city's fortunes changed with the expansion of coffee planting in its northwest hinterlands. For the first half of the century, most coffee produced in the Province of São Paulo was exported through the port of Rio de Janeiro, producing relatively little impact for the capital city of São Paulo (Morse 1958, Chapter 10). However, as provincial production grew exponentially from 9,600 tons in 1836 to 57,500 tons in 1854, more and more coffee was exported by way of Santos — always passing through the provincial capital of São Paulo city, the final waypoint before mule teams descended the treacherous roads to the port (Morse). In 1867, a railway (engineered and financed by the British) running from Santos through São Paulo to the interior city of Jundiaí was inaugurated. After this, everything changed. Historian Richard Morse (1958: 164-65) describes the period that followed as "the city's genesis as a metropolis" and quotes another anonymous historian who characterized it as the "second founding" of São Paulo. In the final three decades of the 19th-century, the Province would be criss-crossed by railroad lines and its capital city would become the interface between booming Brazilian coffee production and insatiable global markets.

With economic growth came astounding increases in both the size of the city population and the extent of its material footprint. European immigrants, overwhelmingly from Italy, flooded the province and its capital (Morse, Chapter 14). In 1872, São Paulo was home to an estimated 31,385 residents (Caldeira 2000, 216). By 1890, that number had more than doubled to 64,934. In 1900, it had almost quadrupled in ten years to 239,820 (Caldeira). Morse (1958, 179) notes a comparable exponential growth in the material infrastructure of the city, as political elites sought to "embellish the capital" through paved streets, expanded gas lighting and improved water and sewage systems ("an instance of the 'Versailles complex'"). This only added to the allure of the city, Morse suggests, and "reinforced the city's inordinately swift growth by increasing the attractions of urban life" (1958, 180).

Over the course of the 20th-century, these qualities of exponential growth were carried forward and expressed in many different material and symbolic configurations, the finer details of which do not concern me here (but see Caldeira 2000, Part 3). In brief, the metropolitan area industrialized and became the "industrial heartland" or so-called "locomotive" of Brazil (Luna & Klein 2018, xviii), and the city maintained high demographic growth rates of between 4% and 6% through the 1970s (Caldeira). Between the 1930s and 1970s, a "tidal wave" of internal migrants from Brazil's northeast converged on São Paulo city and its surrounding municipalities, adding a "domestic" wrinkle to demographic growth that had been largely immigrant-driven up until that point (Weinstein 2016a). Internal migrants streamed in alongside foreign nationals from Europe and Japan and, by the 1950s, São Paulo overtook Rio de Janeiro as the largest city in the country. Along the way, the metropolis became seen as a national leader not only in industrial manufacturing, but also in banking and finance, medicine and, eventually, information technology.

Beginning in the 1980s, the demographic growth of the city finally slowed (Caldeira) — although it has never truly "stopped". In 1991, São Paulo proper had 9.6 million residents and an

annual growth rate of 1.16%; the metropolitan area (39 municipalities including city proper) had 15.4 million residents and a growth rate of 1.88% (Caldeira). By 2020, São Paulo proper had grown to an estimated 12.3 million and the metropolitan area was up to 21.5 million.[1] Even if its spectacle has quieted, the megacity continues to grow.

* * *

I begin from this brief review of São Paulo's century of growth to convey to the reader that not only *bigness* but more specifically *growth* has been an important characteristic of São Paulo's metropolitan identity for many decades. Of course, I do not mean to draw a teleological line from the demographic growth of an earlier period to the sociotechnical imaginaries of the 21st-century. Indeed, as anthropologist Teresa Caldeira (2008) has described pointedly in her work on contemporary São Paulo, earlier epochs of optimism in relation to the city's growth have given way to a palpable mood of uncertainty and malaise. Instead, I start here in order to prime my audience to think about the experience of *bigness* as a *process* and even a *practice*. How do huge scales get predicated as contexts, objects and "doings" in social life? What kinds of symbolic or imaginative spaces does bigness qua process open up?

In this chapter, I inquire into the experience of metropolitan *exponentiality* in public healthcare in Terraville. I take exponentiality to be a quality that my interlocutors in healthcare attributed to socio-material processes that tended to permanent states of "overflow". In other words, I do not use exponentiality in its literal mathematical sense of an exponential rate of increase, but rather to describe situations in which a given process was thought to engender "too much" (*demais*) in an essential and ongoing fashion. Such processes and phenomena were understood to be

[1] "Estimates of Resident Population in Brazil and Federal Units with Reference Date of July 1, 2020". Brazilian Institute of Geography of Statistics (IBGE, Instituto Brasileiro de Geografia e Estatística), 2020. Accessed June 1, 2021 at: https://ftp.ibge.gov.br/Estimativas_de_Populacao/Estimativas_2020/POP2020_20210331.pdf

impervious to ever being truly tamed by administrative mechanisms. Exponentiality thus refers to a recognizable quality whereby a given thing – such as "demand" for doctor's appointments – was thought to always exceed any administrative efforts to make it less excessive. Supply could never truly accommodate demand, for example, because demand exhibited exponentiality: it would always grow out of proportion to what was supplied.

Exponentiality was a ubiquitous and palpable feature of healthcare administration in Terraville. In the Secretary of Health clinics and offices I describe in this chapter, workers were chronically overwhelmed by long lines of patients, ever-changing administrative protocols and huge masses of paper and electronic files. In these settings, facilitating "flows" of patients and files through the healthcare system was of paramount importance. And yet, it was thought there was no administrative regime that could ever truly accommodate the scale of people and materials that needed "to flow". In other words, excess would always emerge – hence exponentiality. As such, healthcare administrators were adept at recognizing even very fine instances of excess, because the work of managing exponentiality always fell – in the last instance – to low-level administrators working in clinics or the Secretary of Health.

This chapter will trace the work of several administrators in Terraville, in the context of an intervention into their existing workflows. Known as "informatization" (*informatização*) and compelled by the federal Ministry of Health, this intervention aimed to replace paper-based record-keeping processes with electronic, cloud-based record-keeping. Informatization was intended to make healthcare administration more streamlined and to enable better care by eliminating a paper dimension that was thought to be cumbersome. No longer dependent on the tedious management of material documents and their flows, municipalities would be able to focus resources elsewhere. In practice, however, administrators in Terraville experienced the change as a mixed bag. They were open to its objectives but criticized the introduction of "more steps" into their workflow, at the level

of more mouse clicks, clunkier software tools and added administrative tasks. Ultimately, informatization itself was experienced as a kind of proliferation insofar as it was perceived as adding a layer of complexity onto administrators' existing work practices.

The chapter is divided into two halves. Part 1 details the technologies being targeted by informatization, as well as the Ministry of Health's justification for the intervention. Part 2 puts us on the ground in Terraville in the midst of administrators' day-to-day work.

Part 1: Informatization and its Objects

Healthcare Innovation Show

On a Thursday in late October 2017, I made the trek from my apartment in Taboão da Serra[2] to the São Paulo Expo – a massive, somewhat isolated convention center located in the Vila Agua Funda neighborhood of São Paulo proper. Over two days, the third annual Healthcare Innovation Show (HIS) would be held here to showcase a range of companies and technologies at the cutting-edge of contemporary health informatics. Perched on a hillside overlooking a highway, the convention center seemed to be a rare world of its own in São Paulo. The huge parking lot in front was mostly empty, except for a line of cars corralled by simple metal barricades, and there were curiously few actual human bodies in sight when I arrived by bus. Inside, a large, high-ceilinged, darkly-lit hall pulsed to the deep, moody bass of vaguely techno beats. Men and women in various states of professional dress – coat-and-tie businesspeople, jeans-and-untucked-t-shirt hackers – floated around between different "booths", each one associated with a specific company or software concept. At the center of the room was a square stage surrounded by seating on all four sides. Over the course of the day, individual speakers would take to the stage to describe different "innovative"

[2] Taboão da Serra is a municipality bordering São Paulo proper to the southwest. I lived there for 18 months (2017-18).

projects underway, speaking into a microphone for the benefit of an audience. To my chagrin, however, the microphone did not connect to the audio speakers positioned around the stage, but rather to individual sets of headphones that had to be checked-out from a nearby attendant. When I requested a pair, I was awkwardly informed by the apologetic attendant that the headphones were made available only to higher-status attendees than me. (Not realizing that I would miss out on such amenities, I had registered for the Expo as a mere "visitor" and was not privy to some of the knowledge being shared right before my eyes.)

Over the next several hours, I wandered the room and talked to representatives at individual booths. Among the products being pitched were health insurance plans, hospital administration software, and proprietary solutions to pharmaceutical logistics. Perhaps unsurprisingly, the brochures I collected utilized familiar neoliberal terminology to describe what these products would deliver ("efficient management", "optimization"). Less predictably (for me, at least), these terms seemed to blur with informatics language in ways that were difficult to disentangle. Was "complete solutions" the lingo of techie coders or neoliberal hucksters? What about "platforms for managing medical scale"? *Platforms* struck me as native to informatics, while *scale* is a classic business concern in contemporary economics. *Solution*, in turn, was ubiquitous and, it seemed to me, plausibly indigenous to both of these professional worlds – if they could be analytically separated at all.

While most of the hall was taken up by chic booths with minimalist cocktail-hour furniture, a corner with long black work tables and scrawl-filled white boards was cordoned off. A banner overhead of the entryway read "HACK4HEALTH", indicating that "here be hackers". At the tables sat teams of young, casually dressed men – I did not see any women in this area – furrowing their brows in front of laptops and gesticulating to one another. It was clear that the men were organized into teams, as some of them wore matching, brightly-colored t-shirts. What was happening at the tables is known as a "hackathon", and is not specific either to healthcare or to Brazil. In a

hackathon, a specific problem or series of problems is presented to teams of coders who sign up together in advance. Over a time-limited period (generally a weekend or two-day conference), the hackers try to develop software "solutions" to the problems. Afterwards, prizes and funding are doled out to the teams judged to have developed the best ideas. Worldwide, and especially in health informatics, hackathons have become a popular way to draw attention to particular quagmires and to jump-start solutions thereto. The hope or expectation is that someone (whether the teams themselves or the institution sponsoring the event) will follow through on the solutions conceived during the hackathon.

Later in the day, without fanfare, the hacker area was opened up to passers-by. The white boards were set up prominently at the edges of the tables so that non-participants might take a look at the traces of what went on there. I snapped some pictures of the white boards and noted that they all used flow-chart-like or bullet-list structures – but beyond this, unsurprisingly, it was difficult to imagine the substance of the thought processes indexed there.

In the early evening, the stage in the center of the room was converted into a less exclusive venue. Loudspeakers announced that the keynote speaker, federal Minister of Health Ricardo Barros, would be speaking shortly, after which hackathon prizes would be awarded.

* * *

Barros' presence was treated with some minor spectacle as attendees (including me) snapped pictures of him from a relatively intimate distance. Before and after his speech, a few attendees introduced themselves and asked for pictures with him, which he obliged. At this point in time, Barros had been the Minister of Health for about 18 months. He had been appointed after Michel Temer became Acting President of Brazil in May 2016, following the impeachment of Dilma Rousseff. (Rousseff was permanently removed from office by the Senate in August of that year.) Like Temer, Barros' instincts were conservative. He had no medical or health background, but had

rather been trained in civil engineering. He hailed from Paraná, the state immediately to São Paulo's south, and had served as Mayor of the state's third-largest city (Maringá) in the early 1990s. From 1995 to 2011, he was a federal Congressman. In 2018, he would resign as Minister in order to run for Congress again, winning a seat which he continues to occupy at writing in 2021.

Figure 3: Barros (center) speaks at HIS. Photo by author.

Speaking for about 20 minutes at HIS 2017, Barros offered the audience a tour of the Ministry's initiatives in "informatization, the priority of our administration". "Ladies and gentlemen," he began, "today I present to you what we, in the Ministry of Health, are doing. We are

seeking to improve, innovate, globalize, and digitize health.[3] I believe that, yes, there exists the possibility of advancing ourselves quite a bit – [advancing] the economy, the management [of health] – beginning from information." In his embrace of informatization, Barros was preaching to a choir. No doubt, the audience at HIS considered information technology to be where the healthcare action was. Moreover, for both Barros and the audience, the benefits of informatics were seen to be primarily managerial and economic ("efficiency" and so on). Yet speaking to a crowd composed almost entirely of private sector professionals, Barros had to explain the challenges he encountered as leader of the world's largest public healthcare system. Rhetorically, the first few minutes of his talk tacked back and forth between particular problems, on the one hand, and his faith in informatization as a means to resolve them, on the other. I reproduce the initial part of the talk here, breaking it into paragraphs for the reader's benefit: [4]

> The resistance to informatization is very great. It's impressive how pebbles [obstacles] arise in the path every single day. I understand clearly that, beginning from informatized management, [from] biometrics of the user, of the employee, [from] control, we avoid repetition of exams, we avoid repetition of doctor's appointments, we will avoid repetition in the delivery of medications.
>
> We are going to have a very wide capacity for integration between primary care, outpatient [care] and in-patient hospitalization. [We will know] who attends to the same patient, knowing who our [municipal, state, private] partners[5] are, knowing the diverse complexities: obviously, we are going to economize a lot of resources. We are going to greatly reduce the solicitation of procedures, which are [currently] invisible to our accounting system.

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[3] "Globalize" here means something like "totalize" or "make comprehensive"; it refers to extending the reach of health systems and data nationally or within specific institutional circuits, as opposed to "global" in the literal international sense of "planet Earth". I translate here from Barros' term *englobatizar*, which appears to be a slip of the tongue or neologism (it is not a word in Portuguese, so far as I can tell). Barros almost certainly meant *englobar*, which I heard other informatics professionals use in similar contexts.

[4] Quotes are my translation.

[5] Barros used "partners" repeatedly, in multiple senses. In Brazil's health system, the federal government is just one actor among many. Each municipality and each state are "partners" with the federal government in managing the system that is "SUS". Private companies are also partners, often enough, because municipalities often contract with them to outsource services, either on an ad hoc or permanent basis.

[. . .][6]

> There is a very large underreporting of procedures by our partners in health. There is also difficulty in itemizing the spending of health consortia [private companies serving municipalities]. There are many municipal consortia doing various things. They aren't accounted for, they aren't. So how are we going to plan health with a new finance model, if we don't know what happens at the point of service? So, of course, to informatize is the first step, creating a new possibility.

In these opening remarks, Barros presented informatization as a silver bullet for several problems. Without much explication, he began from the premise that SUS' main problem was economic viability. In turn, strikingly to me, Barros explained the precarious economics of SUS by reference to "repetition", "underreporting", a lack of "integration" and – consequently – a lack of knowledge as to "what happens". Informatization would strike through all of these problems. It would be the historical condition of more-perfect knowledge *within* the health system *about* the health system, as well as – somewhat more incidentally – *about* the citizens who used it (qua epidemiological "population"). Barros would go on to describe specific branded initiatives that the Ministry of Health was launching to develop specific informatics technologies. But first, he laid out the broad conceptual justification and objectives of these sundry innovations:

> So informatization will benefit all of the areas that are today involved in healthcare. These strategic actions toward informatization are underway, and we are going to strengthen our entire system – the various systems of management, of control, of record-keeping. We are [now] inputting the correct information when each person presents himself to the health system.

[6] Barros briefly described the idea that the health system was "financing disease" rather than "health". This is an interesting point and an important one, particularly insofar as it agrees with more radical perspectives on the nature of capitalist healthcare (cf: Dumit 2012, Sunder Rajan 2017). But it is outside of my scope in this particular section, and frankly Barros does not really make explicit how this basically capitalist problem has anything to do with better informatics. I include the excerpted speech here for the interested reader: "What is our problem? Our concept of health today finances disease. It doesn't finance health. Ideally, if one month, nobody gets sick, it should be a blessing for the entire system –hospitals, laboratories, the whole structure. So evidently we are in a paradox, that we need to have a capacity to alter. To make it so that we in fact finance health and not disease. We cannot do it with this model in which we simply do not know what is happening in the health of Brazilians."

> We have a lot data, but we have little information. The data that we have doesn't transform into information because they are collected the wrong way. They aren't easy to transfer [between record-keeping systems]. They are in various systems, and various different records. So we are going to make a "unified access record", a unique health registration for that citizen. A biometrics, [a] National Health Card. You have people with five, ten different cards [today]. There is great confusion in the system.

By "five, ten different cards", Barros was referring to the fact that while patients were required to register with SUS, and would receive an individually identified National Health Card in return, many patients had multiple registrations and multiple cards. They were registered redundantly at different sites, creating "confusion" in the system and defeating the purpose of the cards. Barros continued:

> So we all need to figure out the issue of information, and from this we will be able to economize. My personal expectation is that we will see 200 billion [spent] – down from 250 billion reais annually.[7] If we invest in health [informatics], we will save 50 billion reais, in order to keep exactly the same care that we have today. Because we won't be stimulating procedures that aren't necessary, that we all know are being done [today].

Again, Barros' villain appeared as the "various", the "five, ten" and the "many data" as against the "unified", the "information" and the "system". The route to an economized health system involved domesticating the "confusion" of the many into the elegant efficiency of the "one way". In turn, Brazilians would be able to enjoy "exactly the same care" with less public money.

Barros went on to describe several intertwined initiatives that were designed to draw these various threads into a more harmonious unity. Directly above his head, a four-sided screen touted bullet-pointed visuals as he spoke (Figure 7). The Ministry had invested $67 million reais (approx. US$20 million) in new "supercomputers" for storing and processing data. Biometrics technologies were being studied to ensure the accurate identification of each SUS worker and each user. Different national epidemiological databases were being "unified" or otherwise "integrated" to enable "better planning" and "lowered costs". The Ministry was designing an Electronic Health Registry (RES),

[7] *Reais* is plural for the *Real*, the Brazilian currency. Gross public spending on health nationally, including by states and municipalities. These are rough estimates of Barros'.

whereby each citizen would have a sort of "master" electronic patient record stored with the federal government. The RES "will permit secure access to clinical information anywhere in the country". Finally, in what was probably the best-known (because most public-facing) program, the "digiSUS" initiative promised to give patients access to such data on their phones or other Internet-connected devices. Semantically, DigiSUS played with the multiple Portuguese connotations of its prefix, "digi", which suggests not only "digital" but also "to type" (*digitar*) and hence, perhaps, "at your fingertips".

Figure 4: Bullet-pointed visuals overhead. Photo by author.

* * *

In both form and content, Barros' basic approach to public health and health informatics could be seen reiterated among other conservative politicians during the intermezzo between Dilma Rousseff's center-left presidency (2011-2016) and that of far-right Jair Bolsonaro (2019-present in 2021). During his successful run for Mayor of São Paulo in late 2016, João Doria ran television ads

in which he pointed to the annual city public health budget of $9.3 billion reais (US$3 billion), arguing, "the money is there" but that "it's poorly administered".[8] Informatization was one of several solutions he proposed in the ads, explaining that it would "reduce duplication of services" and "reduce waitlists for specialists and [reduce] unnecessary exams". Jair Bolsonaro's official 2018 presidential platform used much the same language (Bolsonaro 2018). In a remarkably skimpy pdf, his "Plan for Government" headlined its section on health: "Healthcare should be much better – with the value Brazil already spends!" Misleadingly, it presented a bar graph showing that Brazil's total health spending as percentage of GDP (9.3%) was identical to that of more "developed" countries like the United Kingdom (9.3%). However, whereas the lion's share of the UK's spending is public, Brazil's is mostly private and hence exclusive – a fact visible in the graph but not mentioned by the Bolsonaro platform. (To boot, the graph was in English and from 2014 – four years out of date, and particularly simplistic after the federal "ceiling amendment" was passed in 2016, instituting a draconian cap on public health spending for the next 20 years.) Of the few actual health reforms proposed in the platform, "The Electronic Inter-connected National Prontuario" was the first named. (In almost childish, Trump-like presentation, there was no description of how the electronic prontuario would be implemented or even what it was. Four simple sentences simply declared how great it would be.)

"Informatization" could be invoked as a broad term that might characterize any number of specific interventions, like those described by Barros at HIS. In practice, any given intervention

[8] Original ads are still available on YouTube at writing in 2021:

Aardvark Films, "João Doria 45 Programa Eleitoral – Saúde". May 25, 2017. Accessed July 11, 2021 at: https://www.youtube.com/watch?v=oNGWomvv76o

Arquivo Eleitoral, "João Doria (PSDB) – Inserção Horário Eleitoral 2016 – Prefeito São Paulo/SP". August 26, 2016. Accessed July 11, 2021 at: https://www.youtube.com/watch?v=UyK_SeU3edY

under this umbrella almost always involved at least one of three "ideal objects" to which Barros referred various times in his remarks: the prontuario, the registration and the information system. Across all of these objects, informatization both relied on and produced technical and semiotic differences along an unstable seam (itself multiple) of many-ness and one-ness. The next two sections describe the distinctiveness of the prontuario and the registration in Brazilian health administration. The role of information systems will be discussed in Part 2 of the chapter.

The Prontuario

Prontuario is the Portuguese term for "patient health record". Also referred to as a *ficha* (record) or *ficha clínica* (clinical record), the prontuario is a generic tool used in biomedical contexts around the world. In its fundamentals, it is no different in Brazil from anywhere else. At its most basic, the prontuario "stores" health information about an individual patient. Traditionally made of paper, it is controlled by doctors, nurses and administrators, and – in public contexts in Brazil – legally belongs to the institution that holds it, rather than to the patient. Each time a patient visits a doctor at her local UBS, the doctor will review the prontuario to see notes written by hand during past visits, and will add new notes based on the present encounter. In this sense the prontuario is both a backward- and forward-looking technology: in the present, it enables a clinician to look into the past, and to anticipate the future by recording what happens today. The preexistence of a prontuario facilitates each clinical encounter. It enables "continuity" of patient care – a key value in the world of Brazilian health administration. My interlocutors in healthcare considered it very important that each prontuario be maintained as a durable, "long-lasting" technological object. To misplace or altogether lose a prontuario – which happened routinely and regrettably in the everyday shuffle of healthcare at the Serra Boa UBS – was to lose an entire biomedical history, and perhaps to foreshadow a poorly-informed biomedical encounter in the future.

At the level of the Serra Boa UBS, the paper prontuario was truly the red blood cell of the health post. With few exceptions, formal encounters between patients and medical professionals did not happen if there was not a prontuario on-hand. Hence the reliable storage and circulation of the prontuario was a precondition of any and all biomedical events that might transpire at the post. For new patients, or for patients whose prontuarios had been misplaced, a new, blank prontuario would have to be "generated" before any doctor-patient encounter could go forward.

Over the two years that I spent in the field, the prontuario underwent substantial changes to its generic material form. When I began fieldwork at Serra Boa in January 2017, the prontuario was a fairly simple, open-ended paper document. It consisted mostly in blank lines to be filled out as individual doctors saw fit. In each UBS in Terraville, tens of thousands of these paper records were stored in the "Administration Room" of the post (usually directly behind the reception area). Prontuarios were typically placed in named-and-numbered envelopes made of paper or translucent plastic, which were in turn stored in massive bookshelf-like units called "archives". Among their various responsibilities, administrators were tasked with choreographing and executing the movements of these prontuarios in and out of the archives (and then back in, again!). The scale of this task varied according to the size of the UBS: the smallest UBS stored around 15,000 prontuarios, I was told, while the largest had somewhere around 100,000. Serra Boa was a mid-sized UBS with about 40,000 prontuarios on-hand.

In August 2017, the prontuario began to change in Terraville. Almost a year prior, in October 2016, Ricardo Barros had issued a decree that all 5,570 municipalities in Brazil had to begin transitioning away from paper and toward what was known as the "electronic prontuario". In terms of its basic functions vis-à-vis biomedical healthcare, this electronic technology would be more or less the same as its paper forebear; its primary purpose was to enable the recording and reading of individualized patient health information over time. (In English, it is known as the EMR or EHR,

Electronic Medical/Health Record.) But in terms of how it would be stored and circulated, the electronic prontuario was a world away from its predecessor. Obviating the need for the massive paper cathedrals described above, the electronic prontuario would be stored as a digital file in the cloud (that is, on an off-site Internet-accessible server). Tedious administrative labor would no longer be necessary to ensure its material circulation around the UBS or from one clinic to another. Perhaps most importantly, patients would no longer have multiple prontuarios – one at this UBS, one at that hospital, and so on. Care would no longer be "fragmented" across multiple sites and a semi-integrated paper documentary regime. Rather, as Barros had emphasized repeatedly, the electronic prontuario would amount to a "unified access record" that could be seen by doctors "anywhere in the country". Although this nationalized ideal was still a long way off, Terraville began doing its part with the partial implementation of an electronic prontuario in August 2017, seven months after I had begun fieldwork.

In São Paulo proper, an electronic prontuario had been implemented by the Municipal Secretary of Health (SMS-SP) in 2014. Even so, informatics professionals I spoke with at SMS-SP emphasized that modifications to the electronic prontuario were ongoing. Indeed, for informatics folks, it was normal for software applications and functionalities to be tweaked, added and subtracted on an ongoing basis, meaning that "the" electronic prontuario had no fixed form. Moreover, even in the context of Barros' push for national informatization, cloud-based files like the electronic prontuario had to be designed to operate in tandem with specific "exterior" material events and technologies: the clinical encounter, the epidemiological reality of a community, local infrastructural conditions, and so on. This meant that the electronic prontuario might be different in Terraville and São Paulo, depending on the infrastructural and social conditions of each. As my interlocutors often emphasized to me, "Brazil is a continental country" in which such exterior

conditions could vary widely from place to place. In principle, therefore, the electronic prontuario was not itself "unified", whether conceptually or technologically.

Carlos, a health informatics expert I knew who worked for the Municipal Secretary of Health of São Paulo proper, told me that he didn't even like to use the word "prontuario". When we met in a conference room in his office in São Paulo, chatting for about an hour, he told me, "I don't even like to say 'prontuario'. See, with the prontuario, it's: what is the prontuario? If you ask everyone in that room" – he gestured out to the cubicles beyond the conference room – "'What is the prontuario?', you will get more or less the same responses – but not exactly the same." For Carlos, it made more sense to talk about specific features that one wanted to incorporate into the electronic software. Hence in Carlos's normative preference, the electronic prontuario ought to automatically include any recent test results belonging to a patient – but at that moment, in the São Paulo municipal system, it did not. In some sense, he said, those test results pertained to the electronic prontuario, but they weren't "integrated" into the software yet. Because of this inconsistency between the normative and the actual – and under the assumption that, eventually, those test results would be there in the electronic prontuario – Carlos preferred to always speak specifically about individual functionalities.

In Terraville, the implementation of the electronic prontuario proceeded in painful fits and starts. The individual functionalities of the software were introduced piece by piece, such that, when I left the field in November 2018, it still had not been fully implemented (almost a year and a half after its launch). In many ways, as administrator Renata tells us below, the electronic prontuario was neither totally electronic nor truly online. Instead, because policymakers and developers had failed to properly articulate the software with the complexities of Terraville's existing administrative practices, the electronic prontuario had to be used alongside a paper prontuario. That is, the paper prontuario

would not be abandoned at all. In place of a promised "unified" prontuario, Terraville would now work simultaneously with paper and electronic versions of the same record.

The Registration

Checking out at a grocery store, pharmacy or restaurant – or virtually any other retail establishment – in São Paulo, one will inevitably be asked by the cashier, "CPF?" The *Cadastro de Pessoas Físicas* (Physical Persons Register) is an 11-digit number issued by the Brazilian Federal Revenue service, a department of the Ministry of the Economy. It is an individual taxpayer ID number akin to the U.S. Social Security Number, except that it is not automatically assigned at birth, and it is used quite a bit more loosely in everyday life. Since the mid-2000s, in São Paulo, minor tax incentives have been in place to try to incentivize citizens to hand over their CPF with each individual purchase, ostensibly to prevent retailers and other companies from misrepresenting their gross income. (By linking each transaction to a consumer's CPF, all of the retailer's transactions become verifiable vis-à-vis a third-party record which cannot be manipulated by the retailer.) A CPF is typically required to open a bank account, to get a cell phone plan, to join a gym, to buy a car, to work in the formal economy – and so on and so forth. It is a prerequisite for participation in much of Brazilian civic and social life.

Unlike the Social Security Number, however, the CPF is not understood in a register of *identity* so much as a register of *usage*. When asked for a CPF, one simply recites the number aloud, without invoking one's name. While children are often registered for a CPF by their parents at birth, this is not always the case. If a twelve-year-old kid is asked for a CPF in order to make a purchase or execute some other task, he might just use his parent's CPF (which he very well might know by heart). Similarly, although this was less common by the 2010s, it used to be that only a household breadwinner really needed a CPF (in order to work and so on), and hence a spouse might use the

breadwinner's CPF around town. As a foreigner on a student visa, I did not register for a CPF for a long time, simply telling retail clerks that I didn't have one (always inviting a bewildered look of disbelief); but on occasions in which I really needed one, my Brazilian friend I lived with said that I should just use hers.

In political anthropology, identity documents and registrations have often been discussed as technologies of state surveillance. But they are also technologies of everyday life. People *use them* as tools that can serve purposes other than those for which they were originally designed. A "registration" (*cadastro*) like the CPF gets taken up and used for all kinds of identification purposes that have little to do with the original purpose of the number. For comparison, for readers in the United States, think of the state driver's license: while technically we acquire one in order to be permitted to drive a car, the document itself subsequently becomes something we mostly associate with going to the airport or the liquor store. Similarly, documents like the CPF were often used for individual identification in situations that had nothing to do with taxes. Alternatively, as when my roommate advised me "you can use mine", the CPF could be used for purposes in which it was of no import to anyone *who* was being ostensibly identified – it was merely technically necessary that each registered gym-goer have a unique number attached to her name. Since the CPF was the nearest thing to a universal ID number in Brazil, this was usually the go-to document for such bureaucratic needs. (A note regarding gyms: I was once prevented from joining a gym because, after much concerted effort, the staff could not figure out how to register someone who did not have a CPF in their software system.)

In public health contexts in Brazil, casual norms around the usage of identity documents and registration numbers were a problem for related technologies like the prontuario. In order for a prontuario to serve its purpose, of course, it had to be associated with an individual patient. Therefore, the prontuario needed to be linked to an identifier (e.g. a serial number) that was

absolutely unique to a specific individual and could not be confused with that of anyone else. But it was difficult for policymakers or administrators to identify any such number, since even a nearly-universal registration like the CPF could be shared among multiple people with some degree of casualness.

Both nationally and locally in Terraville, in the healthcare world, various schemes had been implemented in attempts to achieve a "one to one" match between registration and person. In 2011, the Ministry of Health launched the National Health Card System, through which each health user would be given a National Health Card (CNS, *Cartão Nacional de Saúde*), known colloquially as a "SUS card" or "SUS number". The SUS number would serve as a "Master Patient Index" (MPI) against which distinct prontuarios for the same patient could eventually be "integrated" into a single file. The cards were made liberally available so as to ensure compliance and to avoid interrupting the continuity of care: health users were simply asked to register for one whenever they next happened to visit their local UBS. The patient would eventually be issued a plastic card with their full name and SUS number on it. Unfortunately, although the SUS card was seen as a prerequisite to technologies like the electronic prontuario, it was ultimately thought to be a failure. The ease of registration, and users' flippant attitudes toward the cards themselves, meant that patients often arrived to appointments without their cards. Erroneously, receptionists would re-register them, such that, over time, as Barros said, the same patient would end up with "five, ten cards" and five, ten SUS numbers – entirely defeating the purpose of the reform.

In Terraville, a similar reform unfolded toward slightly different ends in 2013. In most municipalities in Brazil, one must be registered with the municipality in order to access public services like healthcare. Municipal governments used such prerequisites to prevent out-of-towners from using their services without paying into the tax base. In public healthcare, one could never be denied care at an emergency room, but, in order to obtain routine medical care or see a specialist, for

example, one had to be a resident of the town. (Alternatively, one could be referred by a physician from a different municipality, if said municipality did not offer a given medical service. This procedure could be tedious and complicated, and the patient had relatively little agency if the rules were followed to the letter.) However, because some municipalities were seen as having better healthcare services than others, patients routinely found ways to fake a residence in this or that town. As wealthier municipalities in comparison with many of their immediate neighbors, both Terraville and São Paulo were seen as targets of such illicit registrations.

In 2013, a new mayoral administration in Terraville conceived a new registration system called "Terraville Card". The new system was literally the same as the system Terraville was already using, except that registered residents would now have a card with their names on it. They would present the card in places like the Serra Boa UBS, in order to access services. The devil was in the details, however: all residents had to register all over again in order to receive the cards. In order to register, they had to again prove that they lived in Terraville, but this time with steeper requirements, such as presenting their voter registration cards (something considered less harmless to falsify). Thus the real point of the Terraville Card had little to do with one-to-one identification and everything to do with purging the registration rolls of interlopers.

The program was deeply unpopular and the mayor lost reelection in 2016. His successor had badmouthed the program and, upon taking office, immediately eliminated the requirement that residents present the card. Slyly, however, he maintained the underlying registration system unchanged.

As we will see in my conversation with Renata below, the Terraville Card had collateral effects for healthcare administrators. Old registrations were not actually eliminated from the municipal database, but simply kept and "blocked". As a result, residents who re-registered ended up

with not one but two or more registration numbers. This created headaches for healthcare administrators trying to match individuals to prontuarios.

Part 2: Terraville

'They come to Terraville'

Terraville is a town of about 250,000 residents in the southwestern territory of RMSP. Unlike São Paulo proper, Terraville feels sprawling without feeling dense. From within the municipality, one can easily travel by bus for as long as an hour or more without encountering a municipal border. The local topography is largely dominated by four-lane highways and one- or two-story houses and businesses, but the municipality also boasts several glitzy shopping malls and the occasional high-rise condominium. Its public parks are large and well-kept and said to be the envy of neighboring municipalities. During the six months that I lived there in 2017, in a two-bedroom house in the middle-class São Bernardo neighborhood, I found it to be a perfectly pleasant place to live (if lacking in the energetic night life of central neighborhoods in São Paulo). From São Bernardo, a 15-minute bus ride could get me to either the central commuter train station — from which I could head into São Paulo proper for my public health classes at the University of São Paulo — or to the Serra Boa Basic Health Unit (UBS), the public primary care clinic where I was doing fieldwork. Longer bus rides could take me further still, to shopping malls in wealthier neighborhoods or into the downtowns of adjacent municipalities.

Among the towns in its immediate vicinity (excluding São Paulo), Terraville is perceived to be exceptional. It is thought to offer higher-quality public services, like healthcare, and to enjoy better recreational amenities, like parks and malls. And everyone knows that at the root of its exceptionality is its wealth. Terraville is home to a number of white-collar businesses and enjoys a stronger tax base than most nearby municipalities. These businesses, as well as the citizens who

work there, reside primarily in an expensive neighborhood called Bairro Nobre. Hence when my interlocutors described the exceptionality of Terraville — whether I was speaking to local residents or to people from other towns — they usually referred to Bairro Nobre, specifically. During my fieldwork inside UBSs and the Terraville Secretary of Health, for example, workers sometimes went so far as to warn me that the healthcare dynamics I was observing were not typical of SUS in general. Healthcare "functioned" better in Terraville, they explained, and thus I should be careful not to extrapolate too much from what I documented there. When I asked what explained the superior functionality of Terraville healthcare, they would invariably offer that "it's because we have Bairro Nobre" or "there's more money because of Bairro Nobre".

The exceptionality of Terraville was thus rooted in its wealth and legible in its public services (as well as in distinctive material features of Bairro Nobre itself, of course). In turn, those public services were typically described through the evaluative idiom of *functionality* (*funcionar*). This idiom was ubiquitous in RMSP and was not exclusive to health contexts. My interlocutors invoked functionality constantly, whether they were discussing refrigerators, wifi signals or public healthcare services. Whether something "functions" (*funciona*) or "doesn't function" (*não funciona*) is an important index of the quality of sociotechnical life in São Paulo. Hence, for example, several people explained the principle difference between life in Brazil and the United States to me as, "Here, things don't function". To describe healthcare as "functional" in Terraville, therefore, was to associate it with an exceptional sociotechnical value.

But what did people *mean* when they invoked *function* in this context — on what basis and against what criteria did locals judge healthcare to be functional in Terraville? In general, when I asked workers about this, I was told that Terraville tended to have fewer episodes of pharmaceutical shortage in its public pharmacies (something common throughout RMSP, including in São Paulo proper) and that wait-times for doctor's appointments were often shorter. Prompt and reliable

access to medical treatment was an index of function, in these examples. In addition, Terraville funded various services and treatments under the banner of "health" that were not available elsewhere, such as its regular exercise classes for senior citizens and its longer list of medicines available in public pharmacies (going beyond the minimum federal requirements). Altogether, these various features of Terraville healthcare signaled an especially well-functioning municipal system, drawing the notice of residents throughout the metropolitan neighborhood.

For the administrative and medical professionals who worked in Terraville healthcare, of course, functionality was something that they had to *produce*. It was specifically an effect of their laborious coordination at varying scales, whether within a given UBS or across multiple municipal sites. From workers' perspectives, therefore, functionality was not just a quality that one observed or experienced but was more specifically the outcome of concrete, carefully executed practices. As professionals explained them to me, those practices revolved heavily around facilitating various kinds of "flows" (*fluxos*) inside the municipal health system. In particular, healthcare was understood to depend on the efficient movement ("flows") of patient bodies, medical materials (e.g. syringes, pharmaceuticals) and information (including paper and electronic documents) within and across sites in the municipal system. In a sense, flows were a sort of infrastructure — however ephemeral and dynamic, by definition — that enabled the healthcare system to produce functionality (or qualisigns thereof – see next section). Most administrative labor focused on maintaining that infrastructure of flows rather than on producing patient experiences of functionality, per se.

Terraville's association with healthcare functionality produced a curious double-bind. Its superiority attracted out-of-towners who would rather seek medical care in Terraville than in their home municipal systems that "don't function". Yet insofar as Terraville's functionality depended on properly maintaining flows, it was thought to be chronically overwhelmed by demand from non-residents. These outsiders had their own municipal systems that, in the normative structure of SUS,

they were supposed to be using (unless referred elsewhere for specific services, or in case of emergency). But the relatively weaker functionality of those other systems created a strong incentive to try to be treated in Terraville. It was in this sense that the functionality of Terraville healthcare created the conditions of its own undermining: it drew in outsiders who undermined that very functionality by creating a state of chronic "overflow" (*sobrecarregado*, *transbordar*). As in the historical example of RMSP in the 20th-century, this quality of overflow expressed itself in various material problematics, the semiotics of which are the focus of this chapter.

I heard this basic trope — in which outsiders were characterized as overwhelming Terraville's healthcare services — very soon after beginning fieldwork in the municipality in 2017. The claim was basically plausible and I would eventually find that municipal statistics that lent it credence. What was surprising, however, was that I had already heard what was effectively the same claim to explain why services in São Paulo proper were often overwhelmed: non-residents wanted to use its services, so "they come to São Paulo". I would in fact hear this claim numerous times and — again — it was plausible. Many of the very best hospitals in the country are located in São Paulo. And many municipalities and regions simply do not have extensive services for high-complexity or chronic diseases, for example, such as advanced stages of cancer or heart disease. And indeed, when a powerful political figure needs care, like former President Lula or current President Bolsonaro, "they come to São Paulo".

The Terraville trope was structurally identical, like a fractal.[9] More striking still, this was not just this one municipality. I also heard it used in reference to other municipalities in RMSP, such as Diadema, São Bernardo do Campo and Santos (which is not technically a part of RMSP, but rather is effectively the seat of its coastal micro-region). In other words, "they come to São Paulo" was a

[9] On fractals in anthropological analysis, see: Strathern 2004; Irvine & Gal 2000; Eglash 1999.

trope that circulated at varying scales and with varying characters. The form itself speaks to a concern with outsiders coming in — part of the history of São Paulo, as I detailed above — and with problems of flow, capacity and dense functionality.

* * *

The Terraville municipal health network includes 17 Basic Health Units (UBSs) as well as two hospitals and several other outpatient services, such as its single downtown clinics that provide care for STIs (sexually transmitted infections) and psychiatric conditions, exclusively. Coordinating all of these units is the Secretary of Health headquarters itself, which is also located downtown and divided up into various departments. During my fieldwork, I visited numerous individual UBSs and departments of the Secretary headquarters, but I anchored my research in one UBS in particular, the Serra Boa UBS, and the UBS Coordination Office (UCO) in the Secretary of Health. The remaining sections of this chapter are based on my fieldwork at the Serra Boa UBS.

Bullshit without End

At the Serra Boa UBS, there was a receptionist named Tiago who had a particular peeve that he must have shared with me a dozen times. In his early 50s, Tiago worked mornings at the UBS and seemed to hate the job. Sitting with a slight hunch at the desktop computers behind the reception counter, Tiago politely received patients, one after another – "Next," he and the other receptionists said, over and over – intermittently telling them in steady monotone, "No, there are no appointments for pediatrics right now," "No, we do not offer the yellow fever vaccine at this post," and so on. When a patient occasionally tried to argue with him about what she had been informed, Tiago was calm and flat in his demeanor. He was professional but he did not budge and he scarcely reacted. An observer got the distinct sense that he felt himself above this job.

I heard Tiago describe his peeve for the last time in late 2018. By chance, it was the most animated telling that I had heard. Running into each other in the kitchen after Tiago had been on vacation, we exchanged pleasantries, and he asked me if my research had wrapped up. I told him I was in the final stages. In something of a non sequitur – perhaps believing that my research involved a search for "problems" – Tiago began to explain to me what ailed SUS.

"The problem in Brazil, in health," he said, "is that patients miss thirty percent (30%) of their appointments." This was known as "absenteeism" and was considered a serious problem among administrators and policymakers. Whenever the topic was brought up, whether by Tiago or others, 30% was the number I heard cited (alternatively, "one in three"). "In your country," he continued, referring to the U.S., "if people miss an appointment, they have to *pay*," emphasizing this last word with a dramatic beat of silence. I nodded and waited. "Let's say a patient had a mammography scheduled for yesterday," he continued. "OK, mammography. She missed the appointment. They're going to call her and schedule another one. So then: she didn't go [to her appointment] on Tuesday, she didn't go on Wednesday, she didn't go on Thursday. So that is to say, she didn't *just* miss the appointment on Monday. She missed Monday, she missed Tuesday, she missed Wednesday, she missed Thursday. Then she misses an appointment for her son, and she misses an appointment for her husband. So that is to say, it's bullshit without end [*saco sem fim*]".

I squinted at Tiago as I tried to follow his point, taking a seat at the long rectangular dining table in the kitchen. A 30% absenteeism rate was a problem – this I understood – but why did the patient miss not one appointment, but a series of them? And how did her son and husband fit in? "But," I said, struggling to find the words, "I understand, but--" and Tiago charged forward into a more detailed numerical hypothetical. At this point, he began to gesture.

"Understand? If each health post deals with 10,000 exams in a month, it loses 30% of them." Laying one hand flatly horizontal and the other vertical (perpendicular), Tiago began to

execute a sort of chopping motion on his palm. "30% is 3,000 that have to be scheduled again the next month." His vertical hand moved backward from the fingertips to the palm of the horizontal hand, indicating that a hypothetical 7,000 exams had been completed, but 3,000 were still "on-hand". "Given the logic that there will be 10,000 appointments to be scheduled the next month, you've got 10,000, plus 3,000 [missed from last month], thus 13,000." His vertical hand then moved all the way to the tips of the horizontal fingertips, as if his hand had filled to the brim with appointment demand. "The next month, I'll be able to balance this out" – his vertical hand moved back a bit – "except that 30% of 13,000 will miss their appointments. So now it's 4,000, right? 3,000 is the standard, plus 30% of the people who already missed [approx. 1,000]." His vertical hand scooched forward again before he let the gesture go and threw his hands up. "It becomes a snowball, man. If you always have a lag of 30%, 30%, 30% -- the first time it's 13,000, the next time it's 16,000, the next time it's – understand? I'm always going to be scheduling and the guy is always going to be paying." In other words, the municipality paid to have doctors and technicians available during these appointment slots, and resources were therefore wasted by a patient who skipped an appointment.

"You are never going to have first-world healthcare with a people [*povo*] like that," Tiago concluded bitterly. Thus we arrived at the kernel that I had failed to understand at first. The 30% problem could be attributed to what others characterized to me as "a cultural problem" wherein users treated SUS and its resources flippantly. For Tiago, a person who missed one appointment was a person who would miss another. Indeed, the practice was characteristic of entire families, he thought.

Follow the Prontuario

In August 2018, a year after the electronic prontuario was first (partially) introduced in Terraville, I spent the better part of two weeks visiting Serra Boa in the mornings. My specific goal for these two weeks was to try to develop an exhaustive grasp of how the prontuario moved to and fro through the UBS, before my impending departure from the field in November. By this time, I knew a great deal about why the electronic prontuario had been introduced and how the prontuario (in any form) was fundamental to the functioning of the health post. But I still had difficulty articulating all the caveats to how it actually worked and was used. Hence I decided to devote myself to the prontuario for an extended period of time, dubbing this undertaking "Siga Prontuario" (Follow the Prontuario) in my daily fieldnotes.

For most of these two weeks, I arrived just before the UBS opened at 7:00AM, and sat in the Administration room with Ricardo, an administrator, and a rotating cast of other workers who circulated in and out of the archives throughout the morning. But on the last day of this two-week period, I was able to join another administrator, Renata, on the opposite end of the health post, as she sat at a lone sequestered computer, "generating numbers". Kindly, Renata had offered to show me how she went about creating prontuario numbers (and hence the prontuario itself) for new patients, something she did every week or two, usually on Friday. For patients who had made an appointment, but who had not been seen at this UBS before, an administrator like Renata would have to create a new number and print out a new, blank prontuario. Ideally, this needed to happen well before the appointment in question, so that the new prontuario could be included in the bundles that would be sent to the consultation rooms upstairs.

As it would turn out, the shorthand monikers of "generating numbers" or "generating records" (*gerar ficha*) did not do justice to the complex administrative jury-rigging that Renata

performed when she took to the opposite side of the post. This section of the chapter engages with that jury-rigging in all of its dense machinations.

* * *

Like me, Renata was in her early 30s. Around the post, she was generally quiet and focused on her work, stopping to chat with coworkers less frequently than others. Her formal position at the post was "receptionist", but like all receptionists, she performed myriad backroom administrative tasks in addition to "receiving patients" up front. This was where I usually noticed her, quietly plugging away. In roughly two-week cycles, receptionists took turns being responsible for different ancillary tasks in the post. These tasks invariably had something to do with managing prontuarios. Hence receptionists regularly "straightened up" (*arrumar*) the archives by looking for prontuarios that had been filed out of order; they pulled prontuarios to organize them into the aforementioned stacks and bundles; and they rectified discrepancies in bundles that were noted on the "guide" that accompanied each set. For example, the most common discrepancy was simply a missing prontuario: a patient had scheduled an appointment and was listed on the guide, but no existing prontuario could be found for that patient. This discrepancy meant one of two things: either the patient was simply a new patient at the UBS, and hence a new prontuario needed to be "generated", or an existing prontuario had been misplaced or overlooked. In the course of "generating numbers" on the Friday morning we spent together, Renata's task was to figure out which patients were which, and to make headway on resolving the discrepancies.

A series of disjointed historical events had set the stage for Renata's biweekly routine. Back in 2013, the Terraville Card had deactivated ("blocked") all preexisting municipal registrations, in favor of new ones that would be associated with the card. "Instead of unifying the registrations," Renata told me, "they ended up generating another [registration]. So people ended up being stuck with two." A "blocked" registration could not be used to make an appointment at the UBS, but

administrators like Renata could still look up a name or registration number and "see" the old registration. This was important for administrators to be able to do, because, for patients at the UBS, "old registrations" had a prontuario number attached. This number had not been automatically carried over into a resident's new, "active" registration. But a paper prontuario still existed somewhere in the archives. And it was important to be able to continue using that same prontuario, as it contained an entire biomedical history. Hence in order to maintain continuity in local patient care, in 2013 and thereafter, administrators had to scrutinize a patient's blocked registration (if and when one existed), and then manually copy the prontuario number therein into the active registration. This could be done with a simple point-and-click at the desktop computers in reception, "copy/paste".

Under the New (software) System that was implemented to introduce the electronic prontuario in 2017, administrators could no longer see "blocked" registrations. Only active registrations were visible. For most patients and appointments, this was not a problem: four years after the rearrangements initiated by the Terraville Card, most patients had active registrations with an accurate prontuario number attached. But this was not always the case. For patients who appeared to be "new", Renata needed to be able to see whether they might in fact have a prontuario in the archives. Since this was impossible in the New System, she had to set aside time to dig into the Old System – which continued operating in diminished, auxiliary form alongside the New System – and hunt for phantom prontuario numbers. This was part of what we were up to on Friday morning.

Generating Numbers

"So here," Renata said after we had sat down, unfolding a single piece of paper, "on this sheet, we have those who do not have a prontuario in the New System." On the sheet were scrawled

the full names of about two dozen individuals, some accompanied by a serial number (the patient's active registration number). Renata continued, "Or, alternatively, people whose [prontuario numbers] weren't transferred into the New System, because sometimes a person has more than one registration." In other words, some of these people were genuinely new patients at this UBS – hence lacking a prontuario and prontuario number – and others were existing patients, but their prontuario numbers were attached to a "blocked" registration that was not transferred into the New System. Until we checked their names against the Old System, we could not know which patients were which.

Looking at the first name, Renata noted that this appeared to be a straightforwardly new patient. After typing the name into a search bar in the Old System, she pointed to the screen and held up the paper for me to see. "In this case, they have just one [registration], which is Jefferson Pereira."[10] With a fluid move of the mouse cursor, Renata switched from the Old System – a program stored on the desktop hard drive – to the Internet Explorer browser, where she accessed the New System from its server in the cloud. She typed Jefferson's name into a similar search bar in the New System, and clicked an icon that said "Clinical Record" (*Ficha Clínica*). Back in the reception area of the post, a printer kicked into gear and printed out a blank prontuario with Jefferson's basic information on it. Later, Renata would go pick this up to enfold it into the appropriate bundle of prontuarios, in anticipation of Jefferson's appointment.

"But sometimes," Renata continued as she clicked around, "the same person has several registrations, two or three blocked and one active. And sometimes the [prontuario] number is in the Old System, and was not transferred into the New System. So then we have to go look for it." We turned to the next name on the list. "So we search here," she said, pointing with her finger to the

[10] A fabricated name, as all patient names used here will be.

search bar in the Old System, "by name, and when we type the name a bunch of other personal data come up, you know: there's an address, right, there's a telephone [number], there's the RG, CPF, SUS card. But just with the name [we can see] whether she is registered." Renata read the name aloud as she typed it in: "Maria Azevedo de Sousa".

"This case, you see?" Two horizontal entries popped up in a list on the screen, each with the same name. Noting that not only were the two names identical, but also that the registration showed that these "two people" had the same birthdate, Renata explained that this was a clear case of duplicate registrations. She took pains to show that the redundancy was immediately obvious to her when the names popped up on the screen. In turn, she quickly pivoted from the immediate technicalities of her interpretation into a critique of recent reforms. Referring to Maria, she said:

> This case, you see? Here. By the birthdate, it's the 8th of May. This one here. But the screen has – look here – two, you see? One here, and one here. When it has that little orange shade, it's because it's blocked. But instead of – when they made the New System [electronic prontuario], the IT people there, they registered all of the [active] people in the Old System into the New System. Instead of unifying the [active and blocked] registrations, they ended up generating another [registration]. So people ended up still having two.

Renata's critique here (and throughout our conversation) tied together two different events: the institution of the Terraville Card in 2013, and the introduction of the New System and electronic prontuario in 2017. The intersection of these events created a kind of multiplier effect, such that the older division of registrations into active/blocked was reiterated in the implementation of the New System. In other words, the original duplicate problem had become an order of magnitude more complex. After 2017, it was only possible to detect registration duplicates by working across two different systems, neither of which was capable of interacting electronically with the other. Detecting and resolving any specific duplicate "case" required regular interventions from a careful human mediator like Renata.

Returning to the specific case of Maria Azevedo de Sousa, Renata found a prontuario number attached to Maria's old, blocked registration in the Old System. Renata jotted the number down on her piece of paper and moved on to look up the next name on her list. Later, she would look for a paper prontuario with that number in the archives of the post. Note that, unlike with Jefferson, Renata did not have to use the New System at all for Maria. Since it was likely that Maria had a paper prontuario in the archives already, there was no need to generate a blank medical record. (However, both systems had still been necessary insofar as the appointment, in the first place, had to be made in the New System.)

Renata continued moving through the list, often becoming silent as she executed her cognitive labor. After a few simple new patients, we came to another duplicate. Mumbling to herself at first as she clicked and clicked the mouse, verifying her emerging conclusion to herself, she eventually raised her voice:

> You see? These two are the same person. Exact same name, exact same birthday, exactly the same [*igualzinho*]. So why didn't they make just one registration?! . . . He already had an existing registration, and when they went to make the Terraville Card, they made *another* registration, instead of integrating it into one new registration. [Her spoken emphasis]

Although she was not formally educated in public administration or health management, and did not consider herself a political activist, Renata commanded the language of administrative critique expertly. She repeatedly returned to the lack of "integration" across the various systems in play – whether it was the Old and New Systems, active and blocked registrations, or paper and electronic prontuarios. She understood clearly (and indignantly) that better integration *elsewhere* in municipal administrative systems would have saved her and her coworkers time and effort. Both "integration" and "unification" were concepts that health IT experts relied on heavily as well.

Awash in redundant and contradictory administrative objects, Renata reflexively structured her work in relation to the metric of "generation" or "to generate". If incompetent policymakers

elsewhere in the municipality were going to generate a series of dis-integrated systems and objects, then Renata was going to exercise careful discretion about what she generated at the health post. While the broader conditions of systems and registrations were beyond her control, she did have agency in avoiding the generation of redundant prontuarios and prontuario numbers. That is, an important objective of "generating numbers" was in fact to *not* generate numbers if a number already existed. Reflecting on the differences between the Old and New Systems, and emphasizing the material glut of unnecessary generation, she explained why this was important.

> In the [Old System], when we used to work with only that system, when a patient arrived, they arrived with that little yellow piece of paper – the appointment receipt, you know?

(When an appointment was made, both the Old and New Systems produced a small slip of yellow paper that was given to the patient for future reference. It included the patient's name, the doctor's name, the date of the appointment, and so on. Patients often presented the slip when they later checked in for an appointment.)

> On the little paper was the prontuario number. So we were able to see, on that little piece of paper, that if the person didn't have that [prontuario] number, it was because they had never passed through here [Serra Boa UBS] before. So we used to ask, "ah, is it your first time coming here?" "Ah, yes." Then we would generate, right at that moment, we just – it was just "switch screens" [applications on the desktop screen] and generate a record [prontuario] right then at the time that the patient arrived. So if the person made the appointment, but didn't come, we didn't end up with a useless number in the archive. Understand? Generate it when they got here.

The Old System had enabled receptionists to more smoothly avoid generating "useless numbers" and empty prontuarios. If the patient had responded, "No, I've been here before," it would suggest that there was a prontuario number attached to a blocked registration. In the Old System, the receptionist would be able to see this blocked registration and number as he checked-in the patient. In this case, the receptionist would get up, quickly pull the prontuario in question from the archives in the room just behind reception, and give the prontuario to the patient, to bring upstairs and hand to the doctor. With the New System, they could not see blocked registrations and

so could not do this work on the fly, if necessary. Instead, Renata had to check for blocked registrations more tediously in advance. In turn, for new patients, she was also generating numbers in advance, rather than at the moment of a patient's arrival for an appointment. Because, often enough, patients didn't show up for their appointments, this sometimes created useless numbers.[11]

> Now [with the New System] sometimes we generate the number and the person doesn't come [to their appointment]. So then we're stuck with this number without any medical encounter [*atendimento*] whatsoever. And if we leave it to be generated later – you've got that mountain of paper back there [in Administration Room] on top of all the tables. The person working the archives doesn't want you to generate, with so many records that afterwards all have to be filed. What you had this week [to file] gets left until next week, it adds up, adds up, it's got to be filed.

As Renata framed it here, unchecked generation exacerbated a sort of "paper super-crowding" in the Administration Room. Municipal reforms like Terraville Card and the electronic prontuario eventually trickled down into the materiality of UBS administration, effecting not only the complex intellectual task of figuring out which patients were truly "new" and which were merely "blocked", but also a material problem of proliferating administrative objects. The more files there were, Renata explained, the more likely it was that some of them would be misplaced. In turn, if a file could not be found, it raised the likelihood that administrators would have to generate another record for that patient. Not only would the patient's biomedical history be lost, Renata explained, but if and when the missing prontuario was found, there would be two numbers instead of one.

> Last week I'm in the archives. I straightened up [*arrumei*] one side of the archives, from [prontuario number] 25 thousand to 40 thousand. One by one, I looked at all of them, to see if they were filed correctly [in numerical order]. And I found about, just that week, more

[11] As noted in the prior section ("Bullshit without End"), the phenomenon of no-shows is called "absenteeism", and is a widely known, major problem in SUS nationwide. Almost all of my interlocutors talked to me about it at some point. In Terraville, in São Paulo, and in other municipalities in the region (such as Taboão da Serra, where I lived for part of fieldwork), the rate of absenteeism is an approximate but consistent 30%. This means that approximately one in three appointments in SUS are booked but not consummated or cancelled. If an appointment is cancelled, it can be offered to a different patient. If not, the resources (doctor's pay, etc.) are wasted, with no consequence to the offending patient. Public service announcement campaigns frequently advise the public against "wasting the [appointment] slot", but to little avail.

> than 100 prontuarios in the wrong place. More than 100. When you go look for it and it's not in the right place [at the moment of patient check-in], you don't have time to look through the other 40 thousand, in order to find it. So we end up generating a new record [prontuario]. But the doctor doesn't want a new record, he has the history of that person there [on the old/missing prontuario]. He has the medicines he's prescribed, etcetera. So I'm always there in the archives, straightening up the shelves in order to find the number, to find the greatest number of lost prontuarios possible. But this isn't always what happens, you know? [She chuckles.]

Without explicitly blaming anybody, through her subdued laughter, Renata opened up a subtle criticism of her coworkers. During weeks when she was not personally assigned to manage the archives, Renata said, they would tend to become disorganized again. The turn-taking structure of UBS administration contributed to the generation of one mess after another – iteratively and unnecessarily, Renata thought.

> When I come back again [weeks later], everything is already a mess, all over again. So then I start again. And so I can never finish.

Perhaps it was owing to her demonstrable competence that only Renata had the job of "generating numbers" here on the far side of the post.

* * *

Notwithstanding her frequent references to the New System, up to this point in our conversation, Renata had referred sparingly to the electronic prontuario itself. Indeed, her overriding concerns had to do with excess pieces of paper and phantom registrations. Such objects were of course ironic effects of an aspired-to paperless world. But as she fleshed out her critiques of the New System to me, Renata eventually arrived at pointed dissatisfaction with the electronic prontuario specifically. Strikingly to me, she faulted the electronic prontuario for reasons that were formally similar to why she criticized the Terraville Card and the New System generally. That is, while the electronic prontuario had a very different kind of materiality from its paper predecessor, it was still subject to critique in terms of multiples, duplicates and redundancies.

Unlike the paper prontuario, the electronic prontuario was stored off-site, on a server in "the cloud". Hence administrators and doctors accessed it through an Internet Explorer browser on desktop computers. Upstairs at the Serra Boa UBS, a doctor was supposed to be able to access a patient's electronic prontuario during an appointment, type notes as to the nature and outcome of the visit, and rest assured that, if the patient were to visit a different Terraville UBS some years in the future, the next doctor would be able to see those notes. Beyond even Terraville, the long-term dream of informatization was that, as I was told many times, "If you see a doctor *waaay* out there in the northeast [of Brazil], Jack, they will be able to see your prontuario." This arrangement presumed that Internet access would be stable and that electricity would not go out. At Serra Boa, both of these were generally safe bets, and Renata's critique did not fixate on these infrastructural conditions. (I visited other health posts, however, at which the Internet was sometimes down for days at a time. This infrastructural reality underscored the value of maintaining paper backup copies of prontuarios, lest the UBS cease to function altogether during these periods.) Instead, Renata fixated on the incompleteness of the online-ness itself. She and her coworkers had to work across multiple systems and materialities because the online dimensions of the electronic prontuario had only been "implemented halfway". I detail a back-and-forth between us here:

> **Renata:**
> So, if it's an electronic prontuario – "the electronic prontuario is coming", isn't that what the [federal] government and the state said? Doing the electronic prontuario? It all had to be electronic. But since [the prontuario] doesn't have that electronic nature, [the municipality] continues generating [paper] records for us to store in the same way. If it's going to be in the system, the encounter with the doctor – it's not online, you understand? What the doctor does is not online. He's going to print it out, and we're going to store it in the same way that we were doing before. But it's more complicated because now we have to use two systems at the same time. They didn't implement a good system, you know.
>
> **Jack:**
> But when you say that you continue using two systems, are you talking about two systems on the computer [Old and New Systems], or two in the sense of one electronic and one paper?
>
> **Renata:**

Both! Because we are using the Old System, which was better, but it was not online. [But] because of the way in which this online system is deficient [she chuckles], we keep on using the old method, the paper, in the same way as before. It's in name only that it's "online", right? Because it doesn't function completely, the online part doesn't function.

Jack:
How so?

Renata:
Because there isn't an electronic prontuario! The doctor isn't able to see here that the patient was seen somewhere else.

Jack:
Why not?

Renata:
Because they didn't finish implementing the system with an electronic signature [see below]. If the doctors really had the electronic prontuario, it would not be necessary to print. It stays online. Another doctor would be able to see [the prontuario], because the [first] doctor would have signed an online page, and the prontuario would stay in the [online] system. But no! They have to print it, stamp it, sign after each visit. So each visit stays only in that UBS itself. It doesn't stay with the doctors in other places.

In other words, the electronic prontuario itself was indeed stored in the cloud, but in such a way that its purpose was largely defeated. There was not "one" prontuario file in the cloud that was visible from any public clinical site in Terraville. Rather, *each UBS continued to rely on its own unique electronic file and a unique paper file*. Instead of ensuring that all sites had access to the same continuous biomedical record, the New System had simply introduced an electronic file alongside a paper file. This was fundamentally redundant insofar as *the electronic file was only visible to doctors at the UBS where the paper file was stored and circulated*. The New System had gone "halfway" online: its files were stored in the cloud, but in such a way that it did not obviate the need for labor-intensive paper systems. Even worse, for administrators like Renata, UBS staff now had to manage not only the prontuario itself, but the dysfunctional interfacing of a series of semi-compatible paper and electronic systems.

The municipality had not opted to pay for this feature Renata mentioned called "electronic signature". On a paper prontuario, as well as on documents like prescription requests, a doctor could either sign the document by hand or use a stamp with her signature on it, to validate the document.

A similar validation was required on electronic documents, to ensure that the doctor had indeed signed off. An "electronic signature" function would have enabled a doctor to sign a pad to prove her identity. (A copy of each doctor's signature would be stored in the cloud, such that each sign-off could be checked digitally against this original.) But this function was technologically sophisticated and very expensive, hence the municipality had opted to pay for a New System and electronic prontuario with all the bells and whistles – except the electronic signature. As a result, Renata said (and others backed this up to me, many times), doctors still had to sign something on paper in order to formalize their work and "prevent fraud". Even if the Internet had been 100% reliable, the lack of an electronic signature meant that a paper prontuario had to persist, so that something could be signed.

* * *

Finally, at my request, Renata turned to walk me through how one went about actually using the New System software. As a receptionist, her primary engagements were not with the electronic prontuario, but rather with the registration lookup and appointment-making dimensions. In addition to her dislike of the system for its sundry collateral multiplicities, Renata did not care for the interface itself (what is known in IT circles as the "user experience" or "UX design" dimension). Again, she described its shortcomings in terms of multiples. In comparison with the Old System, this one entailed "many more steps" to execute any particular function.

Renata looked up her own patient registration to walk me through how she would schedule an appointment. (Since she was just illustrating the process for me, she scheduled and then immediately cancelled an appointment.) After finding her patient registration in the system, she went about navigating the appointment-making process. The system prompted her to select whether this was a "first" or a "return" appointment (e.g. in the course of a normative biomedical itinerary, such as getting a diagnosis after an exam). She clicked "first". A window popped up on the screen:

> Then the specialties will open up: nursing, gynecology, mastology, whatever. In this case, it can be any one of these, let's do 'masto'.

She clicked 'masto', and another window popped up.

> Now it's going to ask: do you want to schedule a 'masto' appointment?

Clicking "yes", again, that window closed and was immediately replaced by another.

> Here, "Will this be your first visit?", I click here, or over here for "return visit". So I choose.

She clicked again.

> Now here appears the name of the doctor and the date. If there were more doctors available they would all appear here, in case you wanted to choose, you know. In this case there is only Dr. Fernanda. And I can choose the date and time. Here there are appointment slots in August, and next month, too. So we go looking for a date, let's see – the 11th. This opens another tab [in the browser], you see? It has the time. Now I pick the time. 2:00. It opens another tab. And I click here.

Renata then recapped the many windows, tabs and clicks we had moved through.

> So here, [*mouse-click*], first time, and then I choose the doctor, I choose the time, I choose here, I choose here, I choose there!

After her voice had pitched up dramatically at the end, I understood what she was communicating to me, but I asked her anyway, "So what does that mean to you? What are you trying to tell me?" Slowly, with emphatic punctuation, she said, "It's *many more steps* for us to be able to schedule *just one* appointment." In the Old System, she said, receptionists were not bombarded with window after window after window. The Old System afforded receptionists a calendar view of available appointments, so they could see a clear overview of which dates and times were available.

> The whole month was here. It was just click here on the day, [a window] would pop up to the side, then I would click on the green slot [an available appointment slot] and print. Done. Just click on it and done.

Although the Old System still tended to require more than one step to do this or that, Renata said that it was much more simple, as a rule. In praising the Old System, she several times invoked terms like "just one keypress" and "just one click" to indicate its superiority to me.

> It didn't need so many [steps], you know? It had to be much more, uh, it would just say: "scheduled". You saw it there, you pick the time that you want [for the appointment] – it was just one keypress [*uma tecla só*], it used to be! They could have gone in the direction of *reducing* the steps, to make it so that the printer was already printing [the appointment receipt, on the basis of that one keypress]!

Instead, she joked, the New System went in the other direction. Her voice entered a comic crescendo as her finger jabbed the air: "Confirm, confirm, *confirm*!" We both laughed. "It's a lot of confusion," she said. "Confirm. Confirm again. 'Are you sure?'"

* * *

Over and over again, Renata's critique returned to problems of doubling and unnecessary repetition. In turn, unlike Secretary Barros, Renata's engagement with these problems was deeply embodied and affective. Qualities of repetition, for her, were not abstractions on a balance sheet but rather lived phenomena that she had to manage. Without the clever labor of Renata and her coworkers, she shows, there would be more repetition, not less.

Immoral Proliferations

To close this chapter, I offer a brief vignette that helps illustrate the immorality that attached to what I have called exponentiality. In December 2017, my roommate Debora (who worked for SUS in Terraville) and I drove an hour or so to spend a weekend at Praia Grande, a middle-class beach town where Debora's nephew lived with his wife and daughter. Debora's niece-in-law, Rosie, worked as a nurse in a nearby hospital, while her nephew, Jonathan, was a mechanical engineer. We spent two days sitting under big umbrellas in the sand, drinking beer, eating fried cheese sold by itinerant vendors, and swimming.

Jonathan and Rosie were gracious hosts and a pleasure to talk to. Jonathan, in particular, was curious about my research. Like many people I met during fieldwork, he was keen to make sure that I understood certain features of Brazilian culture and politics that he thought distinctive. As with

these other interlocutors, Jonathan was especially interested in explaining how corruption had become an insidious mainstay of Brazilian political culture. Using the beach sand as his blackboard, he wrote and performed a numerical interpretation of illegal bribery.

Politics, he told me as we sat in our beach chairs, "seduces people. You tell me that you're not going to be one of the corrupt ones. You're not going into politics for that." He shrugged and cocked his head skeptically to one side. "Ok, all good." Suddenly standing up from his chair, beer in hand, Jonathan proceeded to draw four numerals in the sand with his foot: 1 000 (one thousand). "With three zeroes, maybe you don't feel so much," he said. The numbers represented a hypothetical bribe of one thousand reais – not that much, in the scheme of things. "Then . . ." he trailed off as he added three more zeroes: 1 000 000. "Eh, maybe you are feeling something now." And then three more, the numerical inscription now sprawling out beyond the shade under our umbrella – 1 000 000 000 – "six zeroes, nine zeroes – now you're feeling it."

* * *

My exchange with Jonathan focused on political corruption in a generic sense, of course, which has not been the focus of most of this dissertation. What I draw from his way of explaining this, however, is that morality was often understood to unfold in technical "sets and series". For Jonathan, exponentiality and its corrupting power were in fact inevitable. The problem to be combatted was the technicity of the exponentiality itself.

EPILOGUE: EXTERMINATIONS

Specters of Bolsonaro

I finished my dissertation fieldwork and left Brazil in November 2018, just a few weeks after far-right candidate Jair Bolsonaro was elected the next President of Brazil at the end of October. He would take office, succeeding Michel Temer, on January 1, 2019.

I felt guilty leaving the field during what was, for my sanitarista friends, a moment of dread. Bolsonaro was infamous for his habit of making public comments that ranged from merely ignorant to actively vile. Racist, homophobic and misogynist quips were part of his trademark, such as when he repeatedly told a fellow member of Congress, Congresswoman Maria do Rosário, that he would never rape her because "you don't deserve it".[1] He routinely described the country's military dictatorship in nostalgic terms and made much of his own military career (1973-88), during which he had reached the rank of Army Captain. In 2016, as a Congressman (*Deputado*) in the Chamber of Deputies, Bolsonaro dedicated his vote in favor of the impeachment of President Dilma Rousseff to the recently deceased Colonel Carlos Alberto Brilhante Ustra, "the dread of Dilma Rousseff," as he put it. Ustra had been the head of an infamous military torture unit in the early 1970s, during which time Rousseff herself was imprisoned and tortured for her leftist political views, meeting Ustra at some point.[2] In 2018, on the political left, Bolsonaro's rise toward the presidency was read very darkly as a worrying sign of incipient fascism.

Sanitaristas viewed Bolsonaro as a philistine with little interest in dwelling on the mechanics of universal healthcare. Recall that his campaign platform had included only the scarcest of health policy details, making clear that "health should be much better – with the amount Brazil already

[1] Mazui, Guilherme. "Por ordem judicial, Bolsonaro se desculpa por dizer que deputada nao merecia ser estuprada". *Globo G1* (periodical). June 13, 2019.
[2] Watts, Jonathan. "Dilma Rousseff taunt opens old wounds of dictatorship era's torture in Brazil". *The Guardian*, April 19, 2016.

spends!" (Bolsonaro 2018). In 2018, in terms of health policy, sanitaristas anticipated that Bolsonaro's Ministry of Health would more or less continue the "dismantling" and privatization of SUS that had begun at a national level under Temer. In more existential terms, however, Bolsonaro was not Temer. Sanitaristas feared in a very real sense for their lives.

On October 25, 2018, three days prior to Bolsonaro's election, I attended a workshop at Beta University. The premise of the workshop was that attendees would review the campaign platforms of Bolsonaro and his opponent – former Mayor of São Paulo Fernando Haddad, of the PT[3] – and then split into two groups. Each group would then advocate for the healthcare ideas of one of the candidates, taking turns in a sort of mock debate.

The workshop lasted for two hours. No one in the room openly admitted to being a genuine Bolsonaro supporter, hence the pro-Bolsonaro group engaged in a good deal of playful parody and satire of his positions. Yet for the first 90 minutes or so, there was a meaningful exchange of ideas about healthcare policy and how best to intervene into it. In the course of the last half-hour, things grew more somber. Just three days out from the election, the polling was clear: Bolsonaro was very likely to win election. The sanitaristas in the room cared about the nuts and bolts of healthcare policy. But they were also, in a much more basic sense, scared.

Pondering what was to come, one participant offered, "Prison, exile or execution." Like several others in the room, this participant was a faculty member at Beta University and was thus publicly recognizable, at least in theory. Sanitaristas like him had spent entire careers promoting the construction of SUS and participating in public forums in which they advocated for values that Bolsonaro characterized derisively as "communism". People like this had to worry about what

[3] Haddad was Mayor of São Paulo from 2013-16, until he was unseated by João Doria (see Chapter 3). He was also the Minister of Education from 2005-2012, working for both Presidents Lula and Rousseff.

Bolsonaro's authoritarian tendencies might mean for them in the years to come. "Torture and execution," the faculty member added after a pause, qualifying his earlier statement slightly. Under Temer, sanitaristas had been angry and anxious about what was to become of SUS. Facing the specter of Bolsonaro, they feared extermination.

A Little Flu

On February 26, 2020, the Ministry of Health announced Brazil's first confirmed case of Covid-19: a 61-year-old man in São Paulo who had spent a week in Italy earlier in the month. Bolsonaro famously downplayed the SARS-CoV-2 virus as a "little flu" (*gripezinha*) and promoted ineffective treatments like hydroxychloroquine, which he took after becoming infected with the virus in July 2020. On a regular basis, in the capital of Brasilia and in visits to other cities, today Bolsonaro continues to hold impromptu public events in which he dines, takes walks or rides a motorcycle before stopping to greet crowds of supporters – often shaking hands and never wearing a facemask. His similarly maskless supporters have held numerous rallies and marches since the start of the pandemic. In December 2020, Bolsonaro aired skepticism about the vaccines that were on the cusp of emergency government approvals in other countries, complaining that Pfizer wanted to wash its hands of responsibility for any side effects. "If you turn into an alligator, that's your problem", the President said, in a flippant comment that launched a thousand memes.[4] Through 2021, Bolsonaro has remained opposed to a national lockdown, even as Covid-19 has overwhelmed public hospitals around the country, provoking "the biggest collapse of the hospital and health service in Brazil's history", according to Fiocruz, the premier public health institute in Rio de

[4] Hall, Louise. "Bolsonaro says Covid vaccine may turn people into crocodiles in bizarre rant". *The Independent*. December 20, 2020.

Janeiro.[5] At writing in June 2021, Brazil has suffered 472,629 deaths as a result of Covid-19 since the start of the pandemic,[6] placing it at or near the top of world rankings in deaths per capita from the novel coronavirus.

For much of the pandemic, Bolsonaro remained about as popular as he had been beforehand – which is to say, middling in terms of approval. He has been rated "good" or "excellent" by just under 40% of Brazilians for most of his presidency.[7] After the start of the pandemic, from April to December 2020, some 66 million Brazilians received generous cash payouts from Bolsonaro's government in an attempt to soften the economic blow of the pandemic.[8] The payouts were large enough to quickly cut Brazil's poverty rate in half, apparently buoying Bolsonaro's popularity until the program ended in December. By January, the official poverty rate had rebounded and surpassed its pre-pandemic levels of 10.97%, reaching 12.83% by early 2021. During the first half of 2021, Bolsonaro's support has collapsed, most recently polling in May 2021 at an all-time low of only 24% of Brazilians rating his government "good" or "excellent".[9]

At some point in early 2021, the word "genocide" (*genocida*) began to circulate among critics of Bolsonaro on social media and in public forums. The apparent nickname "Genocide Bolsonaro" became a common appellation applied in protest at rallies and online, often fleshed out as "Get Out Genocide Bolsonaro!" (*Fora Bolsonaro Genocida!*) (as in "throw him out"). This popular usage reflected a sensibility of genocide as a mass extinction event characterized by its scalar properties rather than

[5] Castro, Regina. "Observatorio Covid-19 aponta maior colapso sanitário e hospitalar da historia do Brasil". *Agencia Fiocruz de Noticias*. March 16, 2021.
[6] "Brasil registra 1.661 novas mortes por Covid em 24 horas". *Globo G1* (periodical). May 5, 2021.
[7] Wikipedia hosts an excellent archive of every major approval poll taken since the start of Bolsonaro's presidency, including links to original polling data. Available here, accessed June 6, 2021: https://en.wikipedia.org/wiki/Opinion_polling_on_the_Jair_Bolsonaro_presidency
[8] McGeever, Jamie. "Millions in Brazil thrown back into poverty as pandemic aid dries up". *Reuters*. March 26, 2021.
[9] "Bolsonaro's approval falls to 24%, the lowest ever, says Datafolha poll". *Reuters*. May 13, 2021.

its "ethnic" dimensions.[10] In its technical usage in humanitarian or geopolitical discourses, of course, "genocide" refers to "ethnic cleansing" or to attempts by a state or militia to exterminate whole races, religions or cultures of people ("ethnic groups"). In its popular usage in pandemic Brazil, genocide is a way of describing the mass death of Brazilians irrespective of class or race. Interviewed by the Guardian in April 2021, former President Rousseff embraced the concept: "I use that word [genocide]. What characterizes the act of genocide is when you play a deliberate role in the death of a population on a massive scale."[11] Like its original usage, this way of invoking genocide ascribes agency and blame to someone who effectively carries it out: Bolsonaro.

It remains to be seen whether the genocide moniker sticks (all indications are that it will, at least among his critics, of whom there are many). But clearly this is not genocide in the sense that we typically understand the term. How have Brazilians arrived at this framing, when other countries with similar leaders and similar per capita death tolls – like the United States – have not declared "genocide"?

'Immense lines, but with organization'

In early June 2021, I asked this question and others over a WhatsApp phone call with Raquel, a friend of mine who worked for SUS in Terraville as a nurse technician. Our conversation revolved around questions about the government's responses to Covid-19 – especially its most potent tool, vaccinations. Raquel estimated that she had personally vaccinated around 1,000 people by then, as part of her job as a nurse technician. In our conversation, we talked about the state of vaccination in RMSP and in Brazil generally, and she connected this to a newfound disdain she held

[10] Philips, Tom. "Bolsonaro's 'genocidal' Covid response has led to Brazilian catastrophe, Dilma Rousseff says". *The Guardian*. April 10, 2021.
[11] Philips. "Bolsonaro's 'genocidal' Covid response", 2021.

for Bolsonaro. Eventually, we would arrive at the question of genocide. But first we talked about scarce vaccines.

"The only thing I know with certainty," she began when I asked if she could describe how the vaccination process was going in Terraville, "is that we don't have [enough] vaccines for everybody. This has generated a lot of anxiety in the population and when people know that in 'such-and-such' place the vaccine has arrived, then the line starts in the middle of the night." Terraville, she told me, had "become one of the strongest centers" for vaccination. Vaccines were purchased and distributed by the State of São Paulo (now under Governor João Doria, elected statewide in October 2018) to each of the state's 645 municipalities on a proportional basis. Hence all municipalities had vaccines, but Terraville still stood out. "In Terraville our routine is exhausting, the Mayor is very serious in relation to health. Everything is really well planned – immense lines, but with organization. Above everything else, you get all the health workers in a determined location, and everybody is scheduled [in advance]." Users had to register themselves online and schedule a vaccination in advance, like I did in the U.S., but they signed up by the day, not the hour. Hence, as Raquel explained it, "You schedule 3,000 people," for example, "and the post opens at 7:00AM. People want to guarantee that they get a vaccine, so they start lining up [*fazer fila*] at 9:00PM the night before." Raquel said she was not privy to how the Secretary of Health went about scheduling users against a given number of vaccines, but it appears that they used "overbooking", a term that was relayed to me several times in its English original during my fieldwork. Since some number of people will not show up for an appointment, most municipalities routinely overbooked appointment slots so as to avoid "wasting" appointment slots. Yet given high demand for vaccines, this sometimes meant that there were more people than there were vaccines on a given day. "Maybe it's supposed to go from 7:00AM until 10:00PM, but the vaccines run out at 6:00PM," Raquel said. In other cases, as with Raquel's apartment neighbor across the hall, the vaccine did not run out, but

patients had to wait hours to receive a shot. Her neighbor told me that she had to wait three hours for her second dose.

Vaccines were constantly being produced by the Butantan Institute, a major research institute known for its research in biology and epidemiology (located in São Paulo proper and affiliated with the State Secretary of Health). As of mid-May, Butantan had produced and delivered over 47 million doses all around Brazil (a country of 210 million people).[12] However, supply to individual municipalities was inconsistent, and on the ground in places like Terraville, Raquel told me, vaccines did not always show up as anticipated:

> At the post, our bosses will say, "We need two, three people to do vaccines this week, in such-and-such place," like in the Secretary of Health [headquarters]. Then, on the eve of going, you prepare to go, and then it is communicated: "We have to suspend the organization of the vaccination, because we don't have any. We thought it would arrive, but it didn't arrive." So they cancel it. They simply were expecting vaccines to arrive and they didn't arrive. And so we stay at the ready [*á disposição*] for when the vaccine arrives. Sometimes it's delayed for a week, sometimes for two or three days. And it arrives. But they never have enough for everyone. They form huge lines. And suddenly we have 2,000 vaccines and 5,000 [users scheduled]. And so we don't have enough for everybody and they have to schedule another date to be vaccinated.

The vaccination work was extremely taxing for Raquel, who at 60 years old was nearing retirement age. Thankfully, she had been vaccinated several months earlier (as an essential worker in healthcare). "We are on our feet all day," she said. "There's no way to vaccinate people sitting down, you have to be standing." In addition, vaccinations generally were scheduled outside of her normal work hours, which were from 7:00AM to 1:00PM, Monday through Friday. During those normal hours, Raquel drove to her UBS and worked a six-hour shift as usual. She gave out all kinds of less scarce vaccines – for measles, yellow fever, chicken pox – as part of her regular daily duties assisting

[12] "SP inicia entrega de vacinas do Butantan do novo contrato de 54 mi de doses ao Brasil". *Portal do Governo* (São Paulo State Press Office). May 14, 2021. Announcement available here: https://www.Sãopaulo.sp.gov.br/sala-de-imprensa/sp-inicia-entrega-de-vacinas-do-butantan-do-novo-contrato-de-54-mi-de-doses-ao-brasil/

the on-duty nurse. The Covid-19 vaccinations, on the other hand, were above and beyond those duties. Covid-19 vaccinations took place in special sites, she said, like schools or the Secretary of Health headquarters (which normally did not perform any such clinical functions). And the vaccinations took up special hours. Raquel had worked numerous Sundays, she said, from 7:00AM until 10:00PM – a 15-hour Sunday shift. "Sometimes they do it in two shifts – one from 7:00AM to 3:00PM and another from 3:00PM to 10:00PM. But normally we stay the whole day on foot." She had gotten used to regularly working afternoons on weekdays, as well, doling out vaccines a few days per week after finishing her normal morning shift. Raquel was paid overtime by the hour for this work, and she said she appreciated the extra income, but she would rather rest.

The vast majority of health users were extremely appreciative of she and her colleagues' hard work, Raquel said. "It has been very gratifying," she said, "they call us 'angels', things like that." That said, users could be difficult. "You have people who don't trust you, you have to show them the vial. You have to show them that you put the serum in the syringe. And after you apply it into their arm, you have to show them that you really did inject them." In a rather micro-logistical mode of rights-bearing, users were entitled to watch and verify each material step of the injection process. The distrust was due to news reports in which individual healthcare professionals had been caught on tape feigning vaccinations for people, she said. "You have to explain practically everything: that they could have [flu-like] symptoms, or maybe not. Some people have doubts and they don't know if they want to take it or not. It's that kind of thing. And the line doesn't move [*a fila não anda*]" when people had too many doubts. Raquel estimated that she spent maybe five minutes with each patient, but that people who appeared better educated asked fewer questions. "More humble" people – a euphemism for lower and less formally educated classes – tended to ask many questions, she said. "You have to explain a lot of things that we [workers] don't really know, either. We don't know if

the vaccine is effective or not. And people say, 'Bolsonaro said not take it, it's bullshit!' You've got all of that, and we get so tired. It's an emotional stress, really, and physical, too."

'A person who promotes the deaths of a lot of people'

Thus our conversation wound its way to President Bolsonaro. Back in 2018, on the eve of Bolsonaro's election, Raquel had been broadly amenable to his coming presidency, telling me then that everyone she knew and worked with was voting for him (although she did not vote). Like many people I knew in Brazil, Raquel not only distrusted but more pointedly *loathed* politicians. "They don't get into politics to *help* Brazil," she once remarked to me, "they get in to rob it." By 2021, she extended this sentiment to Bolsonaro, telling me, "I detest him." Raquel no longer knew anyone who supported the President. "I think his support has gone to zero," she said. "Here, everyone knows someone who has died. Here in our building, a pregnant woman died. There at the health post, many older people who were regular visitors to the post died of Covid." She described a great deal of suffering and turmoil wrought by the pandemic. "People suffer a lot with this virus . . . So many cases here. In Terraville, an entire family died – mom, dad, two sons. Neighbors of the health post there. It's terrible."

At this point of morbid reflection, I asked Raquel about the word "genocide". "Before I forget to ask you this," I said, "I have been seeing this word, 'genocide', as in 'genocide Bolsonaro', all of that stuff. Do you have any opinion about that? It's such a strong word, I wanted to ask." Raquel responded thoughtfully and almost matter-of-factly, defining the word "genocide" for me as she understood it. Notably, she used the word to indicate a kind of person, rather than an event per se, responding to me as follows:

> Genocide is a person who promotes the deaths of a lot of people. And here in Brazil, Bolsonaro is considered a genocide, yes, because he walks around without a mask, because he incentivizes crowding, he incentivizes people to not take the vaccine, he's totally against all the treatments that doctors advocate. He says that people who take the vaccine are going

> to turn into an alligator, all of that stuff. So he was called "genocide" here in Brazil. Where do you see a leader of a country with that kind of conduct? He walks in any place, he takes walks, he makes crowds – all without a mask. He doesn't see himself as obligated to wear a mask. Now in his most recent appearances [early June 2021], he puts on a mask. So he is really a genocide. How many humble people believe in everything that he says, and so many people have died. Out there in Amazonas [State], where they lacked oxygen. Those in the [federal] government didn't care at all. There was no oxygen, thousands of people died, because of his neglect. So it's a genocide, yes.

Raquel referred here to the oxygen crisis in the city of Manaus, in the Amazon region, in which a lack of oxygen supplies in early January 2021 led to dozens of Covid-19 patients suffocating to death.[13] That oxygen crisis has since become sporadically generalized in Brazil.[14] In the Manaus case, state and federal officials continue to trade blame as to who is responsible for having failed to foresee and forestall the shortage.

Raquel's characterization of genocide is strikingly similar to Rousseff's above, at least in terms of its emphasis on scale ("the deaths of a lot of people"). But Raquel adds a good deal of logistical flavor. Bolsonaro demonstrates himself as "a genocide" by walking around, encouraging crowds and discouraging people from getting vaccinated. He also showed "neglect" for the people who died of suffocation in Manaus by failing to ensure that they had oxygen. For Raquel, the evidence of genocidal culpability could be seen in immoral kinds of mobility and immobility: Bolsonaro walking around without a mask, encouraging crowds and failing to give a damn about the hard health logistics of oxygen delivery. The language in which Raquel articulated something as dark as "genocide" was all about how people and objects should and should not move in the physical spaces of life-in-common.

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[13] Alvares, Debora. "Manaus oxygen crisis: where does the buck stop?". *The Brazilian Report* (periodical). May 20, 2021.
[14] Peet, Charlotte. "'Brazil is suffocating': COVID surge creates severe oxygen crisis". *Al Jazeera* (periodical). March 24, 2021.

In April 2021, a Congressional commission known as a CPI (Parliamentary Commission of Inquiry) was launched into the federal government's response to the pandemic. Although ongoing at writing, the CPI has already produced numerous televised depositions of public officials, each of which has received heavy coverage in Brazilian news media. The CPI is thought to possibly be a tool through which opponents of Bolsonaro might produce grounds for his eventual impeachment, as Raquel and others have noted to me. Among the more shocking pieces of information uncovered by the CPI, in mid-May 2021, representatives from vaccine-maker Pfizer testified that they had sent numerous letters to President Bolsonaro and then-Minister of Health Eduardo Pazuello in August and September of 2020, offering a chance to secure 70 million doses of the vaccine.[15] Had the government agreed, 1.5 million doses would have arrived by December 2020, with the remainder being delivered over the course of 2021. However, Bolsonaro and Pazuello ignored the offers altogether and did not negotiate with Pfizer until March 2021.[16] Meanwhile, Brazil's vaccine rollout was remarkably slow and did not even begin until late January 2021.

(Social) Life and (Social) Death

The vaccine rollout, the embodied mobility of a maskless Bolsonaro, oxygen shortages and fears of mass extermination – all of these events are co-produced through technical-semiotic grammars of logistified health. In turn, *how* such events are pieced together qua "the social" is central to their ensuing interpretation. That is, there are normative expectations as to how things should and should not move and fit together in space and time. Some social arrangements produce "health" such that "collective health" refers to a kind of ideal configuration of the social. Other arrangements

[15] "CPI da Covid: executivo da Pfizer confirma que governo Bolsonaro ignorou ofertas de 70 milhoes de doses de vacinas". *BBC Brasil* (periodical). May 13, 2021.
[16] "Pfizer got no response to offers to supply vaccine to Brazil last year, exec says". *Reuters*. May 13, 2021.

either fail to produce broad health in the population or, more perversely, actively thwart it – "genocide". That the response to Bolsonaro's failures is a concept that people understand to mean "the deaths of a lot of people" should not surprise us. In this dissertation, I have shown that – especially in São Paulo, but perhaps throughout Brazil – people often grasped at metaphors of higher and higher scale, attaching qualifiers like "mega" and "super" to terms like mutirão and "crowd", each of which already indicated something big. In this sense, genocide is the precise inversion of collective health. It is an assemblage of the social such that death becomes a quality of social life that might be experienced by all Brazilians.

Come to an End

Notwithstanding the dark themes of this Epilogue, Raquel was optimistic about what was to come. Come what may on the formal political scene, she felt that vaccines would eventually reach all Brazilians, and that it was merely a matter of time before "this damn virus come[s] to an end". With diligence from professionals like her, the shortages would eventually be overcome and everyday life in Brazil would return to normal. This was the "tendency" or trend that she counted on. I close this dissertation with Raquel's hopeful comment:

> I think we are heading in the direction of things getting better. That's my opinion. If everybody gets the vaccine, then that will give us some protection against this virus, this malignancy. I think that everything is going to be fine once everybody gets vaccinated. That's the [cause of] the apprehension of the Brazilian people. Because there's not enough, it's lacking everywhere in Brazil. Only little bits are coming in. If it had been like – there in the United States, you all already got the vaccine. The United States is loaning, donating vaccines [because] they have so many [doses]. So I think the tendency is for this damn virus to come to an end.

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