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INTRODUCTION

Cuba's Digital Awakening

On July 11, 2021, Cuba erupted in its largest outbreak of public discontent in decades. Thousands of people took to the streets to voice a variety of grievances that had been degrading the quality of life on the island for years, such as increasingly severe power outages and dramatic shortages of food, fuel, and medicines. Growing dissatisfaction had been simmering under the surface for some time, with groups of young artists and musicians organizing several small protests against increasing censorship, until the worsening coronavirus pandemic and its apparent mishandling by the Cuban government culminated in a sudden outburst of public outrage. Demonstrations are a rare occurrence in Cuba's tightly controlled society, and the speed with which they spread, washing over all major cities within a couple of hours, was an entirely new phenomenon. It was the most visible expression yet of a social transformation that is irrevocably changing state-society relationships on the island: Cuba's digital awakening.

After endless hesitation, the Cuban state had finally begun enabling citizens' access to mobile Internet a mere two and a half years before the incidents of July 11. In a country where the government still controls all mass media, the protests of that day would not have become a nationwide event without the mass proliferation of social media. Videos of the riots, which began in the small town of San Antonio de los Baños, about an hour outside Havana, quickly spread through Facebook and on WhatsApp and Telegram groups, reaching large segments of the population and spurring similar protests across the country until the government shut down the Internet completely in the early afternoon.

July 11 revealed both the transformative power and the limits of networked digital technologies in an authoritarian system. While social media has opened up new opportunities for Cuban citizens to organize in unprecedented ways outside of state-orchestrated organizations and state-controlled media, the Cuban government quickly regained control over the streets because the

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protests weren't backed by an organized opposition. In the weeks after the incident, the government addressed some of the protesters' bread-and-butter concerns but also put hundreds of demonstrators in jail. This government crackdown, combined with continued political standstill and the unresolved economic crisis, led to an unprecedented mass exodus, particularly of young and aspiring Cubans, in the months and years that followed. This was in turn facilitated by social media, as people shared information online about migration routes and immigration regulations.

While Cuba's digital revolution might not have brought about systemic political change, this book explores how Cubans' increasing access to digital technologies and the Internet are fundamentally reconfiguring the power dynamics between citizenry and government by allowing Cuban people to become more autonomous from state structures. The Cuban government had long sought to evade the erosion of its media monopoly by restricting its citizens' access to digital technology and the Internet due to fears of freedom of information and expression. As a result, the island was one of the least connected countries in the world until just a few years ago. Since the institutionalization of the state socialist model in 1961, two years after the triumph of the Revolution in 1959, it has maintained a tight grip on the public sphere, closing all independent spaces where people could potentially publicly express dissent. Cuban authorities expanded access to the Internet and digital communication technologies only when it became clear that abandoning them would be ruinous for the economic survival of the island's economy, which is structurally heavily dependent on exports and tourism.

Throughout his lifetime, Fidel Castro himself remained ambivalent about the Internet, sometimes praising its potential as a powerful tool in the hand of the revolutionary, while at the same time warning that unrestricted access would inevitably change Cuban society (Hoffmann 2004; Recio Silva 2013). The Cuban government was therefore cautious and only gradually made the Internet more available while desperately trying to defend its revolutionary project. Until 2013, Internet cafés in the better tourist hotels were (at least officially) the only places where users could connect via satellite links at exorbitant hourly rates. But that year, a fiber-optic cable to Venezuela finally integrated the island into the global broadband architecture. Starting in summer 2015, the government began installing Wi-Fi hotspots in public places, first in Havana and then in other cities. It was through these public hotspots, which were still just barely affordable, that the vast majority of Cubans first encountered the Internet. Three and a half years later, in December 2018, the state rolled out a 3G cellular network that eventually provided mobile Internet for smartphone users. In July 2019, it was updated to the LTE standard. The opening of the

Wi-Fi parks had changed the way Cubans on the island could communicate with the world and particularly with their relatives in the diaspora (initially via Facebook or the audiovisual telephony and instant messaging software imo). The introduction of mobile data now changed the way Cubans communicated with each other, as messaging groups on WhatsApp or Telegram became important sites of socialization.

Although the Cuban Internet is still characterized by slow speeds, high costs, and inadequate infrastructure, Cubans have continued to find inventive ways to take advantage of the increasingly available technology and develop strategies to compensate for the lack of Internet connectivity and affordability. For many years, technology enthusiasts have created vernacular infrastructures that make up for the limitations of the state-supported digital infrastructure by extending, bypassing, or replacing it, such as grassroots community computer networks or “sneakernets” in which digital data are transferred by physically carrying portable hard drives and memory sticks. Mutually reinforcing each other, the state’s tentative liberalization policy and its citizens’ inventiveness have therefore come to endanger the Communist Party’s control over the economy, politics, social life, and media usage. Cuba’s former authoritarian public sphere (Dukalskis 2017) has transformed into an emerging networked public sphere encompassing various autonomous and semiautonomous social and communicative spaces that offer Cubans new political and economic opportunities.

Island in the Net examines these ongoing changes, detailing how citizens are harnessing digital technology to create new alternative support infrastructures and thriving digital black markets for trading scarce consumer goods and foreign currency as well as new spaces for public debate. The book’s ethnographic narrative spans from the opening of public Wi-Fi hotspots in 2015 to the social-media-fueled protests of July 11, 2021, and their aftermath. It is grounded in fourteen months of fieldwork, conducted over the course of five years and spanning multiple locales. I spent ten months researching in Havana (half of that time during the height of the pandemic), the central location for both government-sponsored innovation and bottom-up parallel practices. To understand how the island’s digital transformation plays out outside the capital and to chart the local vernacular technological infrastructures, I spent another total of two months in the provincial capitals of Camagüey, Ciego de Ávila, and Matanzas. To capture the transnational dimensions of Cuba’s emerging networked public sphere and to follow up with the many research participants who decided to emigrate during my research, I worked for an additional month each in Miami-Dade County, the heart of the Cuban exile community, and in Madrid, a destination that became increasingly popular among a younger

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generation of émigrés seeking to escape the ideological polarization of the Cuban American community in the United States.

I joined my collaborators in the comfort of their homes, closely observing their consumption of both local and global media content. I observed some of them recording YouTube videos or engaging in multiplayer games on DIY computer networks. Alongside others, I participated in self-organized workshops on 3D printing, attended Otaku festivals that celebrated Japanese pop culture, and visited shops catering to remittance senders within the Cuban diaspora in Hialeah. Furthermore, I dutifully fulfilled requests to deliver technological devices, foreign cash payments I had received in someone's name on my bank account, and, increasingly, basic medications to individuals who sought my assistance.

In total, I conducted approximately a hundred formal and informal interviews with various key figures in Cuba's emergent digital culture, including novice netizens, connection brokers at public Wi-Fi parks, admins and users of vernacular technological infrastructures, social media personalities, content creators, software developers, makers, and many others. Whenever possible, I held these interviews in the authentic settings where the participants carried out their activities. For instance, I climbed with some of them onto rooftops as they skillfully mounted new Wi-Fi antennas or followed others through their neighborhoods as they delivered hard drives brimming with data to their customers.

Given that some of my research participants are public figures in Cuba, such as social media influencers, entrepreneurs, writers, or artists, and many of them made significant contributions to the multimodal projects accompanying this publication, I have chosen not to anonymize all names by default, as I believe anonymization would be counterproductive to their interests. Carlo Cubero (2021) highlights that the ethics of anonymity are intricately linked with broader concerns related to representation, voice, and power dynamics throughout the research process. As Margot Weiss (2021) emphasizes, in many instances our interlocutors are actually cotheorists who deserve credit for their ideas and contributions to our knowledge production. Because it is paramount to me to recognize each participant's involvement in this work, I prioritized their preferences, allowing them to decide whether they wished to be identified by name or remain anonymous. In all instances, I engaged in open discussions with collaborators regarding the pros and cons of anonymization and the potential repercussions of using their real names. Generally, when referring to interlocutors by their first names, I have used pseudonyms, while their full names denote real participants. The names of businesses mentioned are real if their owners permitted their use. In cases where interlocutors pri-

vately expressed critical views of the government or were associated with the dissident movement, I took great care to remove any personally identifiable information.



The following section summarizes the broader economic and social changes that the island has experienced in recent years and that have turned the lives of Cuban citizens upside down. Cuba's digital awakening must be understood against the backdrop of developments such as the government's timid reforms of the private sector, which have legalized some formerly informal occupations while pushing others into illegality; the COVID-19 pandemic that has devastated the country's tourism-dependent economy and led to a veritable supply crisis; and a poorly timed monetary reform that resulted in rampant inflation.

The remainder of the introduction then discusses the interventions that this book makes in three interdisciplinary strands of research on the social impact of technology. First, I engage the literature on the infrastructural turn in the social sciences to provide fresh insights into how people-embedded alternative infrastructures can become a ground for contestation. I analyze how collective practices of constructing and maintaining technological systems might constitute infrapolitical acts. I unfold how such vernacular infrastructures can thus become primary sites for negotiating conflicting ideas about citizens' rights and obligations as well as state-promoted and popular values and morality.

Second, I explore how the Cuban case contributes to our understanding of the complex impacts of the Internet on citizen-state relationships in authoritarian settings. In a departure from oversimplistic grand theories about the Internet and political change that either celebrate it as a "liberation technology" (Plattner and Diamond 2012) or warn of "networked authoritarianism" (Morozov 2011) or the Internet's tendency to destroy the deliberative public sphere (Habermas 2022), I argue for a more nuanced comprehension of the possibilities and limitations of networked technologies for citizens of autocratic states. While increasing Internet access has expanded the amount of information available to ordinary people, facilitated new and important ways for citizens to discuss public issues, and provided a space for activism, long-tested "offline" forms of political propaganda and repression via the "old" mass media remain powerful and allow the state to contain online expression within well-policed boundaries.

Third, I consider how multimodal approaches to anthropology can provide a framework for recognizing the central role of media production in the everyday lives of our research participants and for creating new forms of public

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scholarship that can engage both nonacademic and local audiences and even change the very ways we do research. One of the main conceptual and methodological innovations of this publication is that each of its chapters is accompanied by a work of multimodal anthropology that performs the arguments of the respective chapter and was created in collaboration with some of the protagonists of Cuba's emergent digital culture. Through these "experimental collaborations" (Estalella and Sánchez Criado 2018), I have been able to transcend the traditional separation of roles between researcher and researched as well as the established approaches of distant and engaged participant observation typically associated with conventional ethnographic research.

A Country in Transition

Despite the apparent lack of overt political transformation, the past decade has been very turbulent for the island, as both internal steps toward reform as well as external events and pressures have had profound implications for Cuban politics and society. Soon after taking over power from Fidel in 2008, Raúl Castro launched a reform process to "update" the Cuban economic and social model that introduced more market mechanisms, expanded the private sector, and reduced government sector employment and state subsidies.¹ This withdrawal of the state from many of its previous functions also granted citizens greater freedom. Cubans could now lease land and buy or sell real estate, and most importantly, the government allowed the number of authorized occupations and *cuentapropistas* (nongovernmental or self-employed workers) to expand.² A 2012 law liberalized travel and migration and eliminated the need for a permit to enter or leave the national territory. Scholars have described these political changes of the post-Fidel era as a transformation from a "charismatic post-totalitarian regime" to a "maturing post-totalitarian" one that emphasizes economic performance as a compensatory source of legitimacy (Centeno 2017) or toward "bureaucratic socialism" (Hoffmann 2016). This transition away from charismatic politics was completed when Miguel Díaz-Canel succeeded Raúl Castro as the country's president in 2019. Díaz-Canel is the first Cuban head of state who was born after the Revolution and therefore cannot derive his authority from having participated in it.

Meanwhile, the island's relations with its archenemy, the United States, which since 1960 has maintained the most enduring and punitive trade embargo in modern history, have taken several twists and turns. The Cuban thaw during the Obama administration, which began in December 2014, saw the lifting of some U.S. travel and remittance restrictions, improved access for U.S.

banks to the Cuban financial system, and the reopening of embassies. It culminated in the first visit to the island by a U.S. president since 1928. However, that policy shift ended abruptly when Donald Trump was elected and reversed Obama's relaxed Cuba policy, reinstating and even tightening some aspects of the embargo such as restrictions on commerce with military-owned businesses (including many hotels) and on remittances and travel to Cuba by U.S. citizens.

Trump's electoral victory was one of several factors contributing to a series of economic challenges that affected the country and significantly impacted the standard of living of my research participants throughout my fieldwork. Around the same time, Cuba's options for foreign trade and investment shrunk considerably, with longtime business partner Venezuela's ongoing economic disintegration and Brazil's and Bolivia's shift to right-wing governments (two countries to which Cuba was leasing medical professionals for hard currency remuneration). The island's economy was thus already in its worst shape in two decades before COVID-19 reached Cuba in mid-March 2020. The lockdowns, border closures, and dearth of tourists in the wake of the pandemic then stifled the economy and led to a significant drop in food imports, which led to a supply crisis that affected virtually the entire population.

These external shocks were joined by an internal shock in the form of an ill-timed currency reform to unify the two national currencies, the Cuban peso (CUP) and the dollar-pegged Peso convertible (CUC). The CUC was introduced in 2004 to replace the U.S. dollar, which had become first an informal and then a second legal currency during Cuba's economic collapse in the early 1990s after the fall of its most important trading partner until then, the Soviet Union. Both currencies, the CUC and the CUP, were used in separate economic spheres. While the peso was the currency of the state socialist system, used for paying salaries and acquiring heavily subsidized basic goods through the *libreta* (ration card), the CUC served as the currency within the tourism sector and was the preferred means of payment for most private businesses. Additionally, the CUC was necessary for locals to purchase imported goods like cars, televisions, and cell phones.

As Martin Holbraad (2017) has noted, the dual currency for Cubans represented not only two different economic but also two distinct moral orders, that of socialist distribution and the capitalist market—the latter excluding a large portion of the Cuban population, namely those who do not have the privilege to receive dollar remittances from family abroad and/or who do not work in the tourist or the private sector. Moreover, it cut the link between skill level and income, as, to cite a widely used local example, a brain surgeon who would receive one of the highest CUP salaries within the state system still earned less than a waiter at a tourist hotel who received their tips in CUC. Those who had

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access to dollars could buy subsidized peso goods at a fraction of the market price while at the same time enjoying imported luxuries that were out of reach for large segments of society.

This breakdown of the former egalitarian reward system shattered many Cubans' belief in the revolutionary process. Since the collapse of the Soviet Union, the Cuban economy's overt reliance on tourism and remittances to generate hard currency has become the driving force behind a palpable growth in inequality that is increasingly reminiscent of prerevolutionary conditions. As Hope Bastian (2018) and Katrin Hansing and Bert Hoffmann (2020) have argued, new class divisions have emerged in recent years along clearly visible racial lines as the overwhelming majority of remittance-sending families in the United States (many of them descendants of the prerevolutionary bourgeoisie) are white and send money to their white relatives. They also show that a greater proportion of Afro-Cubans are living in substandard housing in unattractive areas that are unsuitable to rent to tourists on Airbnb, another important new income generator.³

The reunification of both currencies became necessary not only due to the evident inequalities generated by the separate economic spheres but also to address and eliminate economic distortions.⁴ While ending the dual currency system was a central promise of Raúl Castro's reform course, like many other measures it was delayed and then eventually implemented at the worst possible moment. When it took effect on January 1, 2021, this was at the height of a global economic recession, which in Cuba was exacerbated by the negative impacts of the pandemic and the tightening of sanctions by the Trump administration. An inflationary push of an estimated 500 percent in 2021 was the consequence. Even though the state adapted price and wage structures to cushion the effects on the population, living standards were seriously affected.

As the government also cut some of the subsidies for basic goods and services, electricity prices and living costs skyrocketed. Due to the severe shortage of foreign currency caused by the collapse of the tourism industry, weak exports, and low production, the fixed exchange rate of 24 CUP for 1 dollar did not reflect market conditions. As a result, the black market for foreign currencies, such as the dollar and the euro, thrived. In the first days of September 2022, twenty months after the reform, the black market exchange rate of the dollar had already climbed to the emblematic mark of 150 CUP. By May 2024, this rate had risen to 400 CUP before stabilizing at around 320 to 340 CUP in the subsequent months.

The government itself fueled the demand for dollars when at the height of the supply crisis in the summer of 2020 it opened a new chain of hard currency stores, the so-called MLC stores.⁵ The idea behind these shops was

to channel hard currency held by the population into the hands of the state rather than the black market. The state itself would purchase desirable high-value goods such as electronic equipment on the international market to sell to its population at lower prices than on the black market and within a legal framework. However, due to the supply shortages triggered by the pandemic, the government resorted to depleting its local currency stores to stock the shelves of the MLC stores. Hence, the MLC stores, initially established to primarily offer nonessential luxury goods, swiftly transformed into the sole locations where essential items like meat, cheese, toilet paper, and detergent could be purchased. This effectively limited access to these goods for ordinary Cubans without access to dollars or euros. Because people can make purchases at these stores only with a special bank card, this measure again widened the gap between those who had hard currency to spend, such as entrepreneurs, high-ranking government cadres, remittance recipients, successful artists, and employees of foreign companies, and those who did not.

Throughout 2021, after the monetary reform had been implemented, the peso stores became emptier and emptier and often did not sell more than bottled water, rum, and sometimes frying oil. Consequently, it became virtually impossible to purchase anything in state stores using the official national currency. People thus had to resort to exchanging their pesos received as state salaries on the black market at increasingly inflated rates in order to afford even basic necessities. Rather than achieving currency unification, this desperate government response resulted in a partial re-dollarization of the economy, where expenses were in dollars but wages remained in the national currency. As a result, Cuban families relying solely on their state income to cover expenses found themselves impoverished and struggling to make ends meet.⁶ The state's lack of hard currency not only limited food imports but also led to an increased decapitalization of industries and infrastructure, the latter contributing to an escalating energy crisis. If Cubans had already grown accustomed to decaying buildings, potholed roads, and a broken transportation system, now power outages were accumulating, caused by malfunctions and failures in aging thermoelectric plants, fuel shortages, and a lack of resources for maintenance.

Compared to the economic crisis of the 1990s—euphemistically called the *Período especial en tiempos de paz* (Special Period in Times of Peace) by the authorities—the current ongoing economic depression is unfolding in the context of changed relations between the state and its citizens. The present government lacks the charismatic leadership of Fidel Castro, who was able to bring his full historical weight to bear when antigovernment demonstrations last erupted on August 5, 1994, at the peak of the Special Period. Fidel

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personally confronted protesters on Havana's Malecón, after which the upheaval died down. A crucial difference also lies in the fact that the state's recent liberalization of Internet access and acceptance of a gradual diversification of the public sphere also means that the Cuban people nowadays have many more opportunities to self-organize via technology-supported alternative networks and more leeway to voice their discontent.

What brings Cubans together today over common concerns is not the political mass organizations such as the neighborhood *Comités de Defensa de la Revolución* (Committees for the Defense of the Revolution), but Facebook groups, WhatsApp chats, and Telegram channels, or collectively maintained vernacular infrastructures such as community computer networks. The 1994 demonstrations, therefore, do not serve as a template for the historic July 11, 2021, protests. This time, the protests were not limited to a single location but moved quickly throughout the country due to the mobilization power of social networks and were therefore much more difficult to contain. The government saw no other way than to cut the Internet during the demonstrations, and it reacted with a much harsher crackdown than after the so-called *Maleconazo* in 1994, giving lengthy prison sentences to hundreds of protesters.

The Power of Infrastructure

The July 11 protests represent the culmination of many of the developments about which this book is concerned. One of my main arguments is that the changing relationship between Cuban citizens and the state can be productively understood through the lens of infrastructure. Since Michael Mann's (1984) influential conceptualization of the state's infrastructural power, scholars in anthropology, science and technology studies, human geography, and related disciplines have delved into the analysis of how infrastructure shapes and delineates social existence. Infrastructure is seen as a critical site for the organization and regulation of society. Researchers have examined how state-driven infrastructures have become symbols of modernity, development, and progress, while also shedding light on the dire consequences that arise when these infrastructures fail, emphasizing their significance as key locations for social and physical reproduction. They have further demonstrated how the power relations built into seemingly everyday infrastructures govern into the most intimate aspects of citizens' lives.

Investigating the social life of infrastructure in their field sites, anthropologists have encountered two distinct forms of "infrastructural violence" (Rodgers and O'Neill 2012). Researchers focusing on postcolonial urban contexts

have documented the *exclusion* and violence experienced by marginalized groups in relation to access to basic infrastructure. These exclusions result from postcolonial inequalities, capitalist privatization, neoliberal neglect, and apartheid technopolitics. For instance, Filip De Boeck and Marie-Françoise Plissart (2004) have examined the effects of neoliberal policies and austerity measures on the residents of Kinshasa, revealing urban fragmentation and the breakdown of the city's social fabric. Antina von Schnitzler (2016) has studied struggles surrounding essential services like water and electricity in post-apartheid South Africa. Nikhil Anand (2017) has explored how access to water infrastructure, or the lack thereof, in postcolonial Mumbai contributes to the production of unequal forms of citizenship.

In contrast, anthropologists of socialism and postsocialist transformation have described forms of violent *inclusion* into state infrastructure as, according to Marxist materialist doctrine, the personal involvement in building public works was expected to lead to new sociomaterial relationships and, ultimately, to the creation of new socialist human subjects. In this fashion, Dimitris Dalakoglou (2012) has detailed how in socialist Albania the great majority of citizens were forced to create their socialist homeland by building many miles of new roads. Likewise, Caroline Humphrey (2005) has discussed how socialist ideology took material form in Soviet housing architecture and how such "ideology become matter" also surfaced in people's imaginative and projective inner feelings.

For the Cuban context, Martin Holbraad (2018) has characterized the Cuban Revolution as a totalizing, state-orchestrated political process that flows deep into the minutiae of citizens' lives and, therefore, must be understood as a form of infrastructure. He terms "revolution as infrastructure" the process that forms persons in their everyday encounters with state structures and institutions as these invade people's private spheres. Since the successful Revolution in 1959, the Cuban state has drawn its legitimacy from the promise of an egalitarian infrastructure that guarantees services such as housing, health care, and education for the entire population (Eckstein 1994; De la Fuente 2001; Farber 2011). Cubans were expected to actively participate in the continuous process of socialist modernization and, consequently, the collective creation of a new society, for, as Che Guevara wrote, "to build communism, a new man must be created simultaneously with the material base" (1971, 343). This envisioned construction of material base and social superstructure coincided, for example, in the establishment of the microbrigades campaign initiated by Fidel Castro in his annual speech on July 26, 1970.⁷ Microbrigades were collectives of workers who were responsible for the construction of socialist housing units for themselves and their colleagues and therefore built not only a new form of

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domestic infrastructure (that was designed according to socialist principles) but also a collective consciousness in the process (Stătică 2019).

Today, Cuban citizens experience the state as a paternalistic state that provides them with subsidized food, employment, health care, education, information, culture, and entertainment. Until under Raúl Castro's tenure when a private housing market was legalized, the powerful Instituto Nacional de la Vivienda virtually controlled all their living arrangements as housing was distributed centrally by state authorities. During the so-called Energy Revolution of 2006, it even distributed new and more energy-efficient household appliances such as light bulbs, air conditioners, cookers, and refrigerators. In addition, the Cuban state from early on has sought to incorporate all kinds of civic initiatives into its structures by enrolling citizens in various mass organizations such as the neighborhood Committees for the Defense of the Revolution, or worker, women, student, and peasant associations. For Holbraad (2014, 2018), whose interlocutors mainly belong to the older generation who still remember the times of pre-1991 state socialist normalcy, this orchestrating of the lives of citizens through state planning is a process of infrastructural penetration through which the Revolution as an all-encompassing motion becomes part of the very fabric of their existence.

However, I argue that my (mostly younger) research participants experience in their daily lives also a state other than the paternalistic state, and one that does not appear in Holbraad's analysis of Cuban state-society relations. This state is the corporate state that is in the hands of high-ranking officials and military elites who, since the economic crisis of the 1990s following the collapse of the Soviet Union, have transformed various former state monopolies in the central-socialist economy into untransparent business enterprises. It is institutionally separate from the redistributive socialist state and encompasses various conglomerates under military command and their loyal managers who have immediate access to state leaders (Gold 2015, 165–69; Thiemann and Mare 2021). Military-led businesses control or participate in virtually all profitable sectors of the country's economy, such as tourism, the domestic foreign exchange market, air transport, mining, biomedicine and overseas medical services, the trade of imported goods, and the export of profitable products such as tobacco and rum, and they do so without any public accountability (Tedesco 2018). As state-backed *de facto* monopolists, they can suppress potential domestic or external competitors and therefore achieve high profit margins. A prime example of such a company, as we will see in the next chapter, is the state Internet provider ETECSA, which charges extremely high prices even by international standards.

As an extensive investigation by the Cuban independent news platform *El Toque* (2022) revealed, the multisectoral conglomerate Grupo de Administración Empresarial S.A. (GAESA), which belongs to the Fuerzas Armadas Revolucionarias (Revolutionary Armed Forces) of Cuba, is by far the island's most profitable company. Its commercial activities extend to at least eleven countries in businesses that serve to evade U.S. sanctions and move money via offshore companies registered in tax havens such as the Bahamas, Panama, and the British Virgin Islands. GAESA was created in 1995 when, at the height of the Special Period, Fidel Castro granted the armed forces control over trade and investments related to the entry of foreign currency. For twenty-six years until his death on July 1, 2022, GAESA was led by General Luis Alberto Rodríguez López-Calleja, who also was one of the fourteen members of the Political Bureau of the Central Committee of the Communist Party, advisor to President Miguel Díaz-Canel, and son-in-law of Raúl Castro.

With the emergence of the corporate state after the dissolution of the socialist bloc, one could say that the postsocialist transformation in Cuba has already occurred in economic (although not in political) terms (LeoGrande 2023). My research participants encounter this corporate state primarily as paying customers of the overpriced products of state-run businesses (Raúl Castro's economic reforms, when Cubans were finally allowed to use cell phones, enter hotels, rent cars, and purchase electronic devices, not only granted Cubans new freedoms but also greatly expanded GAESA's customer base). The corporate state further impacts their lives by limiting their opportunities for economic activity, as the state grants licenses and economic space only to small Cuban businesses that do not clash with its established monopolies. In addition, GAESA controls part of the inflow of remittances that many Cubans rely on since money transfers to the island arrive not in foreign currencies but in the electronic currency MLC, which can be spent only in retail stores that are also part of the network of companies centralized and managed by the conglomerate. Finally, my interlocutors also take note of the string of new luxury hotels the corporate state is building all over Havana, changing the face of the city while the rest of its built environment and infrastructure is left to decay.

The current Cuban system thus simultaneously produces infrastructural inclusions *and* exclusions that shape the lives of its citizens. The paternalistic state continues to regulate the economy in such a way that citizens are still largely expected to work for it, buy from it, sell to it, respond to the demands of its omnipresent apparatus, and make sacrifices for the sake of the state-orchestrated revolution, for example, by working for token payments in the near-worthless state currency (Thiemann and Mare 2021). This paternalistic

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state has simultaneously withdrawn from many of its former redistributive functions and provides fewer and fewer public services, creating new forms of exclusion that the Cuban Revolution originally sought to eliminate. The corporate state, on the other hand, actively excludes those who do not have access to hard currency because they cannot shop at MLC stores or afford constant Internet access with their peso state salaries. The disastrous state of much of the country's physical infrastructure, with its crumbling buildings and chronic blackouts, is experienced especially by the more vulnerable sections of the population as a form of infrastructural violence. Cuban writer and self-described "ruinologist" José Ponte (2005, 2007) even sees Havana's collapsing urban landscape as symbolic of the country's social decay. As long as residents live in and among ruins, Ponte states, they will not be able to imagine and effect political change.

People as Infrastructure

Anthropology and science and technology studies literature have long emphasized the embedded nature of infrastructures, recognizing that they are defined not solely by their material structures but also by the relationships between human actors, their intentions, activities, desires, and networks (Star and Ruhleder 1996; Larkin 2013; Anand, Gupta, and Appel 2018; Winthereik and Wahlberg 2022). As Harvey, Jensen, and Morita (2016, 5) point out, infrastructures establish, structure, and transform social relations. This can occur through planned activities, which involve intentional and purposeful engineering, as well as through unplanned activities that emerge unintentionally. Therefore, infrastructures are best understood as doubly relational. They exhibit internal multiplicity, meaning they consist of various interconnected elements, and they possess connective capacities that extend outward, influencing and connecting with broader social, political, and economic contexts. In a similar vein, ethnographic research on infrastructure has shed light on how specific local social networks can take on infrastructural characteristics when technical infrastructures fail to adequately meet people's material needs. This occurs in situations where marginalized groups are systematically excluded from public utilities due to racist, classist, or neoliberal austerity policies. It can also arise when the state, due to its standardizing gaze and the embedded classifications within its infrastructures, fails to recognize and address the needs of certain citizens (Scott 1998), or when formerly inclusive socialist states struggle to maintain the services they once provided. In such contexts, social infrastructures that are sustained by relationships between people often come to compensate for the exclusions

or dysfunctionalities produced by the official infrastructures by manipulating or supplanting them, for example when people illicitly tap into water lines or electric grids, collaboratively improvise socioeconomic links with one another, create private financial networks, or build alternative waste infrastructures (Simone 2004; Elyachar 2010; Schwenkel 2015; Fredericks 2018; Chalfin 2023).

In the Cuban context, the generative potentials of such flexible and provisional people-embedded infrastructures can hardly be overestimated. Virtually the entire population depends in one way or the other on such support systems to survive in the country's scarcity economy. Entrepreneurial individuals (so-called *mulas*) have established privately operated import businesses that bring all kinds of unavailable but sought-after goods, such as electronic devices, clothing, and spare car parts, into the country—in suitcases and via regular commercial flights (Cearns 2019). Extensive gray and black markets have emerged facilitating private trade in a wide array of goods including food, construction materials, and foreign currency. The products and services circulating in these markets often also stem from the “informal privatization” of public goods, in which state employees utilize state assets such as vehicles, machines, and Internet connections to generate additional private income and use or sell whatever they can steal from their workplaces to make ends meet. These popular economic practices, in which citizens organize themselves to create structures autonomous from the state, are, of course, not a new phenomenon. Barter, private appropriation of state resources, and underground production were a central means for the Cuban people to cope with the economic dislocations of the Special Period and have since evolved into methods for mitigating both the inefficiencies of the paternalistic state's centralized production and distribution systems as well as the exploitative practices of the corporate state's monopolies (that, while highly profitable, are often equally inefficient as they do not have to compete for customers).

However, as I show throughout this book, increasing access to the Internet has created new opportunities for optimizing and expanding such popular economic structures and has led to the emergence of vast digital markets. Simultaneously, the increased accessibility of digital technology has enabled technologically adept Cubans to establish extensive alternative infrastructures for the distribution of online access and content (these were first characterized as “human infrastructures” by Michaelanne Dye; see Dye et al. 2018; Dye 2019). An example of this is the emergence of connection brokers in public Wi-Fi parks who have developed an informal business of redistributing the government's Internet infrastructure. They utilize Wi-Fi range extenders, repeaters, and virtual router software to expand the reach of the Internet, making it available to a larger population at a more affordable price (see chapter 1). Furthermore,

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media entrepreneurs across the country have collaboratively created *el paquete semanal* (the weekly package), a distribution network for digital data that spans the entire island. The process involves a small group of individuals with privileged government-provided online access downloading content such as film and music files, which is then circulated through physical carriers such as hard drives and USB sticks (chapter 2). In addition, self-taught network administrators have constructed sprawling grassroots computer networks for activities such as multiplayer video games, chatting, and data exchange. An example of this is SNET in Havana, which, at its peak, connected tens of thousands of households through miles of Ethernet cable and thousands of Wi-Fi antennas (chapter 3). These grassroots digital infrastructures not only expand access to the Internet and digital content but also generate parallel economic spaces that enable individuals to liberate themselves from reliance on the state. People can now become independent consumers and producers of content and even establish or promote their own businesses. For a significant part of the Cuban population, these circulation networks have become an important source of income, either directly or indirectly. Simultaneously, a significant portion of the informal economy has migrated to digital platforms, specifically semiprivate chat groups and Telegram channels. These digital realms have become the new hubs for everyday black market activities (chapter 4). Digital platforms have also led to the emergence of new support networks and new forms of civil society engagement where the revolutionary values promoted by the paternalistic state no longer dominate and new moral economies emerge from the bottom up that transgress any socialism–capitalism dichotomy.

Infra(structure) Politics

Many anthropologists invested in the discipline’s “infrastructural turn” (Dalkoglou 2016) have sought to conceptualize the world-making capacities of the infrastructural systems they study in political terms. Proposing the motion that “attention to infrastructure offers a welcome reconfiguration of anthropological approaches to the political” at the 2015 meeting of the Manchester Group for Debates in Anthropological Theory (published in Venkatesan et al. 2018), Laura Bear and AbdouMaliq Simone urge us to understand infrastructure as the material, nonhuman ground from which new forms of political relations and new kinds of enactment of collective will may emerge. In her ethnography of garbage infrastructures in Dakar, Senegal, Rosalind Fredericks (2018) sees infrastructures as key sites for negotiated processes of political contestation where elite and disenfranchised citizens alike make claims concerning central

ethical and political questions about civic virtue and the shape of citizenship. Disputes over infrastructure thus allow new social and political collectivities to come into being around the use, maintenance, and breakdown of technical systems (Schwenkel 2015). As von Schnitzler (2016) insists, the forms of subversive subaltern technopolitics she has observed among the inhabitants of the Soweto township in post-apartheid South Africa, such as the sabotage or destruction of technical-administrative devices like prepaid water meters, pipes, wires, and official documents and certifications, must be understood as a form of politics with other means, a politics manifested in matter that expands the conceptual and imaginative horizons of how we study and conceive of the political.

While I concur with these authors on the significance of infrastructures in shaping political dynamics, I contend that the infrastructural actions and consequences explored in this book predominantly occur beneath or alongside the realm of political visibility. The Cuban authoritarian political system leaves little room for the overt forms of contestation, protest, or technopolitical intervention that Fredericks and von Schnitzler describe. As a result, my research participants consistently maintained that their engagement in creating, sustaining, or participating in alternative infrastructures outside the state holds no explicit political meaning, agenda, or significance. The distributors of *el paquete semanal*, the makers of the grassroots computer network SNET, and the administrators of Telegram groups for the swap or sale of scarce consumer goods even actively censor all content circulating through their networks that could potentially be read as a political statement by the Cuban government. As I describe in more detail later in this book, particularly the people involved in *el paquete* and SNET take pains to convince state authorities that they are providing only harmless entertainment. Taking these claims seriously, while reflecting on the undeniable generative effects of these vernacular infrastructures that have created autonomous spaces for new forms of expression, economic activity, and interpersonal relations, I have come to understand the practices of my research participants as *infrapolitical*.

According to James Scott, who coined the term, *infrapolitics* refers to a range of actions, gestures, thoughts, and utterances that are not easily recognized as political. These acts and expressions fall short of being perceived as politics either because they go unnoticed within the public sphere or because they exist outside the conventional boundaries of what is typically recognized as political. For instance, they might not reach the threshold of “politics proper,” as defined by Chantal Mouffe’s concept of politics as “the ever present possibility of antagonism” (2005, 17) or Jacques Rancière’s understanding of politics as “an intervention in the visible and the sayable” (2010, 37). Scott

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(1990, 183) likens these collective acts and expressions to infrared rays that lie beyond the visible spectrum of political legibility. In Latin American studies, the notion of infrapolitics has recently gained traction as a means of describing a realm beyond politics, encompassing conditions of being that cannot be reduced to political life and that exceed any definition of existence solely based on political determinations (Moreiras 2021). Building on his study of class relations in a Malay rice-growing village, Scott (1985) has developed the concept of infrapolitics into a general theory of how subaltern people who are deprived of access to legitimate channels of expression (and therefore cannot manifest their demands or disagreement in conventional and widely recognized forms of political action or speech) find clandestine and discreet ways to perform their silent resistance against their domination. He evokes a “subterranean world of political conflict” (2012, 113) that leaves little trace in the public eye, but in which many small actions together can have enormous overall consequences. As examples for such forms of quiet opposition through which the dominated surreptitiously counter or minimize their material exploitation, Scott lists theft and pilferage from rulers, poaching, feigned ignorance, shirking or sloppy work, freeloading, squatting, clandestine trade and production for sale, tax evasion, and flight.

As several authors before me have noted, such infrapolitical strategies are what large parts of the Cuban population use for day-to-day survival in the crisis-ridden national economy (e.g., see Eckstein 1994; Sawyer 2005; Allen 2012; Angel et al. 2020). Cubans’ economic resistance to their violent infrastructural exclusion (by the corporate state) and inclusion (by the paternalistic state), which I described above, is reflected in people using their low-paying government jobs to procure scarce goods to sell on the black market, rent government vehicles or machinery, or receive bribes or additional payment for services they are actually supposed to provide as part of their regular jobs. Thus, everyday activities such as buying food, finding transportation, and using medical or administrative services are deeply enmeshed in a shadow economy independent of the state. Such illegal activities have become so ingrained in Cuban society that they have become manifested in what Scott calls a “hidden transcript,” a pervasive set of offstage speech acts, gestures, and practices with their own language, morals, and customs that contradict the state-promoted revolutionary ideology.

The omnipresent idiom *resolver* (to resolve) captures a pragmatic stance toward scarcity—contriving fixes, cobbling systems, and keeping life moving despite obstacles. While this ethos at times has also been reinforced through government narratives that have asked citizens to be resourceful and self-reliant in moments of scarcity and crisis (and has even been glorified as a

mode of resistance to the nation's external enemy), it is commonly understood to mean the ability to navigate legal gray areas and act in parallel with the law with cunning and ingenuity (Sanchez and Adams 2008; Dye 2019). It has collective features because in order to meet their needs and those of their families, people often have to work together, for example, when colleagues turn a blind eye to each other's theft at work or even jointly set up a distribution system for pilfered goods among themselves. As I discuss more fully in chapters 3 and 4, such practices have become widely accepted in people's minds, and resolver as a collaborative effort has thus fostered the bottom-up emergence of new moral economies and notions of popular justice.

Just as these infrapolitical acts avoid to openly challenge the state's politics of distribution, the government itself often refrains from explicitly prosecuting illegal actions like the theft and misappropriation of state assets or engaging in black market activities. By not enforcing its own laws in these cases, the government aims to avoid triggering economic and political tensions that could potentially destabilize the system. Instead, it allows these activities to persist in a state of extralegal ambiguity and primarily intervenes selectively when it deems it necessary. As a result, while the infrapolitical acts of everyday economic resistance carried out by citizens alone may not have the power to overthrow the government, they can significantly undermine and override some of its policies (Thiemann and Mare 2021, 193).

In this book, I intervene in debates surrounding the politics of infrastructure by exploring its role as a medium for the emergence, sustenance, and reinforcement of infrapolitics within societies where citizens are deprived of regular channels for political expression. My aim is to shed light on the concealed and covert forms of infrastructural politics and interventions that remain hidden from both state power and traditional political analysis. Building upon existing studies that primarily focus on the infrapolitical agency of Cuban citizens within the popular underground economy, I broaden the scope to highlight how infrapolitics also manifests within highly technological infrastructures. People engage with or modify these systems to partake in actions and collective endeavors outside the boundaries of official political participation. Rather than openly confronting the government and its institutions, my research participants choose to operate beyond state structures altogether. They construct or participate in vernacular infrastructures as a means of bypassing exclusions produced by the state-provided digital infrastructure, such as exploitative pricing policies. In doing so, they quietly transform these structures, rerouting them toward new purposes. This citizen-led redistribution of access differs from Mouffian antagonism or Ranciéan dissent. It transcends questions of subjectivity, identity, demands, and struggles for power legitimacy

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that define traditional politics. Instead, it embodies a nomadic inventiveness, creating autonomous spaces through the infrapolitical provisioning of alternative networks and connections.

Just as infrastructure sustains most aspects of contemporary life, infrapolitics provides much of the cultural and structural underpinning of the more visible and headline-grabbing forms of political expression that commonly receive more analytical attention. As Scott emphasizes, infrapolitical forms of resistance can turn into proper politics at any time, as these practices are “continually pressing against the limit of what is permitted onstage, much as a body of water might press against a dam” (1990, 196). As a case in point, the Cuban demonstrations of July 11 would not have taken place without the new forms of autonomous social organization made possible by vernacular digital infrastructures (see chapter 5). Infrapolitics in this sense may represent an anticipation of a future movement or allow actors to preserve, maintain, or perpetuate their agency when the political context precludes any serious chance of achieving tangible political gains (Marche 2012, 14).

Scott’s emphasis on agency and his insistence on recognizing neglected political groups as self-formed, rational, and autonomous actors with an inherent authenticity and truth that remains impervious to the dominant ideology of the ruling classes have not been without criticism. As Timothy Mitchell (1990) has argued, this creates a contradiction between Scott’s argument that the exercise of power requires what Scott calls a symbolic or ideological dimension and his argument that ideological domination never actually dominates. Therefore, my aim is to broaden our understanding of infrapolitics by shifting the analytical focus from conscious acts of resistance by autonomous actors to the infrapolitical power and potentials of actions that may not be perceived by the actors themselves as oppositional, subversive, or defiant. For example, the individuals who serve as connection brokers in the Wi-Fi parks, the el paquete providers, and many SNET administrators view their alternative distribution networks primarily as a means to generate additional income in an ailing economy with limited opportunities. Users, in turn, engage in these networks primarily for entertainment and a sense of community. However, such free spaces, which are relatively independent of the government and allow minor transgressions of the political order, have the potential to become a breeding ground for oppositional consciousness, as research on social movements and nonviolent resistance has shown (Nepstad 2011). Therefore, I argue that applying the concept of infrapolitics to people-embedded infrastructures enables us to expand our political vocabulary. It allows us to recognize seemingly quotidian activities such as communal practices of redistribution as well

as the material and interpersonal labor involved in establishing, maintaining, and repairing vernacular infrastructures, as significant and impactful forms of political action, even if they are not consciously conceived as such even by the people involved in them.

Infrastructuring Publics

As noted by several anthropologists of infrastructure (De Boeck 2012; Collier, Mizes, and Von Schnitzler 2016; Chalfin 2017), infrastructures play a constitutive role in shaping publics. They not only form these publics but also prompt us to reconsider the definitions of the public and private spheres. In Cuba, where all traditional mass media and official communication infrastructures are in the hands of the state and the government seeks to control all civil society initiatives through its institutions, the process that Holbraad calls “revolution as infrastructure” is explicitly designed to prevent the emergence of a (counter) public sphere. By understanding the public sphere through its material and social infrastructures, we can move beyond conventional notions that depict it as an intangible space for the free exchange of political arguments, where citizens can openly debate and question the actions of the state (as famously conceptualized by Jürgen Habermas [1991]). “Infrastructuring publics” (Korn et al. 2019) as a research perspective helps us grasp how both the infrastructural power wielded by the state and the infrapolitical practices of citizens distort and transform the idealized notion of the public sphere as a space for participatory democracy.

Alexander Dukalskis (2017) offers a valuable definition of the authoritarian public sphere, a term that appears oxymoronic within Habermas’s normative model. In this concept, the state dominates and manipulates political discourse. The autocratic regime aims to prevent citizens’ complaints or demands from entering the public realm, while isolating individuals with critical views about the regime’s rule. This is achieved through both “positive” legitimation, presenting the status quo as inevitable and without alternatives, and “negative” repression. Dukalskis’s model also recognizes the role of state infrastructure in constructing and maintaining an illiberal public sphere. It identifies five infrastructural dimensions: traditional media, schools, political parties, legislation, and online control. These dimensions work together to shape reality by disseminating messages that legitimize the regime, shaping human capacity through education and direction, and regulating cyberspace. In such a restricted public sphere, citizens are constrained to adhere to what

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Scott (1990) refers to as the “public transcript” of politically acceptable discourse. Any resistance or opposition is confined to the realm of the “hidden transcript” of infrapolitical utterances, acts, or gestures.

Dukalskis further identifies three social sites that hold the potential to challenge the dominant state narrative and allow for the emergence of new and potentially critical discourses. These sites include the shadow economy, where citizens can attain greater economic independence; independent journalism, which exposes people to alternative viewpoints; and social media, where individuals can engage in relatively unrestricted political discussions. In the context of Cuba, all these three sites are relevant and have experienced significant expansion due to the growing access to the Internet among citizens. However, while digital technology has empowered individuals to navigate within repressive structures, it has not necessarily undermined the parameters of state control.

The Internet and Political Transformation

The influence of networked technologies on authoritarian regimes has ignited significant discussions in recent years, particularly in the wake of the Arab Spring uprisings during the early 2010s, which occurred in multiple countries, including Tunisia, Egypt, Libya, Yemen, Bahrain, and Syria. It is worth noting that the Arab Spring not only directly affected the Cuban government’s policies regarding Internet access, as I explore in the upcoming chapter, but also served as a crucial point of comparison and reference for commentators analyzing the political ramifications of Cuba’s momentous July 11 protests. In numerous conversations surrounding digital media and political transformation subsequent to the Arab Spring, a prevailing sense of celebration emerged, highlighting the Internet’s capacity to enable decentralized organization, mobilize movements for freedom and accountability, and offer alternative avenues for information and communication beyond the reach of state censorship and control.

However, the notions of “liberation technologies” (Plattner and Diamond 2012), which empower “networks of outrage and hope” (Castells 2015), and bear the potential for “connective action” (Bennett and Segerberg 2013), that might eventually lead to a “Revolution 2.0” (Ghoni 2012), have faced valid criticisms for their technodeterministic outlook. These perspectives have been criticized for their exaggerated emphasis on the spontaneous, unorganized actions of supposedly leaderless “crowds,” which, for example in the case of Egypt, disregarded the agency and significant mobilization efforts of organized actors on the ground, such as labor unions (Aouragh 2015). Miriyam Aouragh

argues that these narratives of new media and its impact on political contestation not only perpetuate Orientalist stereotypes that portray Arab peoples as needing Western technology to achieve modernity but also reinforce neoliberal notions of the Internet as a universal, open, and free space that are shaped by U.S. interests and fail to challenge the imperialist power held by major U.S. tech corporations over the underlying technology.

Another influential critique of such cyberoptimism was raised by Evgeny Morozov (2011), who dismisses the idea that digital technology is inherently emancipatory. He believes that online activism (which he derides as “slacktivism”) distracts people from “real” activism and has zero political or social impact. He further highlights the power of the Internet as a tool in the hands of authoritarian regimes to perfect their surveillance, censorship, misinformation, and propaganda. Such pessimistic analyses of digital authoritarianism have increased in recent years in light of the resurgence of dictatorship in the Arab world, increasingly sophisticated online controls in China and Russia, but also various data breaches by big tech companies like Facebook, and the global spread of online deception and vitriol.

In a recent essay addressing the “new structural transformation of the public sphere” brought about by digital technology, Habermas (2022) expresses concerns about the blurring of boundaries between the private and public realms in the online sphere. He argues that the commercial nature of digital platforms hampers informed exchanges between citizens and poses a threat to the functioning of the democratic public sphere. He highlights the emotional manipulation of users and the potential for political influence as risks associated with the commercialization of social media. Habermas emphasizes that the decentralized and largely unregulated nature of social media platforms has removed traditional filters that previously guided communication in the democratically constituted public sphere. Gatekeepers such as journalists and editors, who formerly directed the flow of communication and determined the reliability and significance of information, have been sidelined. This shift has allowed audiences to assume the role of authors themselves, leading to the emergence of a semipublic, tribalistic, fragmented, and self-centered form of communication. According to Habermas, this transformation distorts the inclusive nature of the political public sphere and undermines the deliberative process of opinion and will formation. He argues that when the infrastructure of the public sphere fails to direct citizens’ attention to relevant issues and no longer ensures the formation of competing public opinions that have been qualitatively filtered, the democratic system as a whole is compromised.

Much scholarly analysis of the political impact of networked digital technologies thus still vacillates between glorifying their power to expand the

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political, social, and economic freedoms of citizens of authoritarian regimes and warning of their potential to enhance the control of autocracies or even undermine deliberative democracy. With this book I hope to show that engaged, long-term ethnographic research can provide a much more nuanced picture of both the power and limits of digital technologies in the hands of citizens of authoritarian states than such grand theories can. Accounts of the causal role of the Internet in political transformations are often projections distorted by a number of analytic biases. The “liberation technology” debate (that unsurprisingly emerged at Stanford University) is steeped in technosolutionist “Californian ideology” (Barbrook and Cameron 1996). The fact that many evangelists of the Arab Spring social media revolutions do not speak Arabic and followed the events only online clearly skewed their understanding of what was happening on the ground and led to technodeterministic analyses that confused the medium and message of political activism (Aouragh 2015, 259). Conversely, pessimistic narratives of digital authoritarianism, exemplified by Morozov’s work, tend to underestimate the ecological impacts of networked technology that can weaken the legitimacy of authoritarian regimes. These accounts remain confined to an online-centric analysis of political activism’s decline and fail to recognize the interconnectedness and symbiotic relationship between online and offline forms of political organization. Meanwhile, normative conceptions of the public sphere rooted in Habermasian theories overlook the political potentials of horizontal, many-to-many communication, as they primarily envision democracy relying on a professional class of gatekeepers responsible for organizing deliberative discourse.

As I detail throughout this book, digital technologies and increasing access to social media platforms in Cuba have not created fragmented micropublics (as feared by Habermas) but established connections between previously isolated individuals who can now share common interests or concerns, thus strengthening the “weak ties” that can bridge disparate societal groups. As highlighted by Zeynep Tufekci (2017), in an emerging networked public sphere enabled by social media, nonpolitical affordances can hold significant political power. Autocratic regimes find it challenging to censor a large number of users who simply wish to connect with each other or shut down a social media site that primarily serves as a platform for sharing entertaining videos rather than organizing protests. In this vein, the vernacular offline infrastructures and emerging online spaces of socialization that I describe in this book acquire important infrapolitical qualities. The people involved in these spaces, even without explicitly discussing political matters, formulating demands, or engaging in deliberative discourse, experience the power of successful self-

organization outside of state structures. For instance, *el paquete semanal* serves as an autonomous infrastructure that enables the nationwide dissemination of content, contributing to citizens' economic independence from the state. Cuban small business owners, independent magazine publishers, and social media influencers now utilize *el paquete* as a distribution network for their self-produced content, which was previously absent from state-controlled mass media. In a similar fashion, grassroots computer networks like SNET have brought technology aficionados everywhere on the island together via the collaborative creation of network infrastructures.

While critical discourse is restricted on these alternative networks because the Cuban state has partially outsourced censorship to their administrators, Cubans have much more leeway on commercial global social media platforms, which escape the government's control. Semiprivate Facebook and WhatsApp groups and Telegram channels (which emerged primarily after the advent of mobile Internet) not only have given rise to an expansive online black market but also have fostered the development of new support networks and novel avenues for civic engagement. These networked spaces break down what Tufekci (2017, 26–27) calls “pluralistic ignorance” (the belief that no one shares one's views when actually everyone has been collectively silenced) and make it harder for authorities to stifle or control public discourse. A new generation of young social media personalities and digital activists but also many ordinary Cubans (often using Facebook livestreams) have begun to push the boundaries of the “public transcript.” They have taken to social media to demand accountability and pressure the government to live up to its commitments. These platforms further enabled several smaller civil society campaigns that advocated for policy changes on “softer” issues such as animal and LGBTIQ+ rights that are compatible with the ideals of the Cuban Revolution and therefore do not threaten the socialist social and political order. They also have facilitated some protests by artists against government attempts to restrict the country's cultural sphere. These protests, while small, were particularly relevant because, as Sujatha Fernandes (2006) maintains, the cultural sector on the island has long functioned as a surrogate for the public sphere.

Yet Cuba's digital revolution also has its limits. While the borderless nature of networked communication flows has meant that the state has forever lost its information hegemony, it also makes Cuba's emerging networked public sphere much more vulnerable to outside interference, as demonstrated by the online propaganda and misinformation campaigns (from the United States and the ultra-right Cuban diaspora) surrounding the July 11 events (see chapter 5). Most importantly, what made the protests fail was not so much networked

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but rather “old-school” authoritarianism. The state used its control over the traditional mass media radio and TV (which remain the primary sources of political information for most Cubans) to denounce protesters and mobilize loyalists. It made an example of hundreds of demonstrators, some of whom were sentenced to long prison terms, while it drove most of the few known opposition figures into exile. The protests further petered out for reasons that Tufekci (2017, 77), in her analysis of the power and fragility of networked protest movements, has termed “tactical freeze.” While social media facilitated the spontaneous formation of nationwide demonstrations without leadership and prior building of formal collective capacities, the lack of a central organizing entity also meant there was no clearly formulated set of demands, no tools or culture for collective decision-making to adjust tactics or negotiate with the regime, and no strategy for continued long-term action.

Post-July 11, another spillover of online discontent onto the streets was out of sight and the potential for open resistance seemed exhausted for the time being. Young Cubans therefore rather used the transnational networks they had established online to arrange their way into exile, reconnecting with friends and family abroad and sharing tips on organizing emigration through social media. In this regard, Cubans’ growing connectivity effectively facilitated a mass exodus that relieved the political pressure and freed the government from a forming opposition. In the long term, however, this endangers the future of the country, as it threatens to lose an entire generation of smart and aspiring people.

Multimodal Anthropology

Current discourses on multimodal approaches in anthropology recognize media production as central to the everyday lives of anthropologists and their interlocutors, who now have access to the same means of representation and often share the same (if not greater) technological capabilities (Favero and Theunissen 2018). Studying the increasingly media-saturated worlds of participants in ethnographic research inevitably generates data in various media, such as voice messages, images, social media posts, chat logs, and videos, that are predisposed to new forms of representation that challenge the primacy of the textual within academic scholarship. The new possibilities for research and dissemination of knowledge in the various media formats that digital technology offers allow us to capture the increasingly complex relations we form with our interlocutors and engage and collaborate with them along media forms that

they find relevant to their lives (Collins, Durning, and Gill 2017; Dattatreya and Marrero-Guillamón 2019; Westmoreland 2022).

One of the key objectives of this project is to actively engage with the alternative media landscape in Cuba, not merely as an external observer but to foster new forms of collaborative work and experimental approaches to producing and communicating anthropological knowledge. Just as my interlocutors have harnessed the potential of digital technology to create vernacular infrastructures and build new communities, I have sought to leverage these technologies to blur the boundaries between researcher and researched, exploring novel paths for shared anthropology. Throughout my research, I have collaborated with various individuals and collectives who have a stake in the Cuban media sphere, including programmers, network administrators, social media influencers, science fiction writers, graphic designers, VFX artists, and members of a hacker/makerspace. One particularly significant collaboration I have entered into is with Cuban artist Nestor Siré. Nestor's artistic practice revolves around the unique characteristics of Cuban media culture. Growing up in a family involved in small-scale media entrepreneurship (his grandfather and uncle rented out paperback novels and VHS cassettes for a living), Nestor draws inspiration from the ingenious methods his fellow citizens employ to distribute media, information, and goods. He was also a member of SNET and has formed a long-standing partnership with one of the matrices that compile *el paquete*, contributing a curated monthly arts folder that serves as a digital exhibition space and features documentaries and news from the art world. Since our initial meeting in early 2020, Nestor and I have developed a highly productive research-creation practice. This collaboration has resulted in several exhibition projects, which I discuss in this book, as well as multimodal publications (Köhn and Siré 2022a, 2022b, 2022c, 2023).

By immersing myself in the everyday lives of Cuban media practitioners and establishing collaborative relationships with them as epistemic partners (Holmes and Marcus 2008), I gained invaluable insights into the intricate economic, social, and political frameworks that shape their experiences. The fields that I entered often constituted what George Marcus (2010) calls *para-sites* that were populated by epistemic communities of highly skilled technology experts, who oftentimes shared with me an interest in documenting their community's history and practices. Through working closely with them, I directly encountered the challenges they faced, such as acquiring scarce technical equipment or materials, navigating restrictions on Internet access, and interacting with Cuban state representatives. These experiences yielded profound fieldwork data that revealed the opportunities, limitations, and power

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dynamics my interlocutors had to negotiate as both citizens and entrepreneurs within the constrained private sector. In many ways, I actively participated in the production processes that formed the subject of my study. This involvement entailed bringing technological devices into the country that were not readily available, assisting in organizing workshops, and cocreating projects alongside research participants. Frequently, realizing these projects required seeking additional local collaborators with the necessary technological expertise, which, in turn, expanded my network of interlocutors.

Multimodal methods do not inherently embody a collaborative approach, and it is crucial to recognize that collaboration itself can inadvertently perpetuate neocolonial power dynamics, especially if it is used merely as a token gesture for Western audiences (Lea and Povinelli 2018). To engage in truly horizontal modes of collaboration, guided by an ethics and aesthetics of accountability (Ginsburg 2018), it is necessary to navigate the complexities of negotiating divergent interests and conflicting goals among all parties involved (Nayyar and Kazubowski-Houston 2020). As I detail in the chapter interludes that describe the production process of each work, I have sought to live up to these ethical demands by sharing authorship and discursive authority, involving and crediting participants as professionals in their respective fields (and not as token collaborators), being transparent about the processes that led to aesthetic and conceptual decisions, and redistributing all production funding I was able to acquire.

These collaborative endeavors were also motivated by a desire to engage a more diverse public that extends beyond the usual reach of anthropological representations. While some projects have been exhibited in international art institutions, others, such as our documentary video game *PakeTown*, were primarily created with the intention of resonating with local Cuban audiences. Each project has been carefully crafted to be meaningful and relevant to the community being studied, and in every instance we aimed to present the work within Cuba itself. This involved drawing on the local alternative vernacular distribution infrastructures or collaborating with state institutions like the Joven Clubs de Computación (Youth Computing Clubs). However, these endeavors necessitated intricate negotiations with local authorities, with outcomes varying in terms of success. These negotiations provided valuable insights into the limits of permissible expression and representation within the authoritarian Cuban public sphere as well as the internal hierarchies and decision-making processes within Cuban state institutions. Throughout these experiences, I observed my collaborators employing a range of strategies, from self-censorship to skillfully advocating for their interests, as they navigated confrontations with these institutions.

In a significant contribution, Stephanie Takaragawa and colleagues (2019) have cautioned against assuming that multimodal approaches in anthropology are inherently liberatory. They highlight that the digital technologies and infrastructures enabling these approaches can inadvertently perpetuate power hierarchies by either indulging in technofetishism or masking neocolonial forms of exploitation. This observation resonates with the complex relationship my Cuban collaborators had with the products and services of technocapitalist corporations, which often remained inaccessible to them. On one hand, my collaborators yearned for the seemingly frictionless access to technology and digital infrastructure available in other parts of the world. On the other hand, they took pride in their ingenuity in developing low-tech DIY solutions as a means to compensate for their exclusion. While many of the participants in my research did not consciously perceive their alternative technological infrastructures, born out of necessity, as a form of resistance against exploitative technocapitalism, members of the Copincha hackerspace engaged in extensive discussions about the positioning of their practices within the broader global power hierarchies.

Whenever I participated in workshops at Copincha or presentations organized by Havana's vibrant community of science fiction writers, readers, and scholars, I was privileged to witness engaging debates revolving around distinctly Cuban technofutures. These events often attracted individuals with a shared interest in technology, leading to overlapping conversations among various communities. The multimodal projects that accompany this book are implicitly or explicitly informed by these discussions. They not only reflect the particularities of Cuban media realities but also playfully explore the question of whether and how the vernacular infrastructures Cubans have collectively created can provide us with a critical view of the homogenized global Internet. The works invite audiences to see these Cuban *inventos* as counteruses of technology or even as viable alternatives to the monopolistic capitalist, consumerist digital infrastructures controlled by a small number of large tech companies.

Outline of the Book

With the opening of public Wi-Fi hotspots in 2015 the Internet came to be distinctively materialized in Cuban public space. In chapter 1 I examine the experiences of novice Cuban users with this public Internet infrastructure, their motivations for spending time online, and the significance it holds for them. I further look at how the state-provided Wi-Fi became redistributed by

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a clandestine network of informal connection brokers who use Wi-Fi repeaters and virtual router software to extend the signal from the parks to other parts of the city and share their accounts between multiple concurrent users. While this tinkering with the state Internet architecture presents lucrative informal business opportunities, it also makes online access more affordable, efficient, and accessible to a wider range of users.

The chapter is placed in dialogue with *Connectify/Free_Wi-Fi [poesía]* (2020–21), a project by Nestor Siré (in which I was mainly involved as a *mula* who brought the necessary technological components to the island). Nestor set up rigged Wi-Fi modules in public areas in Havana and Miami that display lines of poetry on users' devices instead of the names of available Wi-Fi networks. The featured poems were written by young Cuban poets, some of them living on the island, some of them in the United States. Just as the introduction of Wi-Fi hotspots in public parks represented the first opportunity for many Cubans to reconnect with family members who had emigrated to the United States, these bilingual micropoems are an attempt to engage in transnational communication and bridge one of the most politicized and ideologized borders in the world.

Chapter 2 considers *el paquete semanal*, Cuba's large-scale offline media distribution network that relies on hard drives and USB sticks. This network is utilized by citizens to compensate for their limited access to international media and the Internet by physically distributing various forms of media content. The chapter contextualizes this phenomenon within the historical framework of earlier informal media circulation networks that emerged as early as the 1970s, initially involving books and later expanding to include VHS cassettes and DVDs. It also examines the profound societal and political implications stemming from the erosion of the former state media monopoly caused by *el paquete*. I explore how this network grants access to alternative content, fosters a logic of consumerism that contradicts the state-promoted socialist values, and gives rise to a parallel economic space wherein independent business models have emerged.

Another outcome of this research is *PakeTown* (2021), a documentary mobile phone video game about the history of alternative Cuban media distribution I produced in collaboration with Nestor Siré and the Havana-based independent software studio ConWiro. Spanning five decades, the game invites players to become entrepreneurs in the informal Cuban media sector in the format of a business simulation game.

Chapter 3 explores the extensive grassroots computer networks that Cubans have established to compensate for their limited Internet access. Specifically, it

(continued...)

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