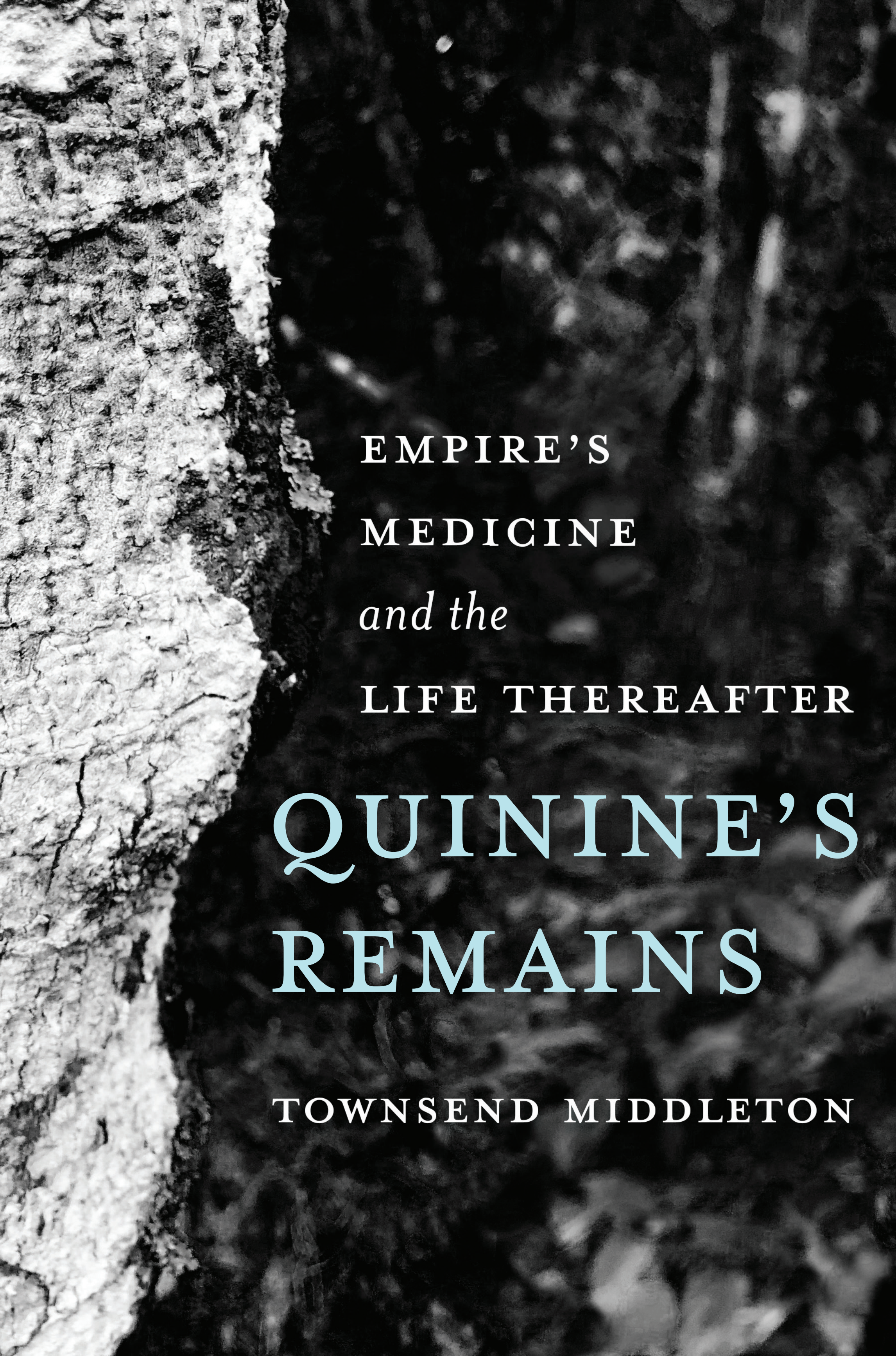
EMPIRE'S
MEDICINE
and the
LIFE THEREAFTER
QUININE'S
REMAINS
TOWNSEND MIDDLETON

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Quinine's Remains

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Empire's Medicine and the Life Thereafter

Townsend Middleton

UNIVERSITY OF CALIFORNIA PRESS

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for the cinchona community,
those who remain and those who do not

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AUTHOR'S NOTE

LANGUAGE AND TRANSLITERATION

I have tried to make the language in this book as accessible as possible. I conducted fieldwork in Nepali and English. Nepali is the lingua franca of the Darjeeling-Kalimpong Hills, where the book is set. The Nepali spoken there, however, is slightly different from that spoken in Nepal. Hindi, Bengali, and English words are common throughout the lexicon. Conversations during fieldwork, moreover, often switched back and forth between Nepali and English (depending on with whom I was speaking). This made for difficult transcription. In the interest of keeping the book's prose reader-friendly, I have opted to translate fully into English (adding local Nepali terminology where relevant). Where I include Nepali and vernacular terms, I have rendered them in italics, using spelling that is as simplified as possible and without diacritics. Where necessary, I have pluralized vernacular terms by adding an "s," as is done in English. Several research assistants assisted me over the years in translating and transcribing the many hours of recordings I collected during fieldwork. Any shortcomings, however, remain my own.

NOTES

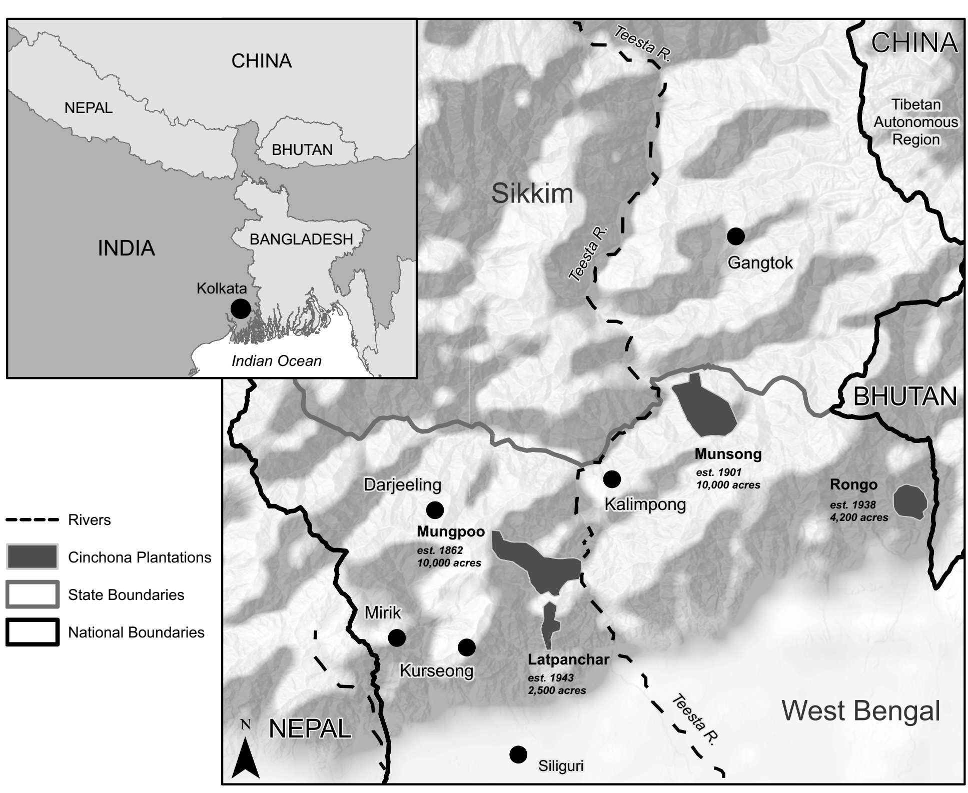
To make the book welcoming to a wide range of readers, much of its discussion of academic literature and social theory takes place in the notes. I also use the notes to flesh out a variety of issues that, while not necessarily central to the book's narrative, may be useful for specialists in various fields.

PRIMARY SOURCE CITATIONS

All primary sources (archival files, periodicals, online news articles, social media posts, etc.) are cited fully and only in the notes. Throughout the book, I draw on findings from a number of archives in Kolkata, New Delhi, London, Chicago, and Darjeeling and online. For simplicity, I use the file's call number in citations of these archival materials. For example, a file cited as *India, Military, June 1877, 116–19*, comes from Government of India, Military Department, June 1877, Proceedings 116–19.

PSEUDONYMITY

My research protocol has been to render all individuals and sensitive places pseudonymous—the one exception being well-known public figures and government officials. Political organizations and government departments are presented by their most commonly used names.



MAP 1. Government cinchona plantations in India's Darjeeling-Kalimpong Hills. Credit: Map by UNC-Libraries.

INTRODUCTION

Life in the Remains

As dawn breaks over Darjeeling's cinchona plantations, a young man ambles across the lawn of a dilapidated colonial bungalow—a wooden mallet in one hand, a smartphone in the other. Bundled up against the Himalayan chill, he saunters to a bell hanging at the terrace's edge, waiting to ring in a new day. Below, the rooftops of villages tucked into stands of cinchona trees poke up from the mist. He stares into his phone, an incandescent beacon amid the morning gray. The pixels flash 6:00 a.m., and he strikes the bell in one confident swing, allowing it several seconds to reverberate before striking again. This is the wake-up bell. The ritual will repeat at 6:30 a.m., with the call to the morning *muster*, and again at 7:00 a.m., with the commencement of the day's *ganti* (counting). The routine has stirred many generations on these cinchona plantations. By 7:00 a.m., laborers are wending their way down footpaths from their homes to the *maidan* (field), where the day's *ganti* is under way. They arrive quietly in dribs and drabs—two here, three there—many still rubbing the sleep from their eyes. On arrival, they duck into a concrete hut to check in with their *gangman*, who records their presence in the plantation's ledgers.

Most of the workers fail to notice the new vinyl banner hanging on the hut's side. Those who do, stare, perplexed by the message: *Mero Bagan, Mero Garwa* (My Plantation, My Pride), it reads, extolling the virtues of the land and work at hand. It is something of a head-scratcher: these plantations established by the British Empire in the nineteenth century have been in decline for decades. The quinine extracted from cinchona's bark is no longer the first-line treatment for malaria that it once was. With the pharmaceutical market for their product virtually gone, these government cinchona plantations no longer produce the lifesaving

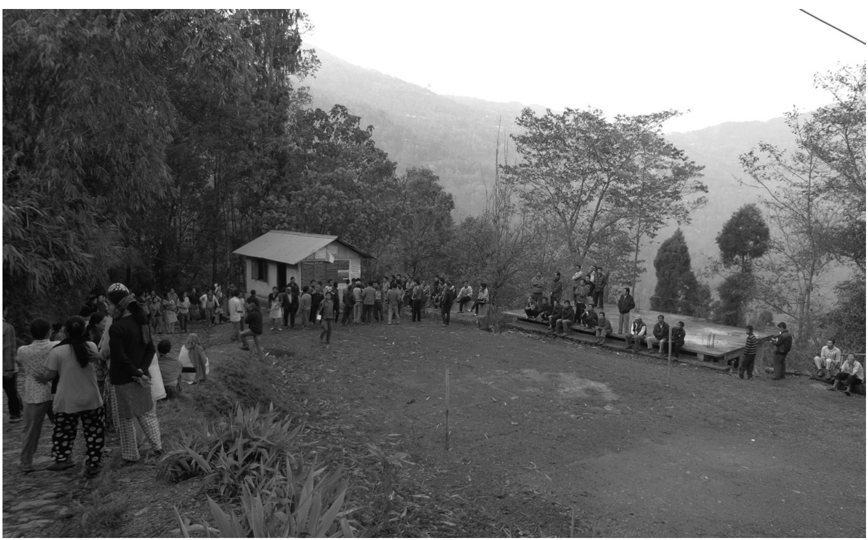


FIGURE 1. The morning *muster*, with banner on hut, 2017. Credit: Photo by author.

medicine for which they were founded. The industry's demise is everywhere apparent: in the cinchona trees growing unkempt on the surrounding hillsides; in the once-pioneering, now-shuttered government quinine factory; and in the work culture of laborers playing out the string of an industry whose time has seemingly come and gone. So it is understandable that most pay the banner little mind as they await the day's orders.

At 7:15, the *gangman* begins barking orders. Their assignment called, the laborers file silently back up the footpaths to their homes, where they will eat breakfast with their families, put on their work clothes, and steel themselves for another day of working the remains of a once-vital industry.

This book tells the story of Indian quinine and the people who made it—then and now. It asks two fundamental questions. First, how have chemicals like quinine and plants like cinchona shaped history, empire, and life itself? Second, what happens *after* these game changers run their course? For those who dwell among quinine's remains, the day starts like it always has. But these days are not like those of the past. Not on the plantations. Not in the world. The great scourge, malaria, is fought with new medicines. Colonialism has, ostensibly, come and gone. The grounds of health and power have shifted. And yet anachronistic and "out of time" though they may be, Darjeeling's cinchona plantations and their community still exist. This book explores how these places and lives came into being—and how, against all odds, they remain. It is an anthropology of those for whom the bell tolls.[1]

• • •

Today quinine is commonly known as an ingredient in tonic water. The alkaloid gives tonic water a hint of bitterness to counter its sweetness. Historically, quinine was more than a flavoring agent, however. For centuries, it was the primary remedy for malaria. Extracted from the bark of cinchona, the "fever tree" of highland South America, quinine became integral to the colonial project throughout much of the world.[2] European empires invested heavily in the antimalarial, clandestinely appropriating cinchona varietals from the indigenous Andes; establishing transcontinental networks of plantations, laboratories, and factories; and orchestrating a global quinine trade in which private capital and cartels ruled the day. Thus, before tonic water became a staple of current-day cocktails, quinine, the drug, was a staple of colonial life.[3] As the alkaloid made its way into the bodies of troops fighting wars and colonial officials sipping gin and tonics across the globe, quinine coursed through empire's bloodstream. Vital to colonial health and power, it became a world-historical substance—a material that profoundly altered the course of history.[4]

Quinine was indispensable to British rule in India, where malaria was endemic.[5] The mosquito-borne disease killed, on average, more than one million people annually on the subcontinent. This is to say nothing of the nonfatal cases. Colonial malariologists believed that in the worst-hit areas over half of the population fell ill with the disease every year.[6] The morbidity was devastating to local communities and the efficient functioning of the British imperial apparatus. Enter quinine. The drug miraculously "cured" malaria's debilitating fevers, thereby significantly reducing its death and morbidity.

In the mid-nineteenth century, British botanists appropriated cinchona from the cloud forests of indigenous South America and brought it to India. The British Indian government established massive cinchona plantations in the Darjeeling and Nilgiri Hills in a desperate attempt to secure the medicine that the empire needed to fight malaria. In Darjeeling, thousands of workers, mostly Nepali-speaking Gorkhas from the surrounding hills, came to cultivate and strip the fever tree of its precious bark. The colonial government erected factories where quinologists developed complex chemical reactions to extract the alkaloid from dried cinchona bark and transform it into lifesaving quinine doses.[7] The drug was then distributed through elaborate dispensary systems that promised humanitarian relief for the masses, yet consistently prioritized British interests. The quinine made in Darjeeling saved countless lives during its colonial career.

But for the communities who made it, quinine has left grave uncertainty in its wake. In the shifting chemical and political landscapes of the twentieth century, Indian quinine became increasingly obsolete. Today's global pharmaceutical market is dominated by synthetic antimalarials and expensive artemisinin-based combination therapies (ACTs). Quinine is still sometimes used as an antimalarial in low-income countries without access to these costly medicines.[8] And it remains a key ingredient in tonic water. There is therefore still some global demand for quinine. But this is not the robust marketplace of the colonial period. And it is *not*

Indian quinine supplying its stock. Generations of overproduction and neglect have rendered Darjeeling's bark too weak and costly to compete with the high-alkaloid, low-cost barks cultivated in Africa. And while artisan beverage companies like Fever-Tree peddle Premium Indian Tonic Water, their quinine, too, comes from Congo.

This has all proven a bitter pill to swallow for the people who made Indian quinine in the Darjeeling Hills. The demand for their product has all but vanished. Yet, despite not having produced a dose of quinine in decades, the government cinchona plantations still exist—albeit in a dilapidated state. Where the hills were once covered in orderly plots of cinchona saplings and a state-of-the-art factory pumped out the quinine that thrust this remote corner of the Himalayas to the fore of humankind's fight against malaria, the cinchona fields are now overgrown. The factory is closed. The plantations' infrastructure is crumbling. The government has labeled the industry "sick" and targeted it for privatization, but local communities, led by strident unions, have successfully resisted. So far. What is to become of the industry—and the roughly fifty thousand people who inhabit its remains—is unclear. Shuttered quinine factories and unkempt cinchona trees may conjure images of ruination, but these remains are anything but dead. The cinchona plantations have instead become the site of urgent efforts—and a periodically charged politics—to redefine land and life for the twenty-first century. For those who call the plantations home, quinine's remains constitute the grounds on which any viable future must be forged. More immediately, they are the grounds on which the present must be lived and defended.

From the anthropologist Sidney Mintz's pioneering work on sugar to recent studies of coffee, tea, spices, oil, plastics, and beyond, we have learned more and more about how particular plants and chemicals have shaped the world.[9] The aftermaths of these world-historical substances remain less examined.[10] *Quinine's Remains* explores these aftermaths. Set amid quinine's *living* remains, it is a history of how life got made with quinine. And it is an ethnography of life *after*: after the rise, after the fall, after the key substances of one era give way to those of the next. What do people do when the products that centered their lives lose their place in the world? How does life come back together (or not) once the market collapses, the factory closes, and the fields go fallow? What prospects of a life and future stir in these remains of our pasts—imperial, material, and otherwise?

At first glance, India's cinchona plantations appear forlorn and worn out. It is tempting to read these places as vestiges of a bygone colonial era. Critical theory offers guidance. From Walter Benjamin's and Georg Simmel's fascination with *ruins* and *decay* to Ann Stoler's work on *imperial debris*, scholars have looked to ruins (things) and ruination (processes) to rethink the past's relationship to the present. Writing in idioms of rot and decay, commentators of the postcolony have examined how communities "live with and in ruins" and how they reanimate the debris that empire deposits in its wake.[11] Similar threads run through the research on deindustrialization and postindustrial life, in which scholars explore

FIGURE 2. Quinine's industrial remains at the Mungpoo plantation, 2017. Credit: Photo by author.

how communities negotiate the "blasted landscapes," hollowed-out infrastructures, and toxic residues of previous eras.[12] Plantations certainly conjure these tropes with their mutual exhaustions of land and life.[13] And the rot is real. Over a million pounds of bark sit deteriorating in sheds across the plantations. Far more than that is neglected on the overgrown hillsides, slowly losing its chemical potency. Sacks of bark powder lay rotting on the factory floor, waiting for manufacture, waiting for a market that does not exist.

Yet ruin isn't necessarily the leitmotif of life after quinine. Cinchona plantation residents often speak of the deteriorating conditions in which they live. Ultimately, though, they do not see these landscapes as "blasted" or "in ruins." In fact, they steadfastly refuse the deadening connotations of *ruins* and *ruination*. Neither will they concede the obsolescence of these places and their community. For them (and for me), any such rendering forecloses the vitality, possibilities, and politics of quinine's remains.[14]

This is why I do not write much of *ruins* in the pages that follow. I instead develop the concept of *remains* in an effort to move beyond the analytic foreclosures of obsolescence and ruination and therein venture a more open-ended engagement with the cinchona plantations. *Remains* works here in multiple capacities. It carries innuendoes of death (bodily remains). More importantly, it signals the de/generative connections between things then and things now. *Remains* names the aftermaths of pasts whose "time" has come and gone but that nevertheless remain.

FIGURE 3. Sacks of bark rotting at the closed factory, 2017. Credit: Photo by author.

Remain is also a verb. "To remain" is an active practice of maintaining one's presence in the present. This cannot be taken for granted on the cinchona plantations. In these places under perpetual threat of being swept into the dustbin of history,[15] remaining is an everyday challenge. It is a practice—and politics—carried out through mundane acts like heeding the day's bell and showing up for work and through more spectacular acts like violently defending the plantations against the threat of privatization. In India, other government industries producing staples like milk and textiles have succumbed to the neoliberal fate of privatization, restructuring, and liquidation.[16] Other colonial plantations such as those that grew indigo have been killed off by synthetic alternatives (in indigo's case, synthetic blue dyes) and the market volatility associated with imperial "boom crops." Still others like India's tea plantations in Darjeeling and Assam have managed to achieve economic viability in the postcolonial era. Not cinchona. Yet somehow the government cinchona plantations remain. As I show, this is no accident. These places' continued existence owes to an array of factors—none more vital than the cinchona community itself. Indian quinine's time may be done. But the cinchona community's perseverance and politics make it plain: these places and their people are *not* afterthoughts of colonial medical history. Bucking the logics of obsolescence, they are alive, present, and fighting for a better life thereafter.

That there is life in the remains is this book's opening premise. This is not, however, to minimize the difficulties of life on the cinchona plantations. The hardships and precarities are palpable. But so are the efforts—and the need—to find ways to live amid these colonial aftermaths. In the years I worked on this book (2015–23), the quandaries of remains—what to make of them; how to live with them—have pressed upon the cinchona plantations with growing urgency. The cinchona community's responses are specific to their circumstances, but the quandaries are hardly unique. These questions of remains refract across the postcolonial and postindustrial world, from the coal countries and rust belts of the Global North to the archaic plantations and exhausted landscapes of the Global South. These spaces may appear worn out, anachronistic, and left behind by the putative march of history, but in them stir some of the most critical questions of our times, none more perplexing than how to make something new, or at least viable, with the remains of old. As humankind's pasts accumulate in the present, reshaping and often foreclosing the prospects of life in the Anthropocene, the challenge of living in remains stands as not only a quandary of postcolonial or postindustrial circumstance. It is a signature challenge of our anthropogenically affected times.

A BIOGRAPHY OF QUININE

The story of empire and quinine begins in the late sixteenth and early seventeenth centuries, when Spanish Jesuits first "discovered" the fever-reducing powers of cinchona bark from indigenous Peruvians.[17] For two centuries, Peruvian Bark and Jesuit's Powder were traded on the European market as a vaguely defined febrifuge. Little was known of how the bark worked or what it cured. The cause of malaria (from the Italian *mal aria*, meaning "bad air") was then unknown. Quinine's medicinal properties were also poorly understood. First chemically isolated in 1820, quinine came to be known for curing fevers and for its general health benefits. It was the latter reputation that prompted Europeans looking for ways to imbibe the bitter "tonic" to invent tonic water.[18] Quinine's relationship to malaria wasn't clearly understood until the end of the nineteenth century, when a volley of scientific breakthroughs revealed quinine's capacity to short-circuit the malaria plasmodium's breeding cycle in the human body, thus heading off the recurrent proliferation and cellular bursting that causes malarial fevers.[19] Until then, cinchona bark and quinine remained something of a medical mystery, seeming to cure some fevers but not others.

All the while, malaria's fevers burned at empire. In the mid-nineteenth century, over half the earth's population was at risk from malaria. The disease killed roughly 10 percent of those who contracted it.[20] Transmitted by the bite of the female *Anopheles* mosquito, malaria ranged from the swamps of the US South and the wetlands of Europe to the plains of Africa and South Asia and into the jungles of South America and Southeast Asia. For the European empires, the losses of life

and profit were particularly immense in the colonies of Africa, the Americas, and Asia. The disease wreaked havoc on European and native populations, undercutting the health, profit, and stability of the imperial enterprise. In certain regions, malaria made imperial rule exceedingly dangerous if not impossible. Quinine changed the equation.

Cinchona soon found itself swept up in the colonial botanical transfers that forever reshaped earth's ecologies. In the 1850s and 1860s, the British and Dutch deputized seed collectors to gather the best cinchona strains from South America. Smuggled out of the Andean jungles, seeds and saplings were transshipped through Europe's botanical gardens en route to South and Southeast Asia, where experimental plantings grew into full-fledged plantations: for the Dutch in Java and for the British in the Nilgiri and Darjeeling Hills of India. Proven to grow at scale and meeting a dire medical need, cinchona cultivation spread to Ceylon, the Caribbean, and beyond. Cinchona became imperialism's latest boom crop—a generator of wealth and health, which underwrote empire's nineteenth-century expansion. Historians have identified cinchona production as one of the most significant botanical endeavors of the colonial era—and quinine, a "tool of empire."[21]

Quinine may have grown on trees, but to become a modern pharmaceutical it required exacting assemblages of human and nonhuman forces. On the cinchona plantations, the imperial pursuit of quinine thrust plants, land, communities, chemistry, capital, and power into new relations that, in turn, drove evolving regimes of accumulation.[22] On the colonial front lines, quinine engendered novel configurations of bodies, insects, microbes, and rule, which enabled the European empires to extend their reach and maximize their profits. Reconfiguring life at microscopic and planetary scales, quinine's biography reads like a case study of how humanity has *become-with* its nonhuman counterparts.[23] Plants, insects, parasites, lands, and chemicals all move through this story.[24] But make no mistake: it was human beings—plantation workers, botanists, merchants, chemists, colonial administrators, and untold others—that made quinine a world-historical substance. In this cocktail of forces, they were the straw that stirred the drink. Any attempt to understand life with—and after—quinine must therefore grapple with the materiality of its nonhuman elements *and* the perniciously human stuff of capital, exploitation, inequality, and power.

Where quinine's rise (and fall) unfolded at the global scale of empire, the survival of Darjeeling's cinchona plantations has proven a more national and local affair—a story necessarily told amid the shifting moral and political economies of postcolonial India. Since India's independence from British rule in 1947, the government quinine industry has endured a raft of changes. India's participation in the World Health Organization's chemically fueled war on malaria; the Nehru regime's "soft socialist" commitments to the public sector; the coming and going of Left Front communist rule in West Bengal (1977–2011); and, more recently, India's embrace of neoliberal reform following its economic liberalization in the

1990s—all have borne directly on the cinchona plantations. More locally, the Gorkhas' agitations for a separate state of Gorkhaland have likewise left their mark. The government cinchona plantations have come through these storms battered, depleted, and not what they once were.[25] They continue to pose a problem with few easy solutions. Under West Bengal's Directorate of Cinchona and Other Medicinal Plants, the plantations are running at an estimated annual loss of 26 crore (more than three million US dollars). Saddled with this financial burden, the West Bengal government continues to search for viable options, but it has been reluctant to invest in cinchona and quinine itself. For now, the "sick" cinchona plantations have been allowed to live—but for how long, nobody knows.

What to make of these places has become a contentious question. In one imaginary, the plantations are to remain government holdings and to be diversified and revitalized under the auspices of West Bengal. In another, they are to become ethnically autonomous territory, part of a future state of Gorkhaland. And in still another, these "waste lands" represent an untapped frontier for capitalist transformation, the designs of which spell certain peril for lifeways generations in the making. As capital prowls twenty-first-century India with fresh license, the future is uncertain. The specter of ruination looms. Still, workers wake from their slumber, make their way to their morning *muster*, and begin the work at hand.

AFTER-ANTHROPOLOGY

When I first started research, I could hardly pick out the fever trees growing on the plantations' thickly forested hillsides. I struggled to grasp the complex hierarchies that structured life in these remote corners of the Darjeeling-Kalimpong Hills. The plantation's forms of botanical, chemical, and human extraction were opaque. But as my relationships with these places and people deepened, these things became impossible to unsee. The backbreaking labor, abandoned fever trees, failing facilities, and undying coloniality of the plantation were central features of the life thereafter.[26] Yet beyond the drudgery and deterioration, there were other things stirring in the remains. The same workers shuffling bleary-eyed to work every morning were also raising families, starting businesses, and experimenting with new ways to live—and become—amid the remains. Workers were transforming their plantation homesteads into tourist homestays, bringing their families much-needed jobs, capital, and purpose. They were appropriating the plantation's land and repurposing its resources to new ends. The directorate and individuals were trying out new crops. Trade unions were organizing to defend the plantations against the perils of privatization and governmental abandonment. People were joining growing movements for land rights and reforms. On their most spirited days, they were agitating for Gorkhaland—actively transforming the cinchona plantations into a battleground for ethnic autonomy. Through it all, the plantation's toil remained. But as I found my bearings, there was a vitality to the cinchona

community that could not—and would not—be denied. That vitality helped guide me through the confounding world of the remains. I have tried to keep it at the fore of the anthropology that follows.

After carrying out exploratory inquiries from 2006 to 2014, I began researching this book in earnest in 2015. Over the next eight years, I consulted archives in Kolkata, New Delhi, Chicago, Darjeeling, and London[27] and completed five stints of ethnographic fieldwork in the Darjeeling-Kalimpong Hills.[28] I had the great fortune over these years to work with Vikash Pradhan, a self-identifying "son of the cinchona soil," who served as my research assistant. Vikash grew up on the cinchona plantations, and though he has since moved away, his roots and commitment to the cinchona community run deep. He is also a skilled ethnographer and a dear friend. Vikash often accompanied me in the field. There, and throughout this project, he was instrumental to how I navigated, understood, and wrote the remains. It is only natural, then, that Vikash figures frequently in the stories that follow.

Piecing together the complicated histories that brought the cinchona plantations and their community into being was one thing. Making sense of all that remains was quite another. Quinine's untold history in Darjeeling may have been what lured me to the cinchona plantations, but it was the dynamics of the life thereafter—the community's struggles to remain, its agitations for justice, its quests for a better life—that kept me coming back. Since 2015, I have returned again and again to the plantations and archives around the world seeking understanding of life with—and ultimately after—quinine. I've come to think of my approach as an after-anthropology.[29]

Similar to the *post-* in Stuart Hall's post-colonial, the *after-* signals neither a clean nor an epochal break with the colonial past but rather a contemporary wrestling with its remains. "It is what it is," Hall noted with his signature clarity, "because something else has happened before, but it is also something new."[30] For the community that animates this book, the After is a time-space of both constraint and possibility. It is a *condition* or set of conditions to live with and work through, a *project* to work on and work at,[31] and a *horizon* to work and orient toward.[32]

Now that empire's medicine has seemingly run its course, the question is no longer simply how to live or *become-with* cinchona and quinine. It how, who, and what to *become-after*. In quinine's after, materiality matters, though not always in the ways it once did. Rusting factories cannot be rebuilt so easily. Exhausted soils do not rejuvenate overnight. Aging infrastructure and laboring bodies cannot simply be made young again. For those who dwell in quinine's wake, the colonial past drags at the present in decidedly material ways.[33] Nothing, however, tethers the present to the past like the institution of the plantation itself. The rule—known as *badli kam* (replacement work)—has always been that one member of each household must work for the government plantations. Workers receive from the government, in turn, wages (294 INR/day, roughly US$3.57 in 2023), houses, fields for growing crops and rearing livestock, and a range of other benefits known as

"facilities" on which they have come to depend.[34] *Badli kam* posts are typically handed down within families on an inheritance basis. This replacement system has thereby allowed workers and their families to live and work on the plantations across the generations. People often spoke fondly of their family's *badli kam* post. It was their "family business," their "heritage," they told me. Still, no one was denying the hardships at hand. *Badli kam* may be the glue that binds cinchona families to their homes, land, and community, but it also binds them to the unrelenting institution of the plantation itself. To live in these places, someone from the family must labor. Whether there is meaningful work to be done, whether the plantations are making quinine, or whether the bark will go to rot doesn't matter. The rule remains.

The plantation's intransigence and flagging materiality severely limit what these places and people can become. Yet the horizons of life in the remains are bereft of neither hope nor possibility. Today, the directorate is piloting new crops. Individuals are experimenting with new livelihoods. Scientists are testing whether advanced biological technologies might allow the plantations' cinchona trees to be revitalized, such that their barks will contain a high enough alkaloid content to compete in the global marketplace for beverage and pharmaceutical quinine. Social movements are laying fresh claims to these lands, imbuing quinine's remains with fresh vitality (and periodic volatility). None of these experiments has, as yet, shown a definitive way through the impasses of the present. They remain works in progress—projects, as it were, of becoming something viable, something dignified *after* quinine.

When one scans the horizons of our planetary present, small places like the cinchona plantations might be easily missed, cast aside, or forgotten. Until one realizes that these ostensibly worn out and left-behind spaces of the After constitute an unconscionable—and growing—swath of the human experience. As the pace of techno-material churn quickens and humanity careens into uncertain futures, places like the cinchona plantations conjure their own kinds of provocation. What if the problem of remains isn't confined only to the distant crannies of the postindustrial, postcolonial world? What if the challenge of forging life in the remains is fundamental to human experience going forward? To put it another way: What if remains are not only a matter of what empire and capitalism have left "behind"? What if they are also what lies ahead?

We hear considerable talk these days of the end times and what comes after the world as we know it comes to a close. Given our planetary trajectory, these ruminations are understandable. They range from genuine concerns about the prospects of life amid the toxic legacies of capitalist industries to cinematic fantasies of the postapocalypse, where "the last of us" vie for survival amid the zombie-ridden aftermaths of a world gone awry. Amid these phantasmic imaginings, we would do well to spend some time in the real corners of the After: on the boarded-up main streets of towns that have seen better days; in the shadows of mines and factories that no longer have a purpose; and on the steep, overgrown hillsides of

cinchona plantations where workers still work much like they did during the colonial heyday. In these allegedly "desolate" places, we might pause to consider how actual communities inhabit actual aftermaths. We might endeavor to understand how they hope, how they struggle, and how they occasionally triumph in making something good of what remains—not least, lives worth living.

If the cinchona plantations prompt some big picture thinking of our world—and future—in remains, they also bring our attention back to the quandaries and quotidian realities of the present. Consider again the banner from that misty morning when this book began. The "My Plantation, My Pride" campaign formed part of a broader effort by the cinchona directorate to revitalize the plantations. This included renewed diversification efforts through the experimental planting of ginger, coffee, kiwi, citrus, rubber, and even new cinchona. The directorate also turned attention to worker culture and heritage to pump life into the plantations. The top-down campaign began with semiannual meetings of plantation *gangmen* at the directorate's headquarters, where motivational PowerPoint presentations sought to instill purpose in the plantations' leadership. The campaign likewise reached down to workers with banners and other reminders extolling the heritage and pride of the work at hand. *Mero Bagan, Mero Garwa*, as it went in Nepali.

These efforts have largely fallen flat, not because workers lack a sense of heritage or pride, but because the industry itself—and the world around it—has become something different. Many residents see no future in the field and factory. The afternoon after watching sleepy-eyed workers scratch their heads at the banner's perplexing message, I asked the *gangman* who had barked out orders that morning about the challenges of leading his crew—many of whom are his friends and neighbors—into such dismal horizons. "It's tough," he told me as we bounced along in the back of a jeep on rocky plantation roads made for the British many lives ago. "People come and try to cut out of work early. They try to work as little as possible," he subsequently elaborated. "Or they come to work in the fields, and all they talk about is their education degrees. But I tell them: you are here to work in the fields. What are you going to do? You can't dig a hole and clear the fields with a ballpoint pen!" As conversation turned to how his workers might interpret the banner, he responded with a wry grin, "Who knows? They might read it and feel like it is theirs. Or [chuckling] they might just rip it off and take it home and use it for something else!"

Playing on the quotidian realities of life after quinine, the *gangman*'s wit captured something the banner elided: the ambivalences of inhabiting remains. Plantation workers speak nostalgically of the days when the fields flourished and the factory churned out lifesaving medicine. They maintain a deep attachment to cinchona, the plant around which their lives were built, and a strong sense of belonging within the plantations. But whether the banner's message of pride and heritage "feels like theirs," as the *gangman* put it, is a question that throws into high relief the peculiar alienations of postindustrial labor. To think beyond Marx's

theories of alienation, there is perhaps only one thing more estranging than selling one's labor to an industry that makes a product sold far from those who made it: namely, selling one's labor to an industry that makes no product at all.[35]

And yet that is precisely what these communities must do if they wish to remain among quinine's remains. This requires, they'll tell you, a daily dose of paradox, precarity, and sacrifice. For communities living on plantations producing little in the way of products or prospects, these are days that cannot be gotten back. And yet staying with the present—no matter how troubled—may be the best option for those searching for a future amid the remains of old. For the time being, it may be the only option.

LABORS OF THE MEANTIME

Dak. Dak. Dak. High in the Munsong cinchona plantation, picks and shovels are striking the earth. Twenty-six laborers are strewn among the cinchona working on the stagger, one foot above the other, their backs bent. Their primitive tools hit a stone here, softer ground there. *Dak. Dak. Dak.* Last night's rains have left the plants wet and the ground slippery. Mist and fog swirl down through the trees, muting the sounds, making the morning air humid and heavy. Already, shirts are drenched in sweat, and pants are caking with mud. But the workers are accustomed to these conditions. As they've done for generations, they keep a steady pace digging at the steamy hillside. *Dak. Dak. Dak.*

It is 2022, and a *chaprasi* (overseer) and I are standing in a cinchona field cleared and replanted three years before. Chest-high cinchona saplings surround us, accompanied by stakes that jut up from the steep ground to support the tender trees against the harsh Himalayan weather. These are *Cinchona calisaya* saplings, the *chaprasi* tells me, the coveted yellow barks that made the Munsong plantation the crown jewel of the British quinine project. But there are pockets of death on this hillside. Thousands of saplings have died due to drought in recent years, leaving patches of brown amid the otherwise verdant green. These dead spots are called "vacancies," and they need to be remedied as soon as possible. The monsoon rains are coming any day, and it will be planting season. The directorate has accordingly ordered the workers to dig out the dead trees and prepare the ground for new cinchona plants, soon to be transferred from the nearby nursery where another set of workers has grown cinchona from seed to sprout throughout the year. Now in their second year, the young cinchona plants stand two feet tall, lush and green—ready to leave the relative safety of the nursery's bamboo huts and take their place on the exposed slopes beyond, where the field laborers are preparing the ground for their arrival. This is the way it has always been. And so it remains.

"Hey, you missed something!" the *chaprasi* shouts. "Look! There are rocks in this hole." Two nearby laborers immediately stop what they are doing and,

FIGURE 4. Laborers extracting rocks from the hole, 2022. Credit: Photo by author.

without saying a word, descend on the hole—the man brandishing a digging rod, the woman a hoe—to begin digging out the rocks.

The rest of their crew is scattered among the cinchona. They mostly labor in silence, save for the sound of their tools and their *dafadar* (field supervisor), who paces among them barking orders. He too is a Gorkha and member of the

cinchona community. Until his recent promotion, he was also a field laborer, so he knows this toil well. Nevertheless, the *dafadar* walks his lines and shouts his commands with a colonial air issuing deep from quinine's past. And the workers abide. Backs bend. Sweat drips. Picks and shovels hit the earth. *Dak. Dak. Dak.*

It's only 8:00 a.m. There's a long day ahead.

. . .

This is what life and labor look like after quinine. The narrow path the workers walked that day from their morning *muster* to the cinchona fields was worn and slippery. Etched by those who came before and sodden with the nights' rains, it was a path connecting the orders of the colonial past to those of the present. As I walked that same treacherous path, the links between the toils of then and the toils of now were plain to see. Yet, as I had elsewhere learned, there was also more to life after quinine. Unfolding well into the twenty-first century, scenes of cinchona workers laboring in the fields left behind by the colonial British serve as a powerful reminder of empire's uneven inheritances. The cinchona community's quests for justice, dignity, and something beyond the plantation's toil alert us to something else: most vitally, the lives, politics, and possibilities that inhere in the remains of our day.

The people who feature in the stories that follow and who I have had the honor to work with in my years of fieldwork, do not have answers to the biggest questions of our times. Nor are they clear about what the future may hold. With existential threats looming on the horizon, theirs isn't so much a politics of the future as a politics—and labor—of the meantime. And it is here, in the gritty realities of the here and now, that the cinchona community offers lessons for living in the remains. With the clock ticking on humanity and the planet to find a way forward, the cinchona community reminds us how difficult it is, for some, to simply remain in the world as it is. Beyond that, they show us the perseverance it takes to become—and rebecome—something better.

Even as grave questions hang over their lands and lives, my friends on the cinchona plantations insist there is life in quinine's remains. In keeping with *their* politics and ethics, I take this as a starting point. At the end of the day, though, recognizing the life in remains may not be enough. The real ethical and political question as we go forward is: What kind of life?

This is the question that the cinchona community so poignantly raises. In what follows, I try to tell some of their stories—*then*, when quinine stood at the fore of human history, and *now* that its time has seemingly come and gone. The lives and politics of the cinchona community may not herald a way out of the conundrums of our present world. Neither do they clear a definitive path forward. Read with the right eye, they may, however, afford some bearings for reengaging the present—and perhaps finding our way through the remains.

FIGURE 5. Cinchona sapling in colonial Darjeeling, 1867. Credit: Photo by Benjamin Simpson, British Library, Photo 1000(40)/1855–1880s/Print 4204.

1

Colonial Becomings

The Makings of a World-Historical Substance

In 1860, a team of British botanists set off into the jungles of South America, searching for cinchona. They had the winds of empire at their back. The British government had recently authorized an ambitious experiment to bring the fever tree to India and grow it at plantation scale. With malaria wreaking havoc in the colonies, appropriating the fever tree from the indigenous Andes wasn't simply in the empire's interest. It was, as British officials had it, a "duty to humanity."[1]

Tasked with this historic work, Richard Spruce and Robert Cross ventured into Ecuador's interiors. G. J. Pritchett probed the cloud forests of Peru. The expedition's leader, Clements Markham, set his sights on the coveted yellow bark cinchona varietals of upland Peru and Bolivia.[2] The stakes were high. Independent from Spanish rule since the 1820s, the new republics of Ecuador, Peru, and Bolivia were intensely protective of their bark forests. Breaking their monopoly on cinchona promised to be dangerous. "In the Bolivian forests," Markham noted before his mission, "the difficulties of procuring plants and seeds [are] very great. The Bolivians are the most ignorant, barbarous, and jealous of all the South American republics, and they have an intense hatred and suspicion of foreigners."[3] Particularly those looking for cinchona.

After days traversing precipitous ridges and dank valleys, Markham penetrated the remote Tambopata Valley in the borderlands of Peru and Bolivia and found what he had come for: the coveted yellow bark varietal, *Cinchona calisaya*.[4] He and his helpers wrapped the plants in moss and strapped them to their mules. But as they turned for the coast, word arrived that the Peruvian government "had received positive intelligence that an English stranger had entered the forests to collect cinchona plants, to the serious injury of the people of this country."[5] The English stranger, the notification read, was to be imprisoned and prevented

from taking "even a single plant." On hearing of posses organizing for his capture, Markham cleverly sent his helpers as decoys down the original route while he escaped to the coast via a less traveled path, cinchona in tow. Markham managed to get his specimens aboard an outbound steamer at the Port of Islay, but not before a "patriotic Bolivian" made a last-ditch effort to sabotage the mission by pouring boiling water into the glass Wardian cases where the tender cinchona plants were to make their transoceanic journey.[6]

Having narrowly escaped, Markham escorted the plants across Panama, through the Caribbean, and on to London's Kew's Royal Botanic Gardens. Markham deposited samples of his plants at Kew and proceeded onward to the Nilgiri Hills of southern India, where the British aimed to start their first cinchona plantation at Ootamacund. The plants suffered terribly on their journey across the seas, but some survived. Thinking his mission a success, Markham handed over his seedlings to the head of Ootamacund, W. G. McIvor. The botanists' exuberance soon wilted, however, when Markham's specimens all perished in the days ahead.[7]

To the British Empire's fortune, Markham's deputies had better luck. In Ecuador, Spruce and Cross made indigenous cinchona farmers an offer they couldn't refuse and thus obtained red bark varietals.[8] Pritchett brought gray bark varietals down from the Peruvian mountains and propagated cuttings at his Lima nursery, before sending them on to Kew. In April 1861, Cross arrived at Ootamacund with his red bark specimens and six yellow barks raised at Kew. This time the plants survived.[9] With seeds sprouting and the fever tree taking root in Indian soil, the British quinine project was a go.

• • •

How did history, empire, and life get made with quinine? At the time of Markham's expedition, malaria was not the "tropical disease" it is now.[10] Along with Africa and Asia, the poorly understood disease still affected large swaths of Europe and North and South America. Affording seemingly miraculous treatment for malarial fevers, quinine was already on its way to becoming one of the world's first modern pharmaceuticals.[11] The chemical isolation of quinine from cinchona bark in 1820 sparked a growing industry of quinine-based medicines and health-boosting tonics. The colonial thirst for the bitter alkaloid was insatiable. By the 1850s, the demand had significantly depleted the bark forests of South America. With supplies running short, the British were getting nervous. Something needed to be done.

In 1852, Dr. Forbes Royle, a colonial official in India, proclaimed to the British government in London, "Among the vast variety of medical drugs there is not one, with probably the single exception of opium, which is more valuable to man than quinine-yielding cinchona." Pleading for the empire to do whatever was necessary get the fever tree out of the indigenous jungles of the Andes and onto more ruly ground, Royle argued, "The successful introduction into India of the cinchona will be of great benefit not only to that country, but to the world in general."[12] The early 1850s would see British and Dutch attempts to grow cinchona

fail miserably, including a botched experiment at Darjeeling in 1853.[13] These were largely unsystematic experiments—a curious botanist trying a few seeds here, a few saplings there. A more scientific approach would be needed if the fever tree and quinine were to do empire's bidding. In 1857, Royle doubled down, arguing for "the almost inappreciable value of the cinchonas" and imploring the British government to get the imperiled fever tree out of the Andes and to India.[14] This time the empire heeded the call, dispatching Markham to South America.

Going forward, quinine would be in empire's hands. There the alkaloid would become a world-historical substance. I've taken the term "world-historical" from Hegelian philosophy. The megalomanic German philosopher believed that the spirit of history moved through particular people and "world-historical individuals," using them as vehicles for its own advancement before moving on to others.[15] For Hegel, a triumphant Napoleon, riding his horse across the battlefield, inspired yet largely unaware of how he was carrying out the work of history, was the consummate example.[16] The teleological assumptions of Hegel's philosophy are repellent; its anthropocentricism is overblown. That said, *world-historical*, when affixed to substances, not individuals, can be useful for understanding how particular things shape our worlds. Like Napoleon, world-historical substances don't necessarily *know* what they are doing, yet there is something deep within them that allows them to change the course of history. That something, in the case of quinine, is material: a potential encoded in the chemical structure of the substance itself. So figured, history is full of this kind of things: petroleum, sugar, spices like nutmeg and pepper, antibiotics, DDT, plastics, silicon, and so on. The list is long and ever evolving. Importantly, these things do not structure the world on their own.[17]

Consider quinine. The alkaloid's ability to disrupt the malaria plasmodium's life cycle and thereby head off malaria's intermittent fevers boiled down to the structure of the chemical itself. Quinine's power was, in this regard, molecular.[18] Yet in becoming a game-changing pharmaceutical, quinine required—and brought into existence—a broader infrastructure of frontiers, labor, technology, and markets to realize the transformative potential locked inside cinchona's bark. Never was this medical assemblage stable.[19] The elements were constantly moving, constantly transforming one another. On the colonial cinchona plantations, extreme weather and blights killed plants by the score. Botanists "discovered" and bred stronger varietals. Chemists experimented with various alkaloid extraction techniques to formulate more "advanced" medicines. Plantation land and labor produced until they couldn't. Empire's war on malaria found new weapons. Mosquitoes and parasites developed new resistances to the latest insecticides and drugs. Quinine consequently became something much bigger than the molecules that comprised it: an assemblage of human and nonhuman elements, tenuous, alive, and dynamic.[20] This would prove its greatest source of vitality and vulnerability.

"Rescued" from the jungles of South America, colonial cinchona cultivation spread from British India and Dutch Java onward to Ceylon (Sri Lanka), the Caribbean, Africa, and beyond. The bark forests and monopolies of the South American

republics subsequently collapsed. Pressed into colonial service, quinine proved amenable to mass manufacture and traveled well. Quinine pills and tablets soon became essential medicine for colonial officials and soldiers manning empire's front lines.[21] Quinine subsequently facilitated the expansion of European colonial rule (particularly into sub-Saharan Africa) and stabilized imperial projects, more broadly, by mitigating malaria's physical and fiscal costs. These consolidations of health and capital required frontiers: not only geographic frontiers where cinchona could be grown at scale, but also scientific frontiers where better drugs could be discovered, invented, and manufactured. The Darjeeling-Kalimpong Hills became one of those frontiers.

This chapter chronicles the makings of quinine and life on this medical frontier. British administrators spilled considerable ink detailing the plants, lands, and chemicals of the empire's quinine industry. They wrote little, however, about the actual people who came to work and live on Darjeeling's cinchona plantations. To offset this archival silence, this chapter turns to oral histories with plantation elders, as well as images—most notably, a singular collection of glass lantern slides shot at Mungpoo and Munsong by an anonymous British photographer between 1906 and 1916.[22] The grainy images of crews clearing steep hillsides, men struggling with massive machinery, and women and children stripping cinchona bark help anchor quinine's global history in the everyday worlds of the community that made it. Many of these scenes would prove eerily similar to those I encountered ethnographically a century later.

This is also, necessarily, a story of quinine's unmakings. Today Darjeeling's cinchona plantations are decaying, but they are not decaying "back" into a pristine Nature but rather into an ecology fundamentally transformed by empire's impulses.[23] That the British pursuit of quinine radically reformatted life and land in this corner of India comes as no surprise. That's how empires and their world-historical substances work. They bring things together. They transform. They build worlds one molecule at a time to serve bigger interests—in this case, the power, profit, and well-being of some people largely at the expense of others. They work this way for a time. But when that time is up, the ecologies, regimes, and lives they brought into being often outlive the salience of the substances themselves. They remain.

Set in the time *after* quinine, this book principally explores life amid these colonial remains. To understand life after quinine, however, one first needs to reckon with the elements that made empire's medicine to begin with. Unearthing these makings (and their undoing) is my goal here.

LAND

The British framed the Indian quinine experiment as an imperial *and* humanitarian endeavor. The imperial designs are undeniable: combatting malaria was vital to British military and economic interests. Yet the British also insisted that the project was "not to be a commercial object, but one having reference solely to the supply of a cheap febrifuge to the people of India."[24] History eventually laid

bare the imperial economic and military priorities of this "noncommercial" industry. The humanitarian impulse nevertheless carved Indian quinine a unique niche in the global quinine trade and the annals of colonial medicine more generally. Government made and sold cheap, Indian quinine was to be both a biomedical backstop to empire and a public good, the goal being to produce enough quinine to meet India's immense demands—and perhaps that of the empire writ large. The aim, in short, was medicinal resource autonomy.

To meet these lofty goals, the British first needed to get cinchona to India. For this, they dispatched Markham. Then they needed to make the plants grow. Here, on India's soils, cinchona presented a catch. How would the fever tree from South America's Andes grow in India? Or more specifically, *where* would it grow? "The great difficulty," as Royle and many colonial botanists after him noted, was "to find a suitable climate in a mountainous region for their healthy growth." Cinchona originally didn't take well to India's hot climes. The finicky tree gave colonial botanists fits as they experimented with different locales and cultivation techniques. What they needed were moist, elevated places similar to the Andes where cinchona could be grown at scale.[25] And so began the ceaseless quest for cinchona frontiers.

The Darjeeling Hills were not originally high on the list. The Himalayan weather was thought to be too harsh for the delicate fever tree. One colonial botanist thought otherwise. Thomas Anderson, then superintendent of the Royal Botanic Gardens in Calcutta, was convinced that cinchona could thrive in montane Darjeeling. Not unlike the cloud forests of the Andes, the Darjeeling Hills were cool, wet, and situated at altitude. It didn't seem too far of a stretch to think that the finicky plant might take to these Himalayan lands.

In 1861, Anderson traveled to Dutch Java to gather seeds, plants, and knowledge of cinchona cultivation. On the way back, he stopped at Ootamacund, where Markham and McIvor were busy setting up operations.[26] Anderson shared his findings and appreciated the progress that his colleagues were making on the Nilgiri frontier. Ultimately, though, he believed the empire could do better.[27] Before leaving, Anderson filled eight Wardian cases with every cinchona strain available at Ootamacund and brought them to Calcutta.[28] He had another frontier in mind.

Anderson proposed to the Bengal Presidency to start an experimental nursery at Darjeeling. The Bengal government approved, allotting Anderson 5,000 acres and a modest budget to commence his project.[29] In March 1862, Anderson and his assistant brought 249 cinchona plants from Calcutta to Darjeeling.[30] Relieved to get his plants out of the wilting heat, Anderson started exploring the forests surrounding the up-and-coming hill station. "I hoped to procure land near enough to Darjeeling," Anderson recounted. "This I soon discovered was quite impossible, as all the land within several miles of Darjeeling had been purchased for the cultivation of tea."[31] Anderson accordingly set up temporary operations on the Sinchal ridge at an elevation of 8,500 feet—too high and cold for cinchona. He then shifted the temporary nursery to a lower location at Lebong (elevation 6,000 ft.) on the

outskirts of Darjeeling Town. There he began the experiment in earnest in June 1862. The initial results were mixed. Many plants died, but some lived. By August, he and his staff had managed to propagate from the original 200-plus plants more than 1,600 (1,300 from seed).[32]

Anderson meanwhile used his 5,000-acre allowance to establish the Government Cinchona Plantations at a remote site known as Rungbee (later called Mungpoo), 12 miles outside of Darjeeling Town, in 1862. Anderson quickly realized he had underestimated the challenge of establishing a cinchona plantation in this rugged land. By 1863, Anderson was confessing of "being quite ignorant of the nature of the country."[33] Things that he assumed would be available—land, roads, skilled laborers, sand, glass, flowerpots—were not. Then there was getting to Rungbee. "To reach this spot," Anderson wrote, "an almost impenetrable forest had to be passed through, requiring every step to be cleared by Lepchas with their long knives."[34] The three-month timetable Anderson set for establishing the plantation's propagation houses, European residences, and coolie (laborer) huts delayed to two years, as laborers painstakingly cut a bridle-path road through the steep, dense jungles. In 1864, the road finally reached Rungbee and the first tracts were cleared for cinchona planting. With some basic infrastructure in place, Anderson could finally focus on what he knew best: plants.

Anderson and his staff initially struggled with cinchona's persnickety nature. Each varietal required particular combinations of soil composition, moisture, sun, and elevation to survive. This was particularly tricky in the Darjeeling Hills, where elevations drop precipitously from 7,000 feet on the chilly ridges above to just 400 feet in the steamy valleys below, and soils and weather can change drastically from one acre to the next. Anderson and his team of European, Bengali, and local workers shot high in some places, low in others, losing "plants by the thousands."[35] Gradually, though, they discovered the right combinations of botany, geology, meteorology, and cultivation to make cinchona grow. Cinchona didn't just grow in montane Darjeeling. If cultivated properly, it thrived.

Anderson was on his way to proving cinchona's viability. What he needed now was land—and lots of it. Darjeeling's best lands had already fallen into the hands of private tea planters. But two factors shifted the equation in cinchona's favor. First, in 1864, Anderson became Bengal's first conservator of forests (in addition to his duties as superintendent of Calcutta's Royal Botanic Gardens and in charge of cinchona cultivation in Bengal). Under his watch, the original 5,000-acre allowance for cinchona mysteriously jumped to 37,000 acres—a transfer for which this bureaucrat-of-many-hats left no paper trail.[36] Second, at the conclusion of the Anglo-Bhutan War in 1865, the British annexed a vast swath of territory east of the Teesta River, in what is now the Kalimpong District. With Anderson keeping watch, much of this land was declared a "reserve forest" and earmarked for future cinchona cultivation.

FIGURE 6. Head European gardener and *Cinchona succiruba* at Rungbee/Mungpoo, 1867. Credit: Photo by Benjamin Simpson, British Library, Photo 1000(40)/1855–1880s/Print 4200.

The cinchona frontier followed a familiar script. By designating this tract a reserve forest, the colonial state stamped its sovereignty on this newly gotten territory, conveniently eliding the native Lepcha and other cultivators (*ryots*) who inhabited it. Figured at the edge of colonial space and time,[37] this was a "wild," "pristine," "uninhabited" territory—a forest, as it were, ready for colonial transformation. Declaring the tract a reserve forest was a masterstroke.[38] Most immediately, it prevented the unbridled expansion of the tea industry into the Kalimpong Hills, thereby ensuring the cinchona frontier ample room to grow when the time came. Holding tea at bay, it effectively prioritized one form of primitive accumulation (the colonial state's) over another (that of private capital). It would be some time before the cinchona frontier crossed into the Kalimpong Hills. In the meantime, the freshly annexed territory could produce another vital commodity: timber.[39]

Back at Rungbee/Mungpoo, the plantations were taking off. Anderson retired in 1869 due to chronic fever and liver troubles (common symptoms of malaria). He died soon thereafter, in 1870.[40] The government cinchona plantations nevertheless carried on. By 1875, there were more than three million trees in the ground.[41] News of the Bengal frontier's burgeoning success spread quickly through the global networks of colonial botany. Seeds came in from Dutch Java and South America (courtesy of Markham) to be tried on Mungpoo's vertiginous slopes. The diverse topography lent itself to experiments with different varietals—some better suited for the highlands, others for the steamy valleys below. Mungpoo reciprocated by supplying seeds and knowledge to extant and would-be frontiers across the colonies.[42] As momentum grew, the remote outpost became a key node in a newly configured geography of colonial medicine, science, and power.[43]

For the British, the conviviality of plants and land was encouraging, but there was still much to be done to realize the ambitions of this great experiment. Getting quinine from bark to blood required more than just plants and land. Enter labor, a decidedly *human* element of the quinine assemblage.

PEOPLE

Transforming mountains into plantations required tremendous labor—far more than the local populations could provide. When Anderson obtained Rungbee/Mungpoo, the forested tract was dotted with Lepcha settlements, from which the plantations got their name. The arrival of cinchona triggered significant demographic and ecological changes. Thousands of Nepali speakers came from the surrounding hills to clear the jungles, level the ground, tend the plants, and strip the fever tree of its bark. In time, they developed their own lives and culture with cinchona. In time, these lands became home. At the outset, though, getting laborers to the plantations—and making them stay—posed challenges.

Darjeeling was undergoing profound colonial transformations during this period. The British East India Company obtained the crescent-shaped ridge of Dorje-ling from Sikkim in 1835 in order to establish a hill-station sanatorium where colonial officers could escape the heat of the plains below. The empire annexed additional territory from Sikkim in 1850, expanding once again into the Kalimpong region at the conclusion of the Anglo-Bhutan War. The budding tea industry quickly claimed huge swaths of land across the region. As folk songs about gold growing on the tea bushes traveled down the Himalayas' footpaths, tens of thousands came from the surrounding hills of British India, Nepal, Sikkim, and Bhutan to try their hand and sell their labor in the colonial hill station. Many came fleeing feudal conditions of forced labor, debt, and slavery.[44] Much of this population moved back and forth between colonial Darjeeling and their ancestral homelands. Eventually, though, a conglomerate community of Himalayan ethnic groups like Tamangs, Gurungs, Limbus, and others

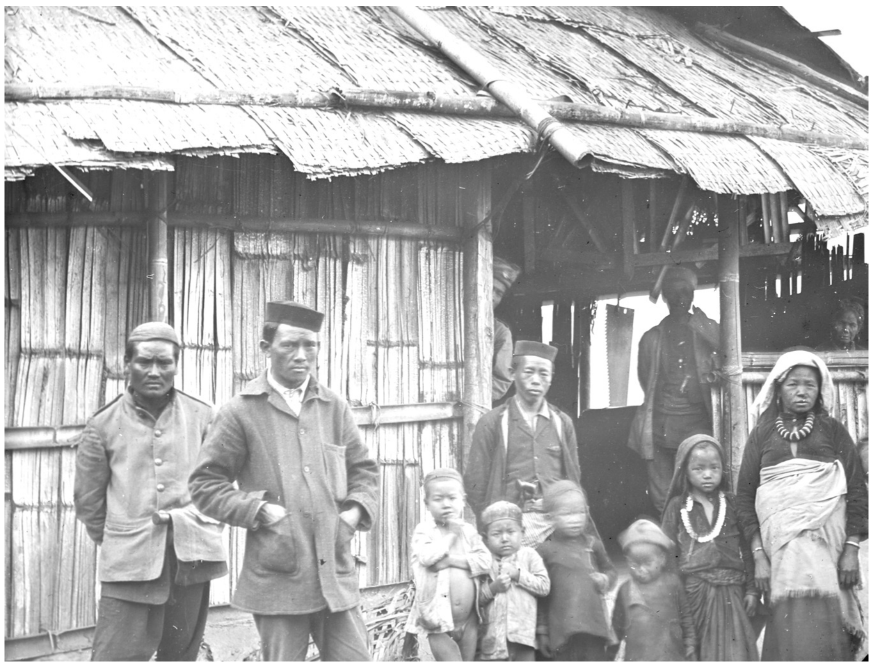


FIGURE 7. Cinchona workers standing in front of a home in Darjeeling, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (67).

established themselves as the region's demographic majority. They would later call themselves the Gorkhas.

Cinchona plugged into this budding political economy in particular ways—a little late and somewhat aslant. Unlike the private tea estates proliferating across the hills, the government-run cinchona plantations were not geared toward profit (at least not directly). Framed as an imperial qua humanitarian endeavor, the cinchona plantations were meant to produce cheap medicine for the general population (after, of course, colonial officials). And while quinine clearly served the British Empire's economic interest, the cinchona plantations themselves—as purportedly noncommercial entities—were not driven by profit. This fundamentally affected how the land was and was not capitalized.

Similar to the private tea estates, the government cinchona plantations relied on word of mouth and informal labor recruiters, or *sardars*, to obtain workers. Workers brought their own traditions to the plantations. Many of these lifeways ran counter to the plantation's designs: most notably, the fluid migration patterns and swidden agriculture practices common throughout this part of the Himalayas. In 1875, the lieutenant governor of Bengal, George Temple, weighed in on these practices of cinchona's laborers: "The establishment of workpeople—hillmen in

FIGURE 8. Workers stripping cinchona bark, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (54).

the plantations—has become considerable. . . . They settle down on the hillside and burn the jungle or forest for their temporary cultivation, which they abandon after a short time, moving on to some other spot." Clearly, these practices were anathema to the plantation's mutual disciplining of land and labor. "Providing them with suitable homesteads and fields" and teaching them "to cultivate with the plough and to establish themselves permanently," Temple argued, was thus "a matter of prime necessity."[45]

Cinchona helped. Because it is so finicky, cinchona would only cover a small fraction of the land allotted to it—historically, about one-third of the plantations' acreage. This left land for other purposes. The government was therefore able to offer workers housing and ample land, often doling out acres at a time to lure laborers to the plantations and make them stay. Cinchona's materiality, in these regards, profoundly influenced its human dimensions. The homesteads and fields allowed workers' families to maintain a peasant lifestyle, while workers themselves labored for wages on the plantation. Families used their fields to grow subsistence

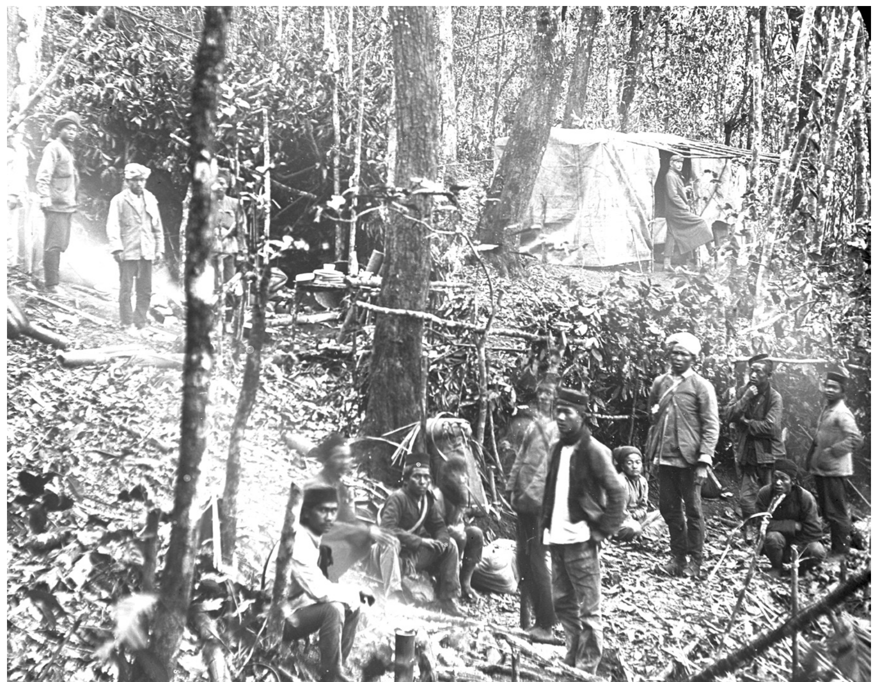


FIGURE 9. Cinchona laborers at a work camp to clear the jungle, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (18).

crops like corn, potatoes, and fresh vegetables and raise livestock like cattle, chickens, and pigs. The surrounding forests likewise provided a bounty of raw materials (firewood, thatch, bamboo, water, rock, etc.) that the plantations and workers required to sustain themselves in these remote reaches of the eastern Himalayas. These affordances helped establish deep connections between the people and their land. The fields allotted to cinchona workers were a particularly powerful draw, especially when compared to the neighboring tea estates, where land for laborers was scarce due to tea's ability to cover nearly all the plantations' land. Given the discrepancies, many cinchona laborers came straight from the private tea estates, where benefits paled in comparison. And so began the contrasting relationship between tea and cinchona that continues to this day (see chapter 2). Where Darjeeling became famous for its tea, cinchona emerged as Darjeeling's *other* plantation crop—a very different plant, bearing different forms of life.[46]

For laborers, life among the cinchona bore its assortment of possibilities and constraints. Work and life on the colonial plantation took shape through strict rhythms and hierarchies. The day began with the morning bell ringing out through the plantation dawn. Workers hustled from their homesteads and made their way to the day's muster to await orders. Once their assignment was called,

FIGURE 10. Cinchona workers preparing a freshly cleared field for planting, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (24).

some would head to the nursery to tend seedlings arranged in bamboo propagation houses. Others went to the hillsides to do the brutal work of clearing jungle, leveling ground, and tending and harvesting cinchona. During the drier months of winter, workers cleared virgin forests and dug out the roots and stumps from previously harvested cinchona stands.

In spring, workers prepared the ground for planting, using picks and shovels to etch terraces and four-by-four-foot plots into the steep hillsides, where each fever tree would live out its plantation life. The summer monsoon was planting season—a time when laborers traversed the plantations' wet, soft grounds, ferrying baskets of young cinchona saplings from the nursery to the surrounding hillsides. These tender specimens would be transplanted and staked with bamboo *khutti* to help them withstand the Himalayan winds and rain. Laborers planted *uttis* (Nepalese alder trees) among the cinchona for shade and *sik-sikey* (a nitrogen-fixing *Crotaleria* species of legumes) to mitigate cinchona's exhaustion of the soils. Fall was harvest season—time for the backbreaking work of coppicing eight-year-old cinchona trees down to the stump and then uprooting the trees fully and harvesting the bark again at sixteen years—thus completing cinchona's shortened plantation life cycle.[47]

Next came the painstaking work of stripping the felled trees and branches of their bark, a task often performed by women and children. Once the bark was stripped, porters and ponies transported the wet bark to nearby drying sheds.

FIGURE 11. Children stripping coppiced branches, with overseer in background, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (53).

After several months, the dried bark would be sent on to the factory to be ground into powder and prepared for processing. Inside the factory, workers manned steaming cauldrons of oils, acids, and sodas throughout the year to extract and manufacture the quinine that the British Empire demanded.

All the while, pith-helmeted colonial officers roamed the plantations on horseback, ensuring that plants, land, chemicals, and people were working in lockstep. At day's end, workers returned to their homesteads, only to begin again the next morning. Such were the rhythms of life with cinchona and quinine.

All of this transpired under rigid hierarchies. At the plantations' top was the British director, who, as superintendent of the Royal Botanical Gardens, Calcutta, and of cinchona cultivation in Bengal, answered directly to the colonial government of Bengal. Below him was the quinologist (typically British but later Indians from the plains), who focused on the chemical and manufacturing side of the industry. The plant side fell to the head European gardener and his staff, who concentrated on the nurseries and cinchona fields. As the industry grew, the hierarchy incorporated a range of officer-level positions (e.g., managers, assistant managers, and divisional

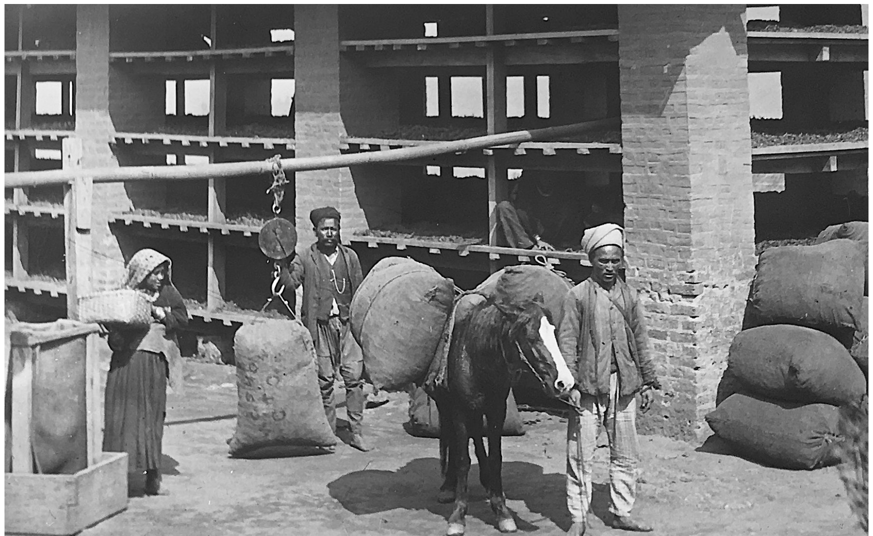


FIGURE 12. Workers weighing bark at the drying shed, with ponies for transport to the factory, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (61).

officers) to run the plantations' expanding administrative units. Below the officers were the local *gangmen, chaprasis*, and *dafadars*, who organized laborers and guided them through their work in the fields and factory. *Chowkidars* brandishing *khukuris* (the iconic knives of the Gorkha) and their signature brass belt buckles prowled the plantations twenty-four hours a day, guarding against human and animal invaders. *Syces* tended the horses, making sure they were fed and ready for the difficult work of transporting materials—and colonial officers—across the plantations' precipitous grounds. *Paniwallas* brought water from the local springs and tea from the local villages to keep workers in the field and working.

Tying this all together was the *badli kam* system, mandating one member of each household to sell their labor to the plantations, six days a week. In addition to workers' wages and homesteads, the colonial government provided "facilities," which included yearly rations of firewood for cooking and thatch and wood for mending roofs and homes, as well as rubber boots and umbrellas for the wet, unrelenting work of cinchona cultivation. The *badli kam* system was rigid, yet internally dynamic. When a worker retired or died, the *badli kam* post stayed with the family, thereby providing households the stability of intergenerational employment, homes, facilities, and so on. Yet the system also allowed for mobility within the plantation hierarchy. When a higher-level post, say, a *dafadar*, was vacated, a laborer would be promoted to that post, and another laborer would subsequently be appointed to take that person's place. Over a lifetime, this enabled rank-and-file laborers to ascend to become *dafadars, chaprasis, gangmen*, and *clerks*,

FIGURE 13. Workers struggling with a boiler, as a colonial officer stands among them, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (83).

positions that carried greater pay, benefits, and social prestige within the cinchona community. For workers, *badli kam* thus provided stability and mobility; for the colonial government, it ensured a relatively stable plantation workforce, continually replenished from below.

But there were limits to Gorkha workers' mobility. The plantations' officer-level positions were the privileged domain of white colonial officials and, as time wore on, a growing number of upper-caste Indians from the plains (mostly Bengali elites). The postcolonial era would see Gorkhas gradually ascend to the ranks of assistant manager and manager, but only in 2008 did a Gorkha finally shatter the last glass ceiling, when a son of the cinchona soil, G. C. Subba, became director.

In recounting the days of old, elders told me stories that their forefathers told them of dragging monstrous machines and boilers through steep, densely forested jungles, en route to the factory at Mungpoo. And they shared their own experiences of joining the workforce at age nine and manning the same boilers brought by the British, of rising to become factory foremen and rising still to become revered leaders of their trade union and community writ large.[48] These stories of triumph, however, were offset by other stories. Stories of families unable to escape

the plantations' toil. Stories of lives lived but not in ways they could have been. Stories of hopes dashed and lives lost.

These were not simply historical remembrances. They were testimonies of the life thereafter and its uncanny resemblance to the colonial past. The stories that elders shared and the few images that survive (some of which I present here) bespeak the undeniable truth that the cinchona plantations were and remain sites of extraction, human and otherwise. Yet they are also home—places of becoming, belonging, and life with all its joys and sorrows.

The government cinchona plantations became in many ways a world unto themselves. Because they were so remote, they had little choice but to work with local materials to develop forms of sustainability. To power the factory, the plantations harnessed the hydropower of nearby streams. They planted stands of oak and other timber to fuel the factory's boilers, supply firewood for workers, and construct homes, bark go-downs, and other infrastructure. Socially, Gorkha cinchona workers were not simply a labor force. They were a community. Culturally, cinchona's workers developed their own customs, celebrations, and solidarities. They forged deep connections to cinchona and a powerful sense of belonging on the plantations. In workers' vernacular, the term "quinine" became *kulain*; the plantations (*bagan*) became *kulain bagan*. These subtle linguistic shifts signal how the makings of quinine were differently lived from above and below. Where colonial officers fretted over molecular structures, alkaloid content, and extraction rates, Gorkha workers came to know the plants, land, and chemicals in more embodied ways. They lived and worked among these things. They *became-with* cinchona and quinine. Cinchona and quinine *became-with* them. As one elder put it to me, "We work because cinchona exists. Cinchona exists because we work." None of this is to say that life on the cinchona plantations took shape in a vacuum. Nor was it rosy. Plantation life unfolded within a political economy predicated on the bending of lands, plants, chemicals, and bodies to the will of the British Empire. That said, there were worlds and lives taking shape on this medical frontier—many of which, today, have outlived quinine itself.

The colonial archive offers few glimpses of this laboring community, despite its centrality to the quinine project. What then to make of this lacuna? The archive's silence is here a tell. As was the case on Darjeeling's tea estates, much (though certainly not all) of cinchona's workforce came from the neighboring kingdoms of Nepal, Sikkim, and Bhutan. The problem was that none of these kingdoms approved of the British Empire's encroachment on their human resources. To avoid diplomatic recourse, British officials elected to keep labor a strategically unwritten part of the quinine assemblage.[49] Labor was a "cultural" matter, as British officers called it, one best dealt with off the books.[50] In this calculus of subalternity, the cinchona and tea plantations leaned on informal labor recruiters to procure workers and manage their internal affairs. The government provided wages, homes, and land to lure them to the plantations and keep them there. What the British

FIGURE 14. Cinchona work crew at Mungpoo, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (68).

would *not* provide, however, were the bona fides to legally establish workers' place and property in India in perpetuity. This lack of *documented* belonging/s would haunt Gorkhas for generations to come and become a galvanizing force of their politics on and off the plantations—most notably, in the Gorkhaland agitations and a burgeoning land rights movement that gained steam during my fieldwork (and which I examine in later chapters).

The archive's silence cast its pall over my research. Oral histories with plantation elders taught me of life in the final decades of British rule, but the early days were hard to access. People often spoke nostalgically of quinine's glory days, when the cinchona fields flourished and the factory churned out lifesaving medicine to fight the great scourge. Spoken from the dismal horizons of the present day, the nostalgia was understandable and somewhat infectious. It was also, I suspected, misleading. The lantern slides that feature throughout this chapter offer more sobering glimpses of the colonial plantation. Faded and blurry, these scenes of women, children, and men—many of them very young—laboring for the British Empire signal a harder reality than nostalgia might allow. How accurately these scenes and faces reflect life on the colonial cinchona plantations is difficult to tell. I present them here, instead, for the questions they leave open and for their unspoken intimations of all that came before.

The cinchona community may have *become-with* the fever tree. The plantations may have become home. Indian quinine may have even done some humanitarian good, as its colonial founders professed it would. But make no mistake: this was an imperial enterprise meant to increase the health, power, and, by extension, wealth of the British Empire. Freighted with those imperatives, life on the cinchona plantations necessarily bore its colonial burdens.

And there were still yet more subjects that needed "mastery" if empire's alkaloid were to realize its world-historical potential.

CHEMICALS

Making quinine hinged on getting the alkaloid out of cinchona bark and into pharmaceutical form. Enter chemistry.[51] Alkaloid extraction was an evolving science throughout the nineteenth century. The French chemists Pierre-Joseph Pelletier and Jean Bienaime Caventou first isolated quinine in 1820.[52] Following that chemical breakthrough, European and American pharmaceutical companies focused on the manufacture of "pure" quinine sulfate. Early experiments at Mungpoo, in contrast, concentrated on a cruder, cheaper drug known as cinchona febrifuge. This mix of cinchona's four antimalarial alkaloids (quinine, quinidine, cinchonine, and cinchonidine) was not as elegant as commercial quinine, but it suited the on-the-ground realities and founding logics of the British quinine project in India.

In 1873, C. H. Wood became Bengal's first appointed quinologist and began experimenting with the materials available at Mungpoo. Wood combined sophisticated

chemical reactions with a ramshackle apparatus of old beer barrels and bamboo flow channels to devise this mixed-alkaloid cinchona febrifuge. Wood's method was "simple in the extreme," his colleagues noted.[53] And it was brilliant. At a cost of less than one rupee per ounce, it produced a cheap alternative to "pure" but prohibitively expensive quinine sulfate.[54] As "pure" quinine was beyond the reach of India's poor, the British believed they had found a way to furnish "the people of India with a cheap and efficient febrifuge at a minimum cost."[55] The government convened a special committee in 1877 to confirm the febrifuge's efficacy. Informal trials in Indian hospitals and among the Native military revealed it was roughly as effective as quinine sulfate. The concoction did seem to cause nausea—nothing, doctors opined, that the natives couldn't handle. Naming it Darjeeling Quinine,[56] they hailed the febrifuge as a breakthrough. Then head of the plantation, George King, surmised that if the colonial government could produce and distribute the febrifuge widely, "malarious fever should be robbed of three-fourths of its annual victims . . . and the poor of this land [would] be thus attached to their paternal Government by yet another bond."[57] So went the logic of the colonial maker.

Wood's chemistry clicked with the human and material conditions on the ground. Shortly after the government quinine factory at Mungpoo's opening in 1875, Wood commented on how quickly his workers took to the chemistry. "The only workmen employed in the factory are Nepalese coolies," he noted in 1876. "These men readily master every detail and conduct the whole thing with all the care and accuracy that is required."[58] The febrifuge also clicked with the cinchona varietals growing on Mungpoo's steep hillsides. The plantations were dominated by the red bark of *C. succirubra*. As compared to the yellow bark preferred by commercial quinine makers, red bark was low in quinine but high in other alkaloids. Perfect for the mixed alkaloid febrifuge. The hardy red bark varietals, moreover, thrived in Darjeeling and were amenable to simple manufacture. With the botany, land, labor, and chemistry clicking, the British had found a plant and a process capable of delivering a cheap febrifuge to the masses.[59]

The bark-to-medicine equation soon shifted, however. In Java, the Dutch were beginning to have great success with high-quinine-yielding yellow bark varietals—specifically *C. calisaya* and a new strain called *C. ledgeriana*.[60] Good for quinine production but not mixed-alkaloid febrifuges, these yellow barks flowed from Java to chemists' labs across Europe and North America, fueling the commercial quinine industry and sharpening consumers' chemical sensibilities.[61] Mungpoo's botanists and workers were also learning the art of yellow bark cultivation. Experiments at the factory were likewise making headway on the manufacture of quinine sulfate.[62] The focus therefore began shifting to the production of this purer but more expensive form. Over the 1880s, Wood's once-ramshackle apparatus of beer barrels and bamboo flow channels morphed into a full-fledged quinine factory, replete with imported machinery, volatile compounds, and exacting chemistries.

FIGURE 15. Government quinine factory at Mungpoo, exterior, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (72).

Now able to produce the "pure" quinine demanded by the colonial British, the government quinine factory slowly phased out the affordable febrifuge seemingly so well suited to India's general population.[63] The shifting chemistries fed back into the cinchona fields, prompting a sea change from red to yellow barks—itself indicative of empire's true colors.

The British didn't entirely forsake their humanitarian commitments. In the 1890s, the colonial government launched a pioneering campaign to distribute state-made quinine to Bengal's general population. Known as the pice-packet system, the program worked as follows: Quinine made at Mungpoo would be shipped to Kolkata for packaging at the Alipur Jail. Prisoners prized out five crystals of quinine sulfate, sealing the drug into packets "carrying the royal arms as a guarantee of genuineness, together with brief instructions in the vernacular."[64] These single-dose packets would then be distributed to post offices, police stations (*thana*), rail stations, and dispensaries across Bengal and sold at the nominal price of one pice (equivalent to a penny). The colonial government tasked postmen—ostensibly familiar, trustworthy representatives of the government—to carry pice-packets with them as they made their rounds. Delivering medicine to the villages and proverbial doorsteps of malarial India, this became one of many means by which the British sought to make quinine part of everyday life. Rail stationmasters likewise

FIGURE 16. Government quinine factory at Mungpoo, interior, ca. 1910. Credit: Lantern Slide, British Library, Photo 397 (81).

distributed pice-packets, as did tea and indigo plantation owners, zamindars, and a variety of vending agents, as the historian Rohan Deb Roy explains in detail. "Quinine emboldened the government," Deb Roy notes, "with an object (and an objective) with which to reach out to the interiors."[65] Sold cheap and distributed widely, state-made quinine was the colonial government's attempt to make good on its humanitarian promise. It was also, to maintain Deb Roy's line of thought, a means of producing a particular kind of colonial power.

The pice-packet system never came close to satisfying the medical needs of India's malarial masses. That said, it did break ground in generic drug manufacture and medical logistics. From the distant outpost of Mungpoo originated the first state-run antimalarial drug program in history—predating Italy's better-known state quinine project of the 1900s by a decade.[66] The pice-packet system quickly spread from Bengal throughout India. The escalating demands put considerable strain on the fields and factory at Mungpoo.[67] When the pice-packet system launched in the 1890s, the Mungpoo plantation was already exhausted. Every inch

of suitable land had been planted out, and three decades of relentless cultivation had left soils and trees diminished of nutrients, energy, and alkaloids. Making matters worse, the Nilgiri frontier in southern India had recently collapsed, on account of its private planters getting pinched by exposure to the volatilities of the global quinine market. That frontier's collapse put even more stress on the strictly governmental plantations and factory of the Bengal frontier.[68] Clearly, the Bengal frontier needed to expand. Mungpoo was spent.[69] Kalimpong stood waiting.

To meet the soaring demand, the cinchona frontier crossed the Teesta River and climbed into the Kalimpong Hills with the establishment of the Munsong plantation in 1901. Situated at a slightly lower elevation than Mungpoo, Munsong's verdant hillsides and warmer weather were perfect for the high-yielding yellow barks. By 1911, more than a 1.5 million trees were in the ground—nearly all of them the yellow barks of *C. calisaya* and *C. ledgeriana*. As that first generation reached harvestable age, the new plantation outstripped Mungpoo's bark production. Munsong's bark was cheaper to produce than Mungpoo's (1.84 vs. 2.49 annas/lb). It was stronger (4.67 percent vs 2.9 percent quinine content).[70] And there was more of it (341,364 vs. 158,053 lbs). Munsong quickly became the crown jewel of the British quinine project.

But Munsong was even more remote than Mungpoo. Clearing its jungles, developing the plantation's infrastructure, cultivating cinchona, and getting bark down from Munsong across the Teesta River and back up to the factory at Mungpoo required massive amounts of labor. Workers were hard to come by, however, in this remote tract nestled up against the Sikkim border. Managers reported the otherwise plentiful plantation was "considerably handicapped through the inadequacy of labor supplies."[71] Workers came. Workers went, periodically returning to their ancestral homelands and/or seeking work elsewhere. The workforce's fluidity (and agency) was maddening for colonial officers. They called it a "cultural condition."[72]

Workers did eventually settle at Munsong. Lured by wages and land, they slowly established their homesteads, villages, and lives with cinchona. The new plantation expanded as fast as its land, plants, and labor allowed. As the new plantation's bark made its way to Mungpoo, the factory went into overdrive.[73] Pushing these places and people to their absolute limit was, for an empire fighting malaria, a moral and mortal imperative. And so the frontier expanded again and again. Still, there was a sense that it would never be enough.

POWER

By the end of the nineteenth century, quinine's imperial implications were clear. The alkaloid had facilitated the colonial penetration of and scramble for Africa, the capitalization of the American interiors, and the stabilization of colonial rule worldwide.[74] Quinine wasn't just a "tool of empire."[75] It was also big business. The Dutch were at the fore.[76] At the turn of the century, the cinchona

plantations of Dutch Java accounted for over 80 percent of the world's bark, most of it shipped and sold through tightly controlled markets in Amsterdam. As the Dutch government, planters, scientists, and pharmaceutical companies banded together to standardize the global bark supply and dictate its price, many observers recognized the birth of a burgeoning monopoly.[77] Others smelled a cartel.

Indian quinine—and the Bengal frontier in particular—occupied a tenuous place in this economy of medicine. Private capitalist interests dominated the global cinchona-quinine market and, because boom crops so often went bust, imbued it with significant volatility. The rise and sudden collapse of Ceylon's frontier in the 1880s is a good example. When Ceylon planters turned to cinchona in the 1870s, the glut of bark they produced a decade later (when their trees reached harvestable age) drove global prices down, pushing planter capital to another boom crop: tea.[78] Even India's cinchona frontier in the Nilgiri Hills was a mix of government and private plantations, leaving it exposed to market fluctuations, which ultimately spelled its demise.[79]

The government-dominated Bengal cinchona frontier was different. While a handful of tea planters tried their hand at cinchona cultivation, these endeavors met the same fate as the private cinchona plantations on the Nilgiri frontier. For planters looking to turn a profit, cinchona bark was neither a profitable enough nor a stable enough commodity to merit long-term cultivation.[80] The "noncommercial" government cinchona plantations, to the contrary, were built specifically to withstand the vicissitudes of the global quinine market. In line with its imperial qua humanitarian designs, the aim was to produce the medicine that India—and the empire—needed, irrespective of the global market.

In practice, the prospect of a noncapitalist world-historical substance proved a fallacy. Capitalist forces shaped Indian quinine at every turn. Colonial administrators constantly compared this government industry to its commercial counterparts and religiously weighed its functionality, efficiency, and merits against the private sector. Commercial quinine makers lobbied the government to ensure no competition from the cheaper, generic, state-made quinine.[81] Heeding capital's call for a free and fair market, the colonial government conceded to peg the open-market price of its quinine to the annual price set by Britain's largest commercial quinine maker, Howard & Sons.[82] Thus, despite its pretenses to being a noncommercial, humanitarian enterprise, Indian quinine proved formatively entangled in capitalist operations. Nothing, however, showed the project's imperial underpinnings more clearly than the prioritization of the health of colonial officers and soldiers over that of India's general population. Fortifying British colonial administrators and the British Indian army against malaria was always the first priority. Everyone else was a distant second. This was especially the case when quinine supplies ran short—a point made painfully clear during the First and Second World Wars (more on this momentarily).

If capital structured the makings of Indian quinine, the evolving science of malaria and pharmaceuticals was also pivotal. Colonial malariologists were gradually coming to terms with what they were up against. For centuries, medical experts had operated with only vague understandings of what malaria was (biologically) and how quinine worked to combat it. The science accelerated toward the end of the nineteenth century, however. In 1880, the French physician Charles Laveran discovered the plasmodium parasite. In 1897, Ronald Ross, a British colonial officer stationed in India, identified the female *Anopheles* mosquito as malaria's vector.[83] That same year, Robert Koch, one of the pioneers of modern germ theory, finally documented how quinine kills the malaria plasmodium.[84] Solving the malaria-quinine riddle was only half the equation, however. The malaria plasmodium's life cycle spans human beings *and* mosquitoes. Quinine does nothing to stop the mosquito side of things. To stop transmission, *Anopheles* eradication was needed. In the early twentieth century, quinine subsequently became part of a two-prong approach to malaria: quinine drug therapy would focus on the host (humans); mosquito eradication would focus on the vector (the *Anopheles* mosquito), through the use of insecticides like Paris green and the elimination, or "bonification," of the standing water and wetlands where the *Anopheles* laid her eggs.

Understanding the scope and complexity of the disease only exacerbated the British Empire's anxieties about the shortcomings of its quinine supply. Indian quinine, at this point, came nowhere close to meeting the empire's demand. Until and unless the empire could produce the quinine it needed, it would remain critically exposed to market forces—none more powerful than the Dutch. Confirming the vulnerability, in 1913, the Dutch government, planters, and manufacturers entered into an official "Quinine Agreement," leveraging their near-monopoly to become, arguably, the world's first pharmaceutical cartel.[85] Quinine makers across Europe and the United States had little choice but to do business with the Dutch Kina Cartel and the prices it set. So too the British colonial government. Unable to grow sufficient cinchona on Indian soil, the government imported much of its bark from Java. Unable to manufacture sufficient quinine, the British relied on commercial quinine, itself sourced through the Kina Cartel, to make up the difference. The catch-22 was lost on no one: either do business with the Dutch cartel or suffer the consequences. Until and unless the British attained quinine autonomy, they would remain critically exposed to malaria *and* the Dutch-manipulated market. That mortal quandary translated directly onto the steep slopes of the Bengal frontier, where "extension" became the order of the day.

The First World War underscored the gravity of the situation. Malaria proved one of the conflict's deadliest killers. As fighting disrupted quinine supplies in Europe and the British prioritized the health of Allied soldiers, India's reserves decreased rapidly. The colonial government turned to Java for an emergency purchase of one million pounds of raw bark, which the Kina Cartel sold at an exorbitant price. British administrators had little choice but to go through with

the purchase, conceding quinine was "more important than rupees."[86] In exposing the British Empire's dependency on Dutch barks, the war forced a reckoning. In 1917, British officials estimated that the colonial quinine project was meeting only one-third of India's demands, let alone the requirements of the rest of the empire and the Allies. Forecasting a threefold increase in demand over the coming decade, they estimated that achieving resource autonomy would require the number of acres under actual cultivation to jump from the current 4,000 acres to over 50,000 acres.[87]

The cinchona frontier didn't lend itself to sudden expansion. Suitable land was scarce. The plant itself was difficult and notoriously slow growing. Saplings took eight years before yielding ample bark. Materially, the frontier could only be but so responsive. Coming out of the war, the government was therefore keen to find new cinchona frontiers. Burma, long considered a possibility, emerged as a leading candidate. After repeated expeditions, experiments, and failures, the British established provisional plantations in the Tavoy district of southeastern Burma. The colonial government even sent cinchona workers from Darjeeling to help get the Burmese plantations up and running.[88] But with little infrastructure, insufficient local labor, and way too much rain, the Burma frontier proved too extreme, too remote. By the late 1930s, its plantations were returning to jungle.

As a government pharmaceutical, Indian quinine's niche was always tenuous. Its relation to the market required careful management. At the all-India level, the government placed strict import and export controls on quinine in an effort to protect its product. Counterfeiting, piracy, adulteration, and reselling were persistent problems.[89] To distinguish government quinine from commercial quinine, the colonial government began tinting its quinine crystals pink—the aim being to distinguish its brand and assuage private quinine makers' concerns about competition and confusion between commercial and generic Indian quinine.[90] Branding was one thing. Getting India's populations to trust and take the drug made by its ostensibly benevolent colonial government was an altogether different challenge. Many Indians harbored deep suspicions. The government turned to vernacular pamphlets and marketing campaigns to avail India's masses of quinine's benefits, but the results were mixed at best.[91]

On the plantations, there was constant tinkering with cultivation and manufacturing methods to increase extraction rates. The factory turned out an array of cinchona-derived drugs: from the crude mixed-alkaloid febrifuge mentioned earlier and other alkaloid derivatives to the purer crystals, powders, and tablets of quinine sulfate. The chemistry improved. But the frontier was tiring, as repeated plantings exhausted the soil of nutrients. The diminishing plant energy forced more and more acreage into cultivation—a signature paradox of frontier decline. Heeding the biomedical needs of the empire, the government continued to expand the Bengal frontier in the Darjeeling-Kalimpong Hills, opening new plantations at Rongo in 1938 and Latpanchar in 1943.

These extensions came late and did little to realize the project's original goals. The twilight of colonial rule revealed that this grand experiment never had and never would meet India's and the empire's needs.[92] The cinchona plantations of Darjeeling and Kalimpong were no match for the great scourge, malaria. These shortcomings, of course, did nothing to lessen the pressure put on the plants, lands, and lives of which these places were comprised. They intensified it.

For quinine, the Second World War was a tipping point. With the Germans cutting off the Dutch quinine supply in Europe and the Japanese invasion of Java severing raw bark supplies from Dutch Indonesia, Allied forces placed heavy demands on India's quinine stores.[93] As in the First World War, mosquitoes feasted on troops in the trenches and tropics, making wartime malaria one of the conflict's deadliest forces[94]—and quinine one of its most important tactical defenses. Civilian supplies plummeted in India. Meanwhile, the onus of medicating the Allies increasingly fell to places like Mungpoo. Plantation elders I interviewed remembered the factory working around the clock to pump out the medicine needed to carry on with the fight. With cupboards running bare, India's states scrambled to stock their hospitals and dispensaries.[95] The price of commercial quinine skyrocketed, putting cheap government quinine in high demand. To combat hoarding and profiteering, the colonial state seized the quinine market, implementing strict distribution, pricing, and rationing schemes.[96] As the government prioritized military over civilian demands, the quinine project's imperial underpinnings were exposed in harsh light. Empire's humanitarianism had its limits.

A REQUIEM

From the jungles of indigenous South America to world-historical substance, quinine had come a long way. But the chemistries of power were about to shift. Two developments in the 1940s fundamentally rewrote the script. The first was the advent of synthetic antimalarials. The other was decolonization. The Second World War was a catalyst for both.

With malaria ravaging the front lines and quinine in short supply, the Allies were desperate for other means to fight the disease. They turned to synthetics.[97] First came Atabrine, but the dosage was tricky, the side effects were significant, and it turned the skin yellow.[98] Nevertheless, the US military adopted it as a quinine substitute in 1943. Next came chloroquine. Cheap, effective, and easy to administer, chloroquine looked like a magic bullet.[99] Then came the real killer: DDT (dichlorodiphenyltrichloroethane).[100] Lauded by the US Army as "one of the greatest discoveries of modern times,"[101] the pesticide killed mosquitoes (and many other organisms) for up to six months after a single application. DDT was quickly weaponized. By 1944, the Allies were deploying DDT

in multiple fronts of the war. As soldiers popped their Atabrine below, Allied planes flew overhead, bombing newly claimed territory with DDT, denuding enemy ground of life, making it safe for occupation. Synthetic antimalarials and insecticides became game changers in the theater of war. Civilian applications soon followed.

Synthetics changed the paradigm—and materials—through which malaria would be fought going forward. Chloroquine and DDT emerged as the post-war chemicals du jour of a newly global war on malaria, itself unfolding over the incipient terrain of the Cold War. Under the auspices of the US Rockefeller Foundation and the recently minted World Health Organization (WHO) and its allied nation-states, DDT became instrumental to the Malaria Eradication Programme of the 1950s. This chemically buoyed effort to beat back malaria at first showed promise. But it wasn't long before mosquitoes and malaria developed resistance to DDT and chloroquine. This resistance, along with DDT's accumulating toxicity, prompted the need for yet newer chemicals. The chemical and pharmaceutical industries responded by churning out a revolving door of synthetic insecticides and antimalarials, which turns to this day.[102] Quinine, for its part, quietly slid from view amid the otherwise bright light of this new chemical age.[103]

The Second World War also wrought profound *political* transformations. The British Empire emerged from the war battered and broke. India's anticolonial nationalist movement, headed by icons like Gandhi, Nehru, and Bose, remained unrelenting in its demands for independence. No longer able to suppress India's "tryst with destiny," Britain conceded India's independence on August 15, 1947. Decolonization profoundly shifted the biopolitical logics of quinine. The imperial impulse was now moot. The humanitarian imperative could be addressed through synthetic antimalarials and DDT. Nehru's government partnered with the WHO's Malaria Eradication Programme in the 1950s to renew the fight against malaria. India launched its National Malaria Control Programme in 1953 and National Malaria Eradication Programme in 1958—deploying DDT and synthetics like chloroquine liberally. Malaria cases and deaths quickly fell. In 1947, there were an estimated 75 million cases and 800,000 deaths. By 1961, there were 49,151 cases and reportedly no deaths.[104] On this success, Nehru's government walked back its commitment to quinine.

Quinine's value plummeted. Between 1952 and 1962, the drug's global price fell to roughly half of its price in India, all but eliminating any prospect of exporting Indian quinine. Cinchona plantations in Sri Lanka, East Africa, and Guatemala, meanwhile, began cutting their losses (and trees) and closing.[105] But not the cinchona plantations in Darjeeling. West Bengal, having inherited the industry from the British colonial government, tried marketing government quinine as the right drug for newly independent India's fight against malaria— "sovereign remedy No.1," as the ad campaign had it.[106]

FIGURE 17. Advertisement touting West Bengal government quinine, 1953. Credit: *Himalayan Times*, November 29, 1953.

But this was too little too late. India, like much of the world, had already entered a headlong embrace of quinine's synthetic alternatives. West Bengal consequently found itself stuck with a public sector industry whose product was rapidly losing value and whose fields and factory were ill-equipped to compete in a pharmaceutical landscape increasingly dominated by the new drugs of big pharma. In this new world order, Indian quinine lacked place and purpose. Materially, technically, and ideationally, it increasingly appeared "out of time."[107]

Quinine's fall from the world stage reverberated through the cinchona plantations. By the mid-1950s, the plantations were in a slump and the mounting financial losses were becoming a major concern for the West Bengal government.[108] Labor curtailment programs ensued, with the West Bengal

FIGURE 18. Closed government quinine factory, interior, 2017. Credit: Photo by author.

government offering severance packages to decrease its expenditures on this increasingly obsolete public sector industry. Workers who took the deal necessarily left the plantations, never to return.[109] But most stayed, preferring to hold on to the land and livelihoods that went along with their government employment.[110]

Where extending the cinchona frontier had been a colonial imperative, no new acreage was put into cinchona cultivation between 1955 and 1965. The West Bengal government instead hedged its bets by diversifying into crops like tung, ipecac, and, later, dioscorea and rubber.[111] The late 1960s brought a modest return to cinchona planting when political violence in Indonesia disrupted the Java bark supply and news of synthetic-resistant malaria began pushing the price of natural quinine back up. But even as the price rose and new buyers from the food and beverage industry entered the market in the 1970s and 1980s, worldwide demand for the drug continued to slide.[112] Darjeeling's barks meanwhile grew weaker, while their cost of production grew higher. The government cinchona plantations found themselves increasingly unable to compete in what remained of the global quinine market.

The 1977 arrival of West Bengal's Left Front government (a communist regime ideologically inclined to support workers and the public sector) afforded the cinchona plantations crucial backing in Kolkata. But this was a time of dubious optimism. Former plantation officers I interviewed recalled this as a period of glaring disconnect between the cultivation, production, and marketing sectors

of the industry. Orders were coming from Kolkata to plant cinchona, but manufacturing and sales were not evolving. Lacking the R&D to improve their product and finding little market in which to sell it, the plantations had no choice but to get rid of the excess bark by any means necessary. "We were just dumping the bark," one Gorkha manager confessed to me, seemingly at pains to revisit those paradoxical circumstances in which the fruits of his community's labor were left to rot. Such were the "bitter truths," as another put it, of quinine's demise.

If global forces precipitated quinine's fall from the world stage and national and state-level forces structured the industry's slow demise through the postcolonial period, the quinine assemblage also crumbled internally—most notably, in the context of a violent subnationalist movement for a separate state of Gorkhaland in the 1980s. Because the cinchona plantations were the government property of West Bengal—the mortal enemy of the Gorkhaland movement—they became a front line of the subnationalist struggle. As chapter 3 explores at length, the agitation's violence caused lasting damage to the plantations' plants and infrastructure. Strikes and foot-dragging undermined the hierarchies and discipline (*anushasan*) that earlier drove the plantations' ecology. By all counts, the Gorkhaland agitations led to an erosion of work culture and productivity from which the plantations have never recovered.

Since then, the plantations have slid further into disrepair. Cinchona stands have been left to the wild—a state in which their trunks grow thick and unworkable and their bark naturally loses potency. The once-proud government quinine factory sputtered through the 1980s and 1990s and eventually closed in 2000—seemingly sounding the death knell of this once-vital industry.

West Bengal meanwhile remains unsure of what to do with the cinchona plantations and the tens of thousands of people who live there. Owing to their complexity and political volatility, the cinchona plantations have avoided the fate of other government industries like the Bharat Aluminum Company Limited (established in 1965 and privatized in 2001), Indian Drugs and Pharmaceuticals Limited (established 1969; liquidated 2021), and Air India (established 1932; nationalized 1953; privatized 2022). While these public sector industries have been privatized and/or had their resources redeployed for other government purposes, the riddle of the cinchona plantations remains unsolved. The trade unions' resistance to privatization and the broader sensibilities of the Gorkhaland movement have made these spaces a political quagmire. With the outlook bleak and the politics volatile, West Bengal has, for now, allowed the once-vital quinine industry to seemingly die a slow death.

Crucially, though, the plantations' final day has not yet come. Dilapidated and "out of time" these places may be, but cinchona workers continue to drag themselves to work to ensure their right to government wages, homes, and land. Quinine's time may be passed, but for the people who remain, obsolescence is not a viable option. As the plantations deteriorate around them, the meantime is hardly

ideal. But it is what the cinchona community has to work with. And so they continue to do what is necessary to stay in these places that are their home.

AND THE LIFE THEREAFTER

The politician was running late. The 2022 local elections were only weeks away.[113] A candidate from nearby Kalimpong Town had requested an audience with Munsong's cinchona workers. And thus it was after their shift, at about 4:00 p.m., when I happened upon a dozen men, some still dirty from their day's work in the fields, sitting around on plastic chairs beside the road overlooking the plantation. It had the look of a political meeting, so I parked my bike, grabbed a cup of tea, and introduced myself. The workers graciously welcomed me to join them as they waited for the politician's arrival. I took a seat and listened as they strategized about what they should tell the candidate they needed most on the plantation. The men spoke mostly of mundane things like pipes for bringing water from the nearby springs and materials to repair the crumbling roads of their villages. When I asked about the growing number of vacancies appearing in the workforce—an issue that people were increasingly seeing as indicative of West Bengal's abandonment of the plantations—the conversation took an existential turn.

A retired laborer, freshly dressed with a black messenger bag slung across his chest, took the lead. "It's a cycle," he told me, explaining how the *badli kam* system is supposed to work. "When someone dies or retires [moving his top hand away] we are supposed to get promoted [moving his bottom hand to replace his top hand], and then a laborer gets promoted to fill our post [using his free hand to fill in the vacancy below]. So it's a cycle. But if the cycle ends, life ends." Then, suddenly, casting his gaze and hands out over the cinchona fields, as though wiping everything away: "It all will come to a close."

The men and I nodded along in agreement with the retiree's take on the gravity of the situation. The erosion of the *badli kam* system had recently become a hot button political issue—one I was tracking closely. So I took the opportunity to convey my understanding and solidarity. "This is a terrible situation," I told the workers, solemnly, "and it's so important for you and the future."

"Yes," a man to my right responded. Then, cracking a smile, "You're like our *bubu*." Seeing a puzzled look come over my face at the mention of *bubu*, a term I didn't know, he continued, "Do you know this word, *bubu*? It's the Rai term for 'elder brother.'[114] You are like our brother [now using the Nepali term, *daju*, with which I was familiar]."

"Wait a second," I said, "are you *all* Rais [one of the many Himalayan ethnicities that make up the greater Gorkha community]?"

"No, no. He's a Tamang [another subgroup within the Gorkha community]!" he said, pointing to a man to our left.

"Yeah, and he's a Gurung!" a man to our right exclaimed, smiling.

Fingers began flying, as the men excitedly called out each other's ethnicity—all of them part of the greater Gorkha community.

"He's a Rai!" one called out.

"He's a Gurung!" another responded.

"He's a Limbu!"

As the workers playfully pointed out each other's ethnicity in rapid-fire fashion, it was clear that these were less statements of division—they were all Gorkhas, after all—and more expressions of their intimate familiarity with one another, as neighbors, coworkers, and friends. Call them *daju*, call them *bubu*: these "brothers" were clearly able to have a little fun with the internal pluralism that has long defined Gorkhas on and off the cinchona plantations.[115] And so, with fingers still flying, the banter continued.

"He's a Magar!"

"And he's also a Tamang!" another worker called out, pointing at the retiree with the messenger bag.

"Ahhh, so you are a Tamang, eh?" I said knowingly to the retiree. Then, turning to face him and folding my hands in prayer position, I offered him the proper Tamang greeting that I had learned in my earlier research on ethnic revitalization in the region. "Fyafulla," I said. And again, this time bowing with a beguiling smile, "Fyafulla!"

Everyone burst into laughter at my joke, then joined the fun of saluting our Tamang friend in the most "formal" way possible. A chorus of "fyafullas" ensued, much to his chagrin.

It was a moment of levity in an otherwise heavy conversation. Sitting there waiting for a politician that was nowhere to be seen, we spoke of many things: the neglected cinchona trees towering over us; our respective experiences of the COVID-19 pandemic; the upcoming elections; and, of course, the concerning state of affairs on the plantations. Having borne the brunt of our jokes, the Tamang retiree again took the lead. "We have huge stocks of medicine here. Huge stocks in our go-downs! But it's all expired. It's all rotting! Cinchona is supposed to be uprooted for harvest after sixteen years. But we have trees that are forty and fifty years old. Their bark has grown weak. Do you see those trees up there?" he asked me, pointing to a gnarled stand of cinchona growing across the road. "Those are probably twenty or twenty-five years old."

Other men chimed in to fill the gaps. They told me how nothing was running as it should. Not the cultivation. Not the manufacture. Not the employment. In painstaking detail, they walked me through the cultivation cycles they knew so well and the slow pattern of neglect that had brought them to the current situation.

After forty-five minutes, it was pushing 5:00 p.m., and the politician still hadn't shown. The workers were getting impatient. Several tried calling the mobile number they had been given in hopes of figuring out where the politician was and

when he might arrive. But to no avail. I needed to make another appointment down the road, so I bid my *bubus* farewell. Cycling away from our discussion—a row of workers' homesteads-turned-homestays on one side of the road, overgrown cinchona stands on the other—it was hard not to interpret our conversation as a greater narrative of abandonment.[116] The plantations' deteriorating infrastructure (pipes, roads, etc.), neglected trees, and rotting bark stores, the eroding rights of workers who live and work in these places, absent politicians: these conditions were all one and connected—an assemblage, or "ecology," that, after years of providing life, was now coming undone. The conversation might be read as its own kind of requiem, except for the vital fact that it was all happening now, and neither the plantation nor its community was yet dead and gone. To the contrary, they were very much alive, very much present. This then was no requiem. It was a testament to the realities of the life thereafter.

• • •

The rest of this book journeys further into the time-space of quinine's after and stays there until its end. Turning to explore the conditions, projects, and horizons of the cinchona community now—*after* quinine's rise, *after* its fall—it's important not to lose sight of the multiple forces that made this humble alkaloid a world-historical substance. Precisely because it rose to global prominence as an assemblage of plants, lands, people, chemicals, power, and more, India's quinine industry has not so much died as fallen part, leaving in its wake a smattering of remains—human, material, and otherwise.[117]

Overgrown cinchona trees, exhausted soils, corroded machines, bark rotting on the factory floor, and quinine's other sundry remains may read as signposts of postcolonial, postindustrial ruin—"imperial debris," as it were.[118] But talk with plantation residents and explore their lives and politics, and one arrives at a somewhat different reading: one in which cinchona, land, and quinine's other remains are not simply what a people have been left with. These things and places are what makes the cinchona community who they are.[119] For a people forged in the crucible of colonial becoming, these pasts are not easily shucked. Nor are they easily forsaken.

Unlike during the colonial days of old, the question today is no longer how to make a life with the myriad "things" that made quinine a world-historical substance. It is how to make a life with what remains. One hundred fifty years after the British brought the fever tree to Darjeeling, the present-day cinchona plantations constitute the grounds for a different set of struggles, a different kind of becoming. These places may appear anachronistic and worn out. But for a people otherwise left behind by empire and its medical impulses, quinine's remains are the elements with which the present and future must be made. They are the stuff of the chapters to come.

2

After Quinine

A Politics of Remaining

The ground is scarred and steep. One can barely stand, let alone work, on the overgrown hillside. The plantation's laborers are nevertheless there, working amid the cinchona. After generations tending to the fever tree, they've grown accustomed to working on these slopes: one foot up, knee bent; another down, leg straight; rubber shoes digging into the earth. Beyond this denuded patch of forest, the hillside dives sharply into the valley. The Himalayas ripple into the horizon. The view, the angles, it can be hard to get one's bearings. Best to focus on where one stands. Even that is no easy task. Stumps, roots, and rocks jut from the upturned earth in every which way, making for treacherous footing. It wasn't always like this. Cinchona saplings used to line these hills in 4-by-4-foot plots, carefully calculated to maximize quinine production. That colonial order is long gone. The scourge is now fought with other drugs. The history of empire and medicine has marched on. Yet the fever tree remains—neglected, overgrown, and dug in.

Today Sunil and his crew are digging it out. It is brutal work, but the plantation's orders are the plantation's orders. So every day for weeks now, Sunil and his coworkers—a ragtag group of roughly a dozen men and women—have come to this patch of forest to cut down the cinchona, wrest its roots from the ground, and clear the space for something new. As his colleagues work below, Sunil takes a breather to fish out a rock and debris from his flimsy rubber shoe.

I had seen patches like this appearing across the plantations—an acre here, another there—where the directorate was experimenting with alternative crops that might make the plantations viable. So when I came across Sunil and his crew one morning while biking through the plantations and asked him what they would be planting once the clearing was done, his answer surprised me.

"Cinchona."

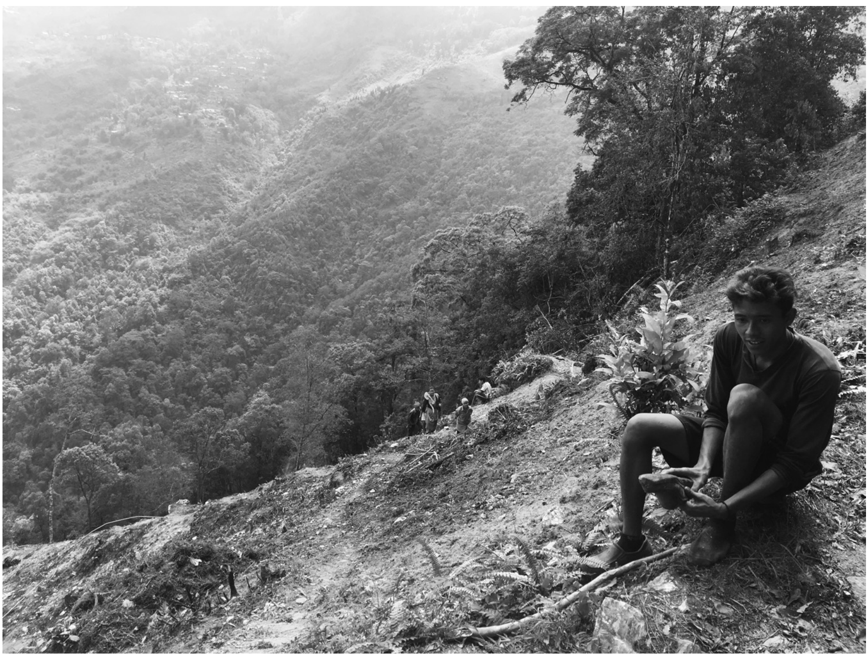


FIGURE 19. Sunil and his shoe, with coworkers laboring below, 2019. Credit: Photo by author.

I rescanned the scarred ground in front of us. Sure enough, amid the debris were bundles of the stakes (*khutti*) the plantations had long used for "sticking" new cinchona plantings. Once Sunil's crew finished clearing the ground and digging the plots, other workers would bring cinchona saplings from the nursery to grow on this hillside once again. They call these clearings *naya kaman* (new plantation).

Most cinchona workers whom I've come to know have only faint knowledge of the global histories that precipitated quinine's fall from the world stage: the collapse of empires, the advent of synthetics, the ever-evolving war on malaria. They are largely unaware that barks grown in the Democratic Republic of Congo (DRC) are twice as strong as those grown here. They are largely unaware that cocktails bubbling with "Indian Tonic Water" (made with DRC quinine) sell in London for prices amounting to several days' wages on these plantations. But they know that Indian quinine is not what it once was. They see the decay. They hear the rumors. The plantations' time is up. This industry is on life support. It could be any day that the government "signs the death certificate," as people often say, and ends these places once and for all.

And yet, despite the foreboding, Sunil and his crew are here, working one foot above the other, trying to make something of these remains. Given how much the world has changed since quinine coursed through empire's blood, some might see

the hard labor they are putting into this hillside as futile—a Sisyphean task. For Sunil and cinchona's laborers, it is just a Thursday morning. And so, with that pesky rock and debris removed and his shoe readjusted, Sunil gets back to the project at hand.

. . .

What happens *after* a world-historical substance runs its course? Cinchona and quinine count among the many plants and chemicals that have "changed the world."[1] But like so many of these earlier world-historical substances, today their time has seemingly passed. How is it then that the cinchona plantations remain?

Seen from the twenty-first century, the historical existence of India's cinchona plantations is not surprising. Malaria killed and cost millions throughout the colonial period. That the British Raj brought cinchona from South America and pressed the plant and the land and people of the Darjeeling Hills into imperial service to protect the empire from the disease is no revelation. What is remarkable, anthropologically, is that India's cinchona plantations *still* exist. This chapter asks the deceptively simple question: How do these places and people remain?

As a practice, remaining may seem the most basic of acts. When one's place in the world is in jeopardy, it is indeed a bare minimum. Remaining for the cinchona community, however, does not reduce to mere biological survival. As a project and politics, it is not then a "minimal biopolitics" meant only to preserve life in its barest sense.[2] Cinchona workers' efforts to remain on the plantations emanate instead from their deep attachments to the lifeways these places have afforded—most notably, their connections to their homes and lands, the cinchona, and, beyond all else, the community that has taken shape on these plantations. Workers like Sunil will be the first to tell you: life after quinine is far from easy. The conditions can be rough. The horizons, bleak. Yet run-down though they may be, the cinchona plantations are nevertheless places of belonging, solidarity, and life in all its ups and downs.[3] Places worth fighting for.

Later chapters examine the projects through which people are looking to make something better of these otherwise forlorn plantations: how, that is, they are trying to become-after quinine. For now, I want to focus on something more fundamental: remaining.

The challenge of remaining (and becoming) after quinine cannot be understood outside of the global histories of empire, malaria, medicine, and chemicals that thrust this alkaloid to the world stage and later led to its fall. That broad historical perspective is indispensable. Yet the experiences of people like Sunil also beckon a different mode of inquiry, one that moves down from the epochal framings of the world-historical and into the quotidian matters of the remains: roots, rocks, and all the rest. As in most places, life typically happens small on the cinchona plantations. It involves "little" things like seeds, clearings, and the everyday challenges of repairing homes, finding jobs, getting kids to school, and putting food on the table. It is

mundane. And it is gritty—physically, emotionally, and politically. Entailing the hard work of plantation labor and the even harder work of maintaining one's place in a rapidly changing world, the lives and politics of quinine's remains do not operate at the grand scale of the world-historical.[4] They are more humble and immediate than that. They are principally concerned with the here and now.

In many ways, this is how it has always been. Even as the British summoned the power of empire to fight malaria, life for cinchona workers was always about clearing jungles, planting seeds, nurturing trees, stripping bark, managing chemicals, running machinery. These were the small things that made quinine a global phenomenon. The difference between then and now is that there is no longer the same demand for this drug. The assemblage of forces that thrust quinine to the world stage has fallen apart, or at least become something else. Empire and medicine have moved on. But the remains remain. *Their* story continues to be written.

For workers like Sunil, life after quinine is addled with paradox—none more glaring than laboring for an industry that history has rendered obsolete, none more material than cultivating cinchona bark only to watch it rot. But dealing with these conditions today feels necessary to finding a dignified life *after* quinine, tomorrow. To those who dwell among the cinchona, the plantations are not relics of a previous era. They are home—places of life, work, community, and maybe the becomings of something better. These are the grounds on which the cinchona community has chosen to work and defend its place in the present. With the future uncertain, Sunil and his community are doing what *today* demands: they are clearing the ground, planting cinchona, and seeing what comes of it. To the epochally minded outsider, their labor may seem futile. But it is the precondition for remaining—and becoming—amid the remains. For the time-being, it is what is required.

These are the circumstances in which we find Sunil and his crew struggling for traction on Munsong's overgrown hillside. Like others who find themselves on the steep slopes empire has left behind, they do not necessarily do so under conditions of their own choosing.[5] Still, they are doing their level best to forge a life in the remains. Long after the British brought the fever tree to India, they are there, working one foot above the other, wrestling with cinchona, preparing the ground for something new.

And so, on a Thursday morning in 2019, there is a clearing.[6]

PERSISTING CAPITAL

Before the clearing, there was a politics. The trouble began decades ago when foreigners in suits began showing up on the cinchona plantations—seldom a good sign in far-flung places like these. Worse still when they come back.

In 1991, India's finance minister and future prime minister, Manmohan Singh, announced the liberalization of India's economy. Marking a turn away from

the Nehruvian socialism that defined India's economy since independence, the embrace of free market capitalism opened the door to the privatization of many of India's public sector utilities and government-run industries. It did not take long before investors came calling on West Bengal's "sick" quinine industry. By 1992–93, representatives of Hindustan Lever, a subsidiary of the multinational Unilever, and their international consultants from PricewaterhouseCoopers were prowling the cinchona plantations, surveying the resources on offer. These included 26,000 acres of topographically diverse land, the labor potential of tens of thousands of residents, and significant industrial infrastructure, not all of which was beyond repair.

The ensuing events—reconstructed here through oral histories and ethnographic engagement with many of the key players—have become legendary on the plantations. In workers', trade union activists', and community leaders' tellings, local hackles went up as soon as the suits were spotted surveying the plantations. Suspicions were confirmed when Hindustan Lever subsequently unveiled its proposal to convert the entirety of the cinchona plantations to tea. The public-private partnership (PPP) proposed significant labor retrenchment, land expropriations, and infrastructural overhauls. The proposal met immediate backlash. Foreseeing the end of lifeways generations in the making, the cinchona trade unions launched strikes and *gherao-ed* (publicly harassed) officials. This was a force that PricewaterhouseCoopers had missed in their scrupulous reports on the downtrodden plantations. Confronted with the unexpected political escalations, Hindustan Lever quickly recognized its oversight and walked back the plan. The company returned with another proposal to retain some cinchona while converting much of the plantations to tea—a compromise they hoped would assuage the openly defensive cinchona community.

In 1996, the West Bengal government convened a meeting of stakeholders in the nearby city of Siliguri to discuss and move the plan forward. The cinchona trade unions had other ideas.[7] The meeting began in staid fashion with representatives of Hindustan Lever, PricewaterhouseCoopers, and government agencies seated around a boardroom table. It soon erupted into chaos. Spurred on by trade union leader and then-Kalimpong MLA, Renulina Subba (aka the "Iron Lady of Cinchona"),[8] union members stood up and began shouting at the officials, lambasting them for selling out the cinchona community. In dramatic fashion, the union members then walked out. Having upended the meeting, the unions flexed their muscle by calling regionwide strikes (*bandhs*) to oppose privatization.

With the situation escalating, politicians worked behind the scenes to salvage the deal. I met with the trade union secretary, L. M. Sharma, in 2017 to revisit those tumultuous days when life with cinchona teetered on the brink.[9] The revered labor leader, now getting on in age but still with fire in his eyes, recalled the government's attempts to persuade the unions. "The local MLA took us to Writer's

Building [the state capitol in Kolkata] and arranged for a meeting with the minister of commerce. . . . We had quite a heated discussion with him. He insisted that cinchona is a losing concern," Sharma recounted. Sharma and his cadres countered the government's dismal logic by insisting that the plantations were rich with untapped potential. Showing a good-faith willingness to think outside the cinchona box, they explained how cinchona cultivation could be combined with timber and other initiatives to create a portfolio that would allow the plantations to carry on without undue burden to the state.

Their pleas seemed to strike a chord with the Left Front government official, Sharma remembered. Since 1977, West Bengal had been ruled by an alliance of communist Left Front parties, spearheaded by the Community Party of India (Marxist), or CPI(M). The Left Front's ideological commitments to workers, along with its belief in state enterprises and general skepticism of private capital,[10] provided a buffer of sorts for the troubled cinchona plantations. The CPI(M) maintained an active party and trade union presence on the plantations.[11] And throughout the 1980s and 1990s, Left Front officials often reiterated their concern for workers—particularly when union leaders like Sharma came calling. As A. K. Jain, special secretary of West Bengal's Commerce and Industries Department (which then presided over the cinchona plantations), framed it in 1992, "The Directorate having its location in the hills of the Darjeeling district had some *social obligations*" to the cinchona plantations and their workers. But then the official in Kolkata hedged. "Simultaneously," he went on, "the economic viability [of the plantations] would also be explored."[12] Ultimately, the Left Front's affinity for workers could only forestall a reckoning for so long. By 1992, the "time had come to think whether it would be desirable to go with cinchona or not," Jain opined.[13] Officials in Kolkata promised there would be no retrenchment of laborers. They likewise welcomed proposals such as those put forth by Sharma and the unions to save the "sick" industry. But the bottom line was the bottom line: the plantations were hemorrhaging state funds. Hoping to stop the bleeding, the Left Front government continued to court the handover to Hindustan Lever.

Back on the plantations, field officers, nearly all of them Gorkhas with deep connections to the cinchona community, found themselves at the fulcrum of the controversies. On the one hand, their job was to issue the orders of the cinchona directorate (itself part of the West Bengal government). On the other hand, they needed to manage the concerns of laborers and their volatile unions. Of the latter, there were many. For decades, the cinchona plantations had been contested territory for a revolving door of trade unions—some affiliated with local political parties, some representing national parties, and others specific to the plantations themselves.[14] All of these unions had their own ideas about what should and should not happen to—and on—the cinchona plantations. Field officers, by dint of their position, often bore the brunt of these demands. They were the ones issuing

West Bengal's orders, after all. A Gorkha officer I came to know well during fieldwork recounted the difficulty of balancing these contending forces in the face of privatization. West Bengal and the directorate could say what they wanted about protecting workers, but from his vantage point it was clear: "The government was trying to give as much of it [the plantation system] away as possible. They were just trying to get rid of it."

Laborers, meanwhile, were growing increasingly leery of the men in suits. With rumors swirling that a secret deal was imminent, the situation came to a head in 1997, when Hindustan Lever and PricewaterhouseCoopers representatives convened at the plantation headquarters in Mungpoo. The trade unions summoned their members to crash the meeting. Some made their way inside and began hurling furniture through the windows before seizing the proposal and ceremoniously burning it. Spooked by the escalations, Hindustan Lever, at the advice of the government, walked away. This time they did not come back.

The turning away of Hindustan Lever marked an important victory in the fight against privatization, but it was not long before other investors came calling. In the late 1990s, they came from Dabur India Ltd., a manufacturer of ayurvedic medicine. It was not cinchona and quinine that brought them. It was the land. Specifically, they eyed the fertile hills for the cultivation of *Taxus buccata*, a natural cancer treatment known to grow well on the plantations.[15] But because their proposal neglected to address either cinchona or local livelihoods, the unions vehemently opposed it, again mounting a successful opposition that drove Dabur away.

The government found itself in a bind. By its own ideology, West Bengal's communist Left Front government could not ignore the well-being and political will of tens of thousands of cinchona residents. Then again, what was to be done with an industry for which there was no market? In 2002, West Bengal hired the international consultancy McKinsey & Company to help answer that question. Hoping to head off resistance, the local district magistrate (DM) called trade union and political leaders to his office to explain the government's logics. One of those leaders, the late R. B. Chhetri, a preeminent local intellectual,[16] remembered the DM framing the situation in terms of darkness and light. "The cinchona plantations are now going through a tunnel of darkness," Chhetri recalled the DM proclaiming. "For survival, you see a light there. And that light is privatization. Else you will remain inside the tunnel."

Dark metaphors aside, McKinsey consultants were enlightened about a different view when they began their assessment. Word spread quickly that the McKinsey reps were touring the plantations. By the time the team arrived at Mungpoo, the unions were waiting. A crowd of plantation residents and union members stopped the team, demanding that the consultants reveal their true intentions. The confrontation turned violent, and someone snatched files from a consultant's hand. As one witness I interviewed recounted, "When the mob saw the McKinsey

files, they burned them. That's when they [the McKinsey reps] ran away." This was the third time in a decade that the unions chased away threats to the cinchona plantations' existence.

That numerous private investors have eyed the "sick" quinine industry following liberalization is hardly surprising. Laborers' opposition—especially given the industry's dire condition—warrants a closer look, however. How are we to understand the persistence and vitriol with which the unions chased away private capital? Are there lessons in the ashes of those proposals snatched and burned?

Cinchona laborers' resistance to privatization has centered on safeguarding the "facilities" guaranteed by their work on the government plantations—none more important than land. As described in chapter 1, the plantations' "noncommercial" design, coupled with cinchona's finicky materiality that only allowed it to cover a select portion of the plantations, ensured ample land for laborers. Unlike on Darjeeling's private tea plantations, where laborers received only paltry garden plots, cinchona laborers were, during the colonial period, allotted sizable fields— often between one and five acres—to accompany their government-provided houses.[17] Workers have never owned these homesteads. (Legally, they are government property.) Yet they have shaped life in distinct ways.

FIGURE 20. Plantation homestead with home, field, cowshed, and family grave, 2017. Credit: Photo by author.

Passed down through the generations, homesteads have allowed workers and their families to maintain a relatively comfortable peasant existence alongside their wage labor. Plantation residents continue to use these lands to grow fresh vegetables and raise livestock, mostly for domestic use. These subsistence practices were particularly important in earlier times, when the plantations were not as connected to regional food markets as they are today. As more roads and merchants link the remote plantations to the thriving markets of Kalimpong, Darjeeling, and the bustling city of Siliguri in the plains below, the value of workers' homesteads is changing. Workers are perhaps less dependent on the land, yet most families still rely on their fields for gardening, animal husbandry, and other subsistence farming endeavors—crucial supplements to the wages that their *badli kam* posts provide. Many are using their homesteads to run small businesses like food shops and homestays (see chapter 4). Meanwhile, *badli kam* posts and the homes, wages, and "facilities" that go along with these government jobs provide stability for Gorkhas as they encounter new and long-standing forms of marginalization from the national mainstream. From the start, these homesteads have provided Gorkha workers a place in the world. They are defining features of life with cinchona.

Privatization threatened these lifeways. Cinchona residents note how the plantations' distinctive *historical* character introduces a range of present-day conundrums. "The government is asking us to make a profit, but they do not understand," a *gangman* explained to me one morning after the muster at Mungpoo. "The cinchonas were not made for that purpose. They were not made for profit. We are making a lifesaving drug. When the world was in crisis with malaria, we were providing the lifesaving drug that the world needed. We are not made to produce profit. And it is not fair. You don't ask the health department to turn a profit. So how can you ask us?"

Others elsewhere connected the cinchona plantations' distinctive character to the resistance to privatization. "Cinchona has its own ways of functioning. It is not a private enterprise," an officer who grew up on the plantations told me over tea in 2019. "The people who are here have lived [here] for generations, and if Hindustan Lever tells a worker that it is not able to take him in, then what will happen to the family that is dependent on the worker? The land that has been allotted to the family will now belong to Hindustan Lever. So that is a huge thing."

These entanglements of land, labor, and family history ran through many of the testimonies I gathered during fieldwork. When I interviewed R. B. Chhetri from his plantation home in 2017, he elaborated on these attachments and why they are worth defending. "The land is precious," he explained in English, looking back on his years of opposing privatization. "We have emotions, sentiments, belongingness, attachment, culture, and society attached to our homes. I would never give

up this home of mine. . . . They [Hindustan Lever] understood they had stirred a hornet's nest. And that's when they left."

These aren't the only sentiments of home that have made the cinchona plantations a hornet's nest. The plantations have also become a front line of the Gorkhaland movement. From its inception in the 1980s through the most recent agitations of 2017, the movement's goal has been to free the region from the neocolonial clutches of West Bengal and thereby establish for Gorkhas an autonomous state of Gorkhaland. Because the cinchona plantations were (and remain) the property of the government of West Bengal, they have periodically morphed into a battleground of this subnationalist struggle for ethnic autonomy, territory, and belonging.

The Gorkhaland agitations put cinchona workers' resistance to privatization in ethnopolitical context. The same sentiments of "belongingness, attachment, culture, and society" that fueled the fight against Hindustan Lever fuel the fight for Gorkhaland. Both the plantations and Gorkhaland are home—one nested in the other. The Gorkhaland movement has accordingly reframed the cinchona plantations as a distinctively ethnic space: a markedly different kind of claim on quinine's remains from those of the West Bengal government or private investors. Imbuing these spaces with communal passion and violence, the Gorkhaland movement has further made the cinchona plantations a difficult, dangerous place for outsiders to do business: a hornet's nest.

And yet, despite the volatilities, capital keeps coming back. Recent years have seen numerous piecemeal attempts to develop the plantations. Proposals for ecotourism resorts, ashrams, and other corporate ventures have largely gone nowhere, owing to local resistance and the legal-political complexities of privatizing government lands. However, the plantations have ceded ground to other governmental uses: 91 acres were allocated to the National Hydro-Electric Power Corporation (NHPC) for the damming of the Teesta River in 2003, and smaller parcels went to an industrial training institute (ITI) in 2016 (5 acres) and a government tourist complex in 2017 (6 acres). Although small in comparison to the wholesale overhauls pitched by Hindustan Lever, for those defending the plantations such land grabs portend a future of loss.[18]

Most residents believe it is only a matter of time before additional private investors come calling. In the official logics of the state and capital, after all, India's cinchona plantations have lost their raison d'être. With cinchona growing wild, its bark rotting, and the quinine factory beyond repair, the plantations would seem to be decomposing into ruins, unused spaces, and "waste lands." These tropes, however, should sound an alarm for students of British imperialism in India, where the "waste lands" designation functioned as a legal mechanism to expropriate massive tracts of ostensibly "uninhabited" land.[19] Unlike the native cultivators (*ryots*) of these lands who were conveniently ignored, displaced, and written out of colonial

histories of primitive accumulation, the people of cinchona today are refusing to become subalterns. Only their struggles do not concern being written out of history so much as maintaining their presence in the present. In short, these struggles are a practice and politics of remaining.

THE MEANTIME AND ITS POLITICS

The cinchona community's fight against privatization attests that quinine's remains are not dead. The political battles over the future of the cinchona plantations hinge precisely on the fact that there is (and can be) life in these remains—human, material, and otherwise. For a people struggling to maintain their place in the present, admitting to the deadening terms of ruins and obsolescence could be devastating. Many plantation residents and leaders I have come to know through fieldwork cling to the possibility that India's quinine industry will be rejuvenated. Experts familiar with the science and economics of quinine (botanists, chemists, and others) doubt that possibility, however. The plantations' bark can no longer compete with Congo's, they told me. Any talk of quinine's rebirth is a "political drama," as one plantation chemist called it, meant only to keep hope—and the status quo—alive.

Are the hopes of a future in cinchona, then, an instance of what Lauren Berlant calls "cruel optimism," that "condition of *maintaining* an attachment to a problematic object in advance of its loss"?[20] Yes and no. More interesting, I suggest, is the temporality of their optimism—that "*maintaining*." When unions dig in against the threat of privatization and insist that the cinchona plantations can be revitalized, they strategically pry open the present in the name of the life in the remains. In doing so, they parry the advance of unwanted futures and buy themselves time to find a better alternative.[21] Lacking clear answers as to what comes next, their practices of remaining are not geared so much to the future as to the present. They are a politics of the meantime.[22]

Temporality is vital to these politics. Trade unions passionately refuse the logics of anachrony that would relegate the cinchona plantations to the past. Maura Finkelstein observes similar dynamics in her ethnography of workers in Mumbai's seemingly antiquated mills. Finkelstein warns against the analytic dangers of reading such spaces as anachronistic or allochronistic. "The mill is not a relic from the past," she notes. "While [it] may invoke a sense of pastness, this orientation toward ruin forecloses our ability to engage it as a lively and vital space of modernity. This is a crisis of temporality."[23] Indeed, for Darjeeling's cinchona workers and other postindustrial communities on history's brink, coevalness is precisely what is at stake.[24]

Part of this temporality work is making sure the plantations remain *government cinchona* plantations, as their name indicates. Never mind that they are not producing quinine; so long as the plantations are *government* entities growing

cinchona, then by the state's own charge, these places can less easily be done away with. There are also material rationales. Malaria still kills and sickens millions globally. Bugs continue to develop resistance to the latest drugs. Quinine meanwhile has proven less susceptible to the malaria plasmodium's evolving defenses than have synthetic drugs.[25] The natural alkaloid retains its remarkable ability to suppress malaria's intermittent fevers. Moreover, there could still be *undiscovered* usages for this once-"miraculous" medicine (see chapter 4). More certainly, quinine continues to be a signature ingredient in tonic water—itself a booming global market. The fever tree's materiality carries then a spectrum of possibilities (medical, commercial, etc). So long as the plant is biologically alive and plantation workers retain the knowledge of how to grow it, cinchona cultivation remains a strategic tactic—and matter—of the meantime.

Understood accordingly, the backbreaking work of clearing abandoned cinchona forests to plant cinchona does not necessarily enact a blind or cruel optimism. Rather, it ensures that the plantations and their people retain their identity and purpose while also holding open the space for cinchona and quinine to find renewed value in the world. Sticking to the old ways and planting cinchona offers its own kind of bulwark against those forces threatening to relegate these lands and lives to the past. More immediately, it guarantees things like government-provided jobs for workers, homes for families, and a range of other facilities that afford marginalized Gorkhas much-needed security in an India undergoing massive socioeconomic transformations. That these plantations and their communities would keep on with the plant that has defined—and defines—them is not just understandable. It is strategic.

Few believe that cinchona is the only answer. Today new crops are being piloted across the plantations. Land is being cleared and seeds are being planted for experimental cultivations of citronella (25 acres), kiwi (3 acres), coffee (132 acres), medicinal chirata (39 acres), and ginger. These projects, which I return to in chapter 4, build on previous diversification efforts that have included cardamom (124 acres), rubber (397 acres), mandarin oranges (246 acres), and medicinal ipecac (92 acres) and dioscorea (6 acres).[26] To date, not one of these crops has *individually* shown a clear path out of the present impasse, but unions and many plantation officers believe a viable *combination* can be found. But this will take time, work, and investment. In the meantime, plantation leaders and workers have elected to continue planting cinchona in the hope that it too may show a way forward, or at the very least hold open the time and space for something else to rise out of quinine's remains.

The symbolism of development proposals snatched and burned are hard to miss but easy to misinterpret. Destroying the bids of Hindustan Lever, PricewaterhouseCoopers, and McKinsey & Company does not represent an obstinate clinging to the status quo. Neither does it enact a cruel optimism extending the agony of an inevitable loss to come. Cinchona trade unions and the people they represent

FIGURE 21. Workers caring for cinchona sprouts at the plantation nursery, 2022. Credit: Photo by author.

are not unwilling to change. Their contention concerns *what* change will entail. When cinchona workers look across to their neighbors on Darjeeling's private tea estates they see precisely the kind of ruination one would expect on the postcolonial plantation: extreme poverty, workers devoid of facilities and basic rights, plants and soils devastated by relentless monocropping, gardens that open and close on the whims of the market, and so on.[27] That cinchona workers have vehemently rejected tea as an option is therefore unsurprising. This is a community built around a very different colonial plant and a very different colonial project. Cinchona plantation residents do not lack a sense of futurity. They may lack definitive answers to what the future may hold, but they are centrally concerned with the question of what comes next. Most recognize that things cannot go on as they are and that this may mean parting with the objects—cinchona, quinine—that have defined their livelihoods for generations. But until an acceptable future comes into view, they have chosen to remain and, where necessary, fight.

These defenses of the twenty-first-century plantation may seem odd. Many scholars view plantations as the modal complex of capitalist devastation.[28] What does it say then about the prospects of present-day life when communities *choose* the plantation and defend its existence? Is this not an indictment of the dismal horizons offered by India's liberalization, particularly as glimpsed from the margins? If these defenses of the plantation cast the vicissitudes of neoliberalism in stark relief, they also beg a more ethnographic questioning of why *these* communities defend *these* plantations. The answer, their politics of remaining suggest, lies in the ways a people *became-with* cinchona, quinine, the land, and all the rest.

Through time, the plantations became the grounds not only of livelihood but also of community and belonging. These latter elements of life amid the cinchona have proven to have greater staying power than quinine itself.

None of this is to suggest that things are as they were or should be. Cinchona workers are quick to explain how the plantations' aging infrastructure, diminishing biochemical energies, and stubborn institutional logics constrain them. Yet despite the constraints and precariousness of living in these remains, the cinchona plantations nevertheless afford vital forms of stability and belonging amid the *other* forms of extraction loosed upon the world. That cinchona workers would defend these plantations as their home thus comes as little surprise.[29]

The meantime may not be ideal, but it is better than succumbing to the depredations of privatization. With the plantations deteriorating and capital on the prowl, cinchona's trade unions and communities know that time is not necessarily on their side. But time is also precisely what they need, before all else, to find a way forward. Maintaining the status quo (despite its problems) thus buys these communities time to seek alternatives. The paradox of maintaining a troubled present to find a better future is undeniable. But bereft of acceptable alternatives, the cinchona communities has chosen to defend these dilapidated plantations and the lifeways they afford. Their future is murky, but their politics are clear: there is life—and lives—in quinine's remains that must be accounted for.

AN OCCLUDED PRESENT

On a rainy summer afternoon in 2019, Vikash and I convened a group of workers to discuss cinchona's present circumstance. There, on a hillock with experimental crops surrounding us, the workers—all men, ranging in age from twenty-one to fifty—talked us through their frustrations and hopes. Their testimonies, spoken over lashing rains and hot tea, told of a present troublingly bound by quinine's colonial past.

Pemba, a plantation *chowkidar* (guard) in his early twenties, was coming off an all-nighter patrolling the dilapidated quinine factory. Zimba and Suraj, also in their twenties, were field laborers who had only recently inherited their positions from family members. They worked in the cinchona stands, clearing fields, planting saplings, and tending trees. What would happen to today's cinchona was unclear. While the plantations were still harvesting and drying bark, the prospects of this bark becoming medicine were slim. A viable market for Indian quinine no longer exists. And even if it did, Mungpoo's shuttered quinine factory was not up to the task. The planting of new cinchona was therefore somewhat misleading. As Zimba explained, "When we look at things, all seems well. But this is not the time to make quinine."

Youth like Zimba, Pemba, and Suraj are now a generation removed from the days when the plantations produced quinine. They accordingly have no memory

FIGURE 22. Workers gathering for the focus group at Mungpoo, 2019. Credit: Photo by author.

of transforming cinchona bark into medicine. Still, they defended the plantations as cinchona plantations. When I asked about growing up in these spaces, they emphasized what was unique about them. Suraj explained, "The environment here is much better than that of Darjeeling and Kalimpong Town. We have a lot of facilities. We have more schools that are better than other places. We have sufficient water." Zimba, Pemba, and Suraj were open to the diversification efforts unfolding around them, but they all held firm to the belief that there could be a future in cinchona. That is why they preferred to keep planting the crop that got them this far.

Yet as we got further into it, their outlook appeared less optimistic. Jobs for educated youth, they told me, simply "weren't happening." There was only so much the plantations could offer aspiring youth. Many of their friends were seeking work and lives outside the plantations, with mixed results. Zimba, Pemba, and Suraj at least had jobs. Their *badli kam* posts gave them a government paycheck and their families the right to live in their homesteads. But these inheritances came with constraints. *Badli kam* bound them to the plantation. From there, life's horizons often appeared boring and bleak. "If we continue to spend our lives here in the plantation," Zimba surmised, "there will be nothing much happening." Not exactly an inspiring outlook for young men looking to do something with their lives.

Pemba, still bleary-eyed from his night shift, piped up. As he saw it, there was hardly any social mobility within the plantation system, especially now that the government was refusing to promote candidates upward through the plantation

hierarchy. So long as the plantations' higher rungs remained vacant, "the people down the rung can do nothing," Pemba lamented. "If promotions take place in the upper strata, then the promotions will open for people working below. We do not have that. Therefore, we have no hope."[30]

At this point, the older generation commandeered the conversation. It was as though the older men, all with a decade or two more experience than Zimba, Pemba, and Suraj, could stay mum no longer. "What they mean to say," Dilip, the eldest, interjected, "is that the system that existed earlier has collapsed. The system should change, but that is not happening. So this has affected the unemployed youth. Apart from cinchona and other medicinal plants, we have no other means of economic viability. Because of this, there are more unemployed people here than employed." Speaking over the youth and the rain, Dilip unleashed a torrent of grievances.

> Our source of income from the cinchona plantation was very good during the British rule. The cinchona industry was the first industry to be established in the Darjeeling district, the factory was built between 1875 to 1880. And as of now, the government has not been doing its work properly on the administrative level. In the global market, our cinchona has not been able to fetch a good price. There is a lot of talk about the cost of labor in the plantation. Keeping this in mind, the government can shut down the plantation any time it wants. Thankfully, because of the local politics insisting the plantation must go on, it continues to survive.

All of us leaned in to hear Dilip over the rain pounding on the tin roof above. As he laid out the long odds against which the cinchona plantations remained, he translated the difficulties into little things like rubber boots and blankets and bigger things like economics and rights.

> You asked us what problems the youth are facing today . . . These are the problems we face. Our daily wages are not at all in proportion to inflation. It is difficult to survive. We get 200 rupees a day, whereas our minimum expenses to run a family is anywhere between 300 and 400 rupees a day. Even the work we get is not regular. The data says 130,000 rupees is the daily expenditure for wages for the plantations' current workers. Yet we are unable to generate proper revenue for the government. The economic graph has fallen sharply for cinchona. Our work culture too is not good. No new equipment is given to us. We do not get umbrellas, rubber boots, and blankets, which used to be our rights. Our rights have collapsed!

Now notably animated, Dilip broke off. Seeming to realize he was dominating the conversation, he ceded the floor to let others tell their stories. Similar to Zimba's and Pemba's laments of "nothing much happening" and having "no hope," the older generations' testimonies told of the dismal conditions at hand.[31] Unlike the young people sitting with us, these older men had spent the better part of a lifetime grappling with the plantation's constraints—stuck, as it were, in the remains. The material and institutional lingerings of quinine's colonial past had profoundly limited who these men had become. Now headed into the backside of their lives, they

wanted something better for the coming generations—a horizon less bound and more open. Something beyond just remaining.

As we sat there on that hillock shrouded in mist and rain, the scene in many ways mirrored the occluded circumstances of which the workers spoke. Through the fog, one could make out an experimental stand of kiwi trees growing nearby but not much else. Somewhere out there in the clouds were stands of abandoned cinchona, interspersed by newer stands cared for by workers like Zimba, Suraj, and Sunil. Somewhere out there were alternative crops planted in hopes of saving the plantations. But, depending on how the clouds were draped over the rain-soaked mountains, it was hard to see. On these lands where quinine's imperial past, present, and future swirled into one another, what lay beyond the hillock where we were gathered—what lay beyond quinine—remained shrouded. And so with a cup of hot tea in hand, I did what anthropologists do: I leaned in, listened, and let these workers tell me of their lives thereafter. On a particularly dreary day in 2019, their stories told of a present tethered and tenuous—a horizon occluded but not without possibility.

THE PRECARIOUS AFTER

Across the valley, the Allays were finding their ways of living in the remains.[32] Born to two cinchona plantation laborers in the distant reaches of Munsong, the Allays were a family of humble origins but accomplished ends. The two sons, Paresh and K. B., moved away from the plantation in their twenties to begin new lives in Sikkim—Paresh marrying and settling down in a rural village, K. B. pursuing his entrepreneurial ambitions in the city of Gangtok, where he founded a successful taxi business. One sister, Medhi, moved to Kathmandu, where she and her husband run a school. The youngest sister, Sylvia, gave her life to the church, becoming a Catholic nun at the age of nineteen. She now runs a home for trafficked children and others in need of care in Kalimpong Town, where she has emerged as a leading voice of civil society. The third sister, Sailee, has had a more challenging journey. From the time she was a little girl, Sailee faced developmental difficulties. Labeled a "slow learner," she was unable to progress past Class 4 and has since struggled with things that many take for granted—dressing and bathing, meeting strangers, and so on. Somewhat independent but also reliant on her family for support, Sailee has remained on the plantation her entire life. One family, different lines of becoming.

So long as their parents were alive and working, the Allays were free to pursue their respective life projects. No matter where their journeys took them, they always had their plantation home—a quaint wooden cottage surrounded by several acres of terraced farmland. The parents' retirement and deaths threw it all into question, however. Who would take over the parents' plantation jobs? If they couldn't fill the two *badli kam* posts, what would happen to their home? Who

would care for Sailee? Paresh, K. B., Medhi, and Sylvia were off building their lives elsewhere. Sailee could perhaps manage the work of plantation labor, but she wasn't capable of running the household on her own. Someone needed to come back. Someone needed to work on the plantation.

Sailee took over her mother's post and did her part to get the family's name in the books daily. But this still left the father's post to be filled. Sister Sylvia was responsible for more than a hundred vulnerable children and was a key liaison between the region's nongovernmental organization (NGO) networks, government agencies, police, and political parties. Too much depended on Sister Sylvia for her to come back. Paresh was ensconced in Sikkim. Medhi was raising her family in Nepal. The onus thus fell to K. B.

To fulfill his family duty, K. B. moved back to Munsong, bringing with him his taxi, a new wife, and an impulse to carve out his own kind of life in the remains—one free from the drudgery of plantation labor. His first move was to pass the *badli kam* position to his first wife, from whom he had earlier separated. When she left the plantation to marry another man, K. B. farmed out the position to a cousin who agreed to work in the Allays' name. But the family had reservations. "We didn't want to let the position go," Sister Sylvia explained to me. "It's a meager salary, but it includes a lot. It involves land, and we didn't want to lose the land. It was our parents' job, part of our heritage. Yes, it's a government job, but it's also, in certain ways, our family business. That attachment is always there."

The family's concerns were validated when the cousin substituting on their behalf began angling to take over both the job and the land that went along with it. Unwilling to lose either, the Allays reclaimed the post and passed it to K. B.'s second wife, Rita—not ideal in the family's estimation, but necessary. With both *badli kam* posts filled, K. B. set to work building his business again, running his taxi from the village and reviving the small store his parents had run out of the back of their house. The arrangement was tenuous, but K. B. could still be a businessman. The Allays' homestead would remain theirs. Sailee would have the support she needed.

But despite the care of her doting big brother, Sailee continued to struggle. The field labor didn't suit her. The long commutes by foot across the forested plantations frightened her. She wasn't taking care of herself as her family had hoped. If only they could find a better arrangement. Then, in 2020, Sailee and the Allays caught a break. A *paniwalla* position opened up at Munsong. During the colonial days, *paniwallas* brought the water to keep field laborers hydrated and working. Considered relatively easy by plantation standards, *paniwalla* posts were coveted and typically reserved for elderly workers. K. B. saw another possibility. He pulled some strings and got Sailee the job. On hearing the good news, the brothers and sisters congratulated Sailee, even poking fun with her that she would need to start bathing and dressing better if people were to accept water from her. Sailee took the job (and ribbing) and became a *paniwalla*. It wasn't hard. With fewer

workers putting in long hours in the cinchona stands, there weren't nearly as many thirsts to slake as in the old days. All Sailee needed to do every morning was serve two cups of water to the staff at the *muster* that met just a few steps from her house. Two cups. Total.

Later her superiors added two cups of tea to her responsibilities. Still, it was almost too good to be true. With a job that suited her, Sailee underwent a remarkable self-transformation. She began caring for herself and engaging the world in new ways. As Sister Sylvia told it, "We were completely surprised! She's a completely different person now. She interacts with people. She keeps herself clean. Even within the house, the changes have been very visible."

The Allays were moving forward. With their homestead secure and Sailee enjoying new purpose, they had emerged from the family crisis posed by their parents' death. Sister Sylvia would carry on with her important work in Kalimpong; Sailee would get the Allay name in the books and deliver those precious cups of water and tea; K. B. would pursue his entrepreneurial ambitions on the plantation; Paresh and Medhi could live their lives elsewhere. As I visited the Allay homestead over the years, the transformations were palpable. The house was abuzz with activity and growing. Sailee was smiling and laughing about how her workday was typically finished by 7:00 a.m. The taxi parked outside was delivering steady income, as was the shop. In 2021, K. B. tore down the aging plantation cottage, replacing the traditional wooden home with a much larger concrete house—a *pukka* house. The family still had their issues: a land dispute with the plantation regarding a road the directorate cut through their fields; siblings bickering over who owned this, who was responsible for that; typical family stuff. But the Allays were finding a way to live with quinine's remains. As a family, they had their place—their home. As individuals, they were pursuing life projects big and small. Generations after their ancestors toiled in the colonial cinchona fields, the Allays were not simply remaining. They were becoming something beyond, something after, quinine.

But it all hung—and still hangs—on two cups of water and two cups of tea. The family readily acknowledge the incongruity of the situation. The sarcasm with which they explained that the job was "perfect" wasn't quite gallows humor. No one was set to die here; not yet. But it was a statement of the precarities of life after quinine. Everyone knows the "the government could shut the plantations down any time it wants," as Dilip earlier put it. Everyone knows the plantations are running at a loss. As the specter of privatization lurks, people openly wonder how long it will be before West Bengal succumbs to neoliberal temptation and sells off the plantations to the highest bidder, effectively "signing the plantations' death certificate" once and for all. These fears translate acutely into the Allays' lives. Particularly for a government looking to mitigate its losses, Sailee's job as *paniwalla* would seem particularly vulnerable. If labor curtailments were to befall the plantations, her job would likely be one of the first to go. That possibility isn't lost on a family

for whom so much rides on those two cups of water and two cups of tea: their family heritage, their home, their careers, their life projects. No one is sure how long it will last. For now, the job is "perfect."

PARJA PATTA

On a blustery January morning in 2021, a cinchona legend returned. The trade union leader L. M. Sharma had been laying low in recent years, but now he was back, standing before Rongo's *muster*, microphone in hand. Bundled up in a puffy black coat, the elderly Sharma stood stiffly but spoke with confident determination to the workers gathered on the field, awaiting their day's orders. He had done this before. This was the same L. M. Sharma who spearheaded the battle against privatization; the same L. M. Sharma who led hunger strikes and gained *permanent* government employee status for workers; the same L. M. Sharma who management feared and laborers revered. Fresh off a near-fatal illness, the aging leader was back with an urgent message.

Sharma began by reminding workers of their precarious circumstance and the credentials with which he stood before them. "In this plantation, there is the MPS, the Medicinal Plants Scheme. So, for example, the government is now cultivating coffee, mushroom, etc. But if these things don't work, they [the government] will quit on it. 'Scheme' means it is temporary. Temporary!" Sharma went on, "The youth of today, I'm not too sure will know this, but your parents were there. I was with them. We sat for a hunger strike. . . . And through everyone's effort, this plantation's workers were made permanent, so there is no scope to lay off workers. That made it impossible for this plantation to shut down."

Those earlier achievements were tenuous, Sharma warned. "But now, there is one fear," he told the workers. "The central government, Modi's government, is handing over all the industries that are running at a loss. Even something like the railways, the Modi government has privatized. Now our plantation is bringing in no income: What if the government pushes for privatization? What will happen tomorrow? Today this is a dire, scary situation."

The perils of privatization were merely the context for what really brought Sharma. "I almost had to depart from this world," he confided to the workers. "I was recently seriously ill, but I've survived . . . I'd still say that my time is up, but, after I survived, I thought: I must do something before I go. I need to get the *parja patta* (land titles) issue resolved. Today, at this age, I have just this one last *dhoko* (life's desire)—that workers should not lose their land and homes."

Sharma was referring to a burgeoning movement to secure land titles for Gorkhas across the region. An estimated 60 to 70 percent of the hills' population lacks proper legal titles for their properties—this, despite having lived and worked in these hills for generations. To understand this lack, one needs to locate Darjeeling and the Gorkhas within India's political economy. Recall from chapter 1 that

the British colonial government lured Gorkhas to the cinchona and tea plantations with wages, fields, and homes but patently refused to provide documents to establish their presence in India in perpetuity. Today these strategically unwritten histories of labor reappear in the marked absence of titles and with it, the Gorkhas' frequent lack of *documented* belongings.

That lack, however, also has much to do with developments of the postcolonial era. At independence, India inherited a landscape of gross inequality. British imperialism had insidiously concentrated land in the hands of the few (zamindars, planters, rural elites, etc.) at the expense of the many. With much of its peasant population dispossessed of land and still working under semifeudal arrangements as sharecroppers, addressing the "land question" became imperative. The Nehru government's first Five Year Plan called for land reform as a key to the development of modern India.[33] West Bengal responded, passing in the 1950s two signature acts—the Estates Acquisition Act of 1953 and the West Bengal Land Reforms Act (WBLRA) of 1956—to chart a "blueprint for a new agrarian structure based on peasant proprietorship." The reforms implemented land ceilings to break up the estates of zamindars and rural elites in order to return land to the people who worked it: peasants.[34] As West Bengal progressed through the rule of the United Front (1967–69) and Left Front (1977–2011) governments, land reform remained a top priority of communist West Bengal. The radical measures made the state a much-celebrated model of postcolonial land reform.

Not that this mattered much for Gorkha plantations workers in Darjeeling and Kalimpong. From the start, plantations have been explicitly exempted from West Bengal's land ceiling limits. This has enabled Darjeeling's plantation-based economy to remain intact while keeping Gorkha workers legally landless. As Bengali planters and other individuals and corporate conglomerates from the plains took over Darjeeling's tea plantations and the state of West Bengal inherited the government cinchona plantations, there emerged a new "planter Raj," wherein the rulers had changed, but the form of domination remained much the same. Pegged to the lowest rungs of this pernicious political economy and denied land and rights, Gorkhas found themselves under the thumb of a newfangled colonialism—this time, perpetuated by West Bengal. This internal colonialism would become the grounds for the Gorkhaland movement (discussed in the next chapter).

Parja patta's emergence as a defining political issue in the wake of the 2017 Gorkhaland agitations, in this regard, is not coincidental. The same anxieties of belonging that animate the Gorkhaland movement animate the demands for *parja patta*. The quests for land titles are also inflected with new economic sensibilities. The establishment of real estate markets where land can be freely bought and sold is a common pillar of neoliberal reform. Postliberalization India is no exception. But such real estate markets require consistent land records—something India often lacks. Since liberalization in 1990s, the central government has therefore enacted a variety of measures to facilitate the commodification of land: for instance, the

massive e-governance campaign of the Digital India Land Records Modernization Programme to standardize land titles. These measures have effectively transformed the land question from one of land reform to one of land titling.[35] According to this neoliberal logic, progress is to be measured not so much in agricultural production and equity (the driving logic of earlier land reforms) but rather in stakeholders' ability to better their own circumstances by participating in the market. None of this is lost on cinchona workers (and Gorkhas more generally), who find themselves on the sidelines of a quickening national mainstream. Lacking the documents, political representation, and economic standing to compete, obtaining land titles figures as a key means to gain some purchase—or more specifically, capital—in India's postliberalization order.

Securing titles for homes and fields has proven difficult. Initiatives by the GTA government and political parties have run up against the unwritten histories of the hills, which have obviated paper trails for much of the region's land. The tea and cinchona plantations have proven especially problematic. Technically, Darjeeling's tea estates are leased long term by the government to private planters (these days, mostly corporate conglomerates). Land reform and titling on these private ("leased") estates have consequently involved a head-on collision with the logics of planter capital.[36] The cinchona plantations have presented different difficulties. Unlike the tea estates, these are unequivocally *government* properties. In theory, this might make land titling easier, but that would be to overlook the complexities of the industry and where it fits in the designs of the West Bengal government.[37]

In October 2021, West Bengal's chief minister, Mamata Banerjee, was in the hills for an administrative review. At a public meeting broadcasted on local television, a Gorkha politician, Roshan Giri, asked Banerjee, point-blank, what her plans were for providing *parja patta* to tea and cinchona plantation workers. Before he could even finish his question, Banerjee cut him off. "If we give them land," she exclaimed, "how will we do business?"

The comment met an awkward silence. As Banerjee stared out over a suddenly hushed room, an aide rushed to whisper something in her ear (presumably in response to her gaffe). She took in the information and quickly changed the subject. But what was said was said. Her terse response to Giri's fair question circulated rapidly over the airwaves and social media, raising eyebrows—especially on the imperiled cinchona plantations. Just who was the "we" of which the Bengali chief minister spoke? And just what kind of "business" would they be doing?

Since coming to power in 2011, Banerjee and her Trinamool Congress government frequently championed the private industrialization of the hills, often by pointing to the large tracts of land available for development. Elsewhere, her administration was busy rolling the idle lands of "sick" industries into industrial parks and "land banks" meant to lure private industrialists to the state.[38] These deposits were generally small—191 acres at the Dhakeshwari Cotton Mills; another 193 acres at the Mining and Allied Machinery Corporation in Durgapur.[39]

Nothing near the 26,000 acres of the cinchona plantations. So when Banerjee flat-out denied even the question of *parja patta* on the grounds of interfering with her "business," alarms went off in the cinchona community. Maybe it was a Freudian slip. Maybe not.[40] Either way, for a community living in perpetual fear of privatization, Banerjee's comment wasn't going back in the bag.

Subsequent events did little to assuage the fear that something was imminent. Two months after delivering her callous remarks, West Bengal announced the formation of the Land Reforms Advisory Committee to investigate the prospects of land reform in the hills. The committee's formation garnered applause. But, tellingly, the cinchona and tea plantations were omitted from its charge—thereby extending the history of exemption.[41]

For technically landless cinchona workers, the prospect that the plantations could be sold off any day only amplifies the stakes of getting *parja patta* now, before it is too late. Land titles would provide for cinchona workers rights and capital to navigate the uncertain horizons ahead. Titles would allow families to get loans from banks to start small businesses, access various governmental schemes, and/or sell their land outright. For plantation residents, obtaining *parja patta* represents one of the most important things they can do to ensure they have a place in the world—and an economic future—with or without cinchona.

L. M. Sharma brought it home for Rongo's workers. "You should not lose the homes that you yourself made! That is why there needs to be the *parja patta*!" he told the *muster*. "I tell all those who are building their houses: Why are you spending so much to build your houses? The land is not yours. If the government builds a road and demolishes your house, if you had your *parja patta* you would be compensated per the existing market value. But we don't have our *parja pattas*! How would you feel to see your house being demolished in front of your own eyes, where you have put in your sweat and blood?"

Obtaining *parja patta* isn't only an economic and legal matter. There are other belongings at stake, notably those concerning the Gorkhas' place in India. In 2019, the government of neighboring Assam completed a multiyear initiative known as the National Register of Citizens (NRC) to identify and remove foreign nationals from Assamese soil.[42] The main target was "Bangladeshi migrants," long a bogeyman of Hindu and Assamese nationalisms. Conducted by the xenophobic Bharatiya Janata Party (BJP), which led the government then in power in Assam, the NRC disproportionately targeted Muslims and other marginalized minorities. When the final list was published in 2019, 1.9 million residents of Assam, including more than 100,000 Gorkhas, found themselves suddenly facing the prospect of being stateless on account of their inability to produce legal documents like electoral rolls, citizenship certificates, and *land and tenancy records* to prove that they belonged—as genuine citizens—in India.[43]

The NRC struck a nerve in nearby Kalimpong and Darjeeling. Gorkhas had already fallen victim to ethnic cleansings in the Northeast during the 1970s and

1980s.[44] In the 1990s, neighboring Bhutan forcibly expelled hundreds of thousands of Gorkhas, who were subsequently sent (via India) to refugee camps in Nepal, where they have languished for decades. These ethnic cleansings punctuated Gorkhas' long-standing experiences of racial discrimination and exclusion in India. For a people who have wrongly been called "foreigners" and "outsiders" in their own land, the NRC appeared an imminent threat.[45] So when Modi's BJP government began speaking of an all-India NRC and rumors started circulating of it coming to West Bengal, obtaining *parja patta* assumed added urgency. It was, after all, precisely those kinds of documents that Gorkhas would need to prove their citizenship, were the NRC to come their way.

The threat touched down on the cinchona plantations with extra gravity. Sharma laid it out with unnerving simplicity: "The NRC is a campaign of the central government to identify its citizens. Although it looks good, it will uproot and throw us out. The NRC policy requires you to prove that you are a citizen of this country. I know that you all have been voting, but that will not suffice. Where were our ancestors from? They had their own land. But did they have land with *parja patta*? This is the proof that all of you will have to furnish."

Sharma invoked earlier precedents to underscore the danger: "In Assam, the Nepalis [Gorkhas] who settled there many years ago . . . have not been able to prove their citizenship. And those who cannot prove their citizenship will end up like the Nepalis chased out of Bhutan." With the Bhutanese hills visible from the muster grounds, Sharma went on, "The Bhutanese Nepalis went over to Nepal. But in our case, we can't even do that because the NRC will establish a huge enclosure and put us there [a reference to the reported detention camps established in the Northeast to contain those the NRC deemed noncitizens]. Those who cannot prove their citizenship will be told, 'You are not a citizen of this country, so get out of this country!' Now where will you go?"

The *muster* was quiet. Since this was during the COVID-19 pandemic, I was not there in person. But the video my contact sent me showed the familiar scene of workers standing in clusters—men here, women there—clutching themselves to ward off the morning cold. From the shaky footage, it was hard to tell how intently they listened to Sharma's impassioned warning. Many, no doubt, had heard it before. Many, no doubt, just wanted to get on with their workday. Few, however, could deny the NRC's resonance. For years, cinchona workers had been told that the plantations' days were numbered, that they were relics of another era, that they were matter out of time. Now, with the NRC on the horizon and no *parja patta* in hand, they stood to become matter out of place.[46] Never mind that they had made these places with their "own sweat and blood." Never mind that they had been here for generations, loyal citizens of India. In Modi's India, that may not be enough. For a captive audience already worried about the cinchona plantations' end, the NRC added yet another layer of precarity to life after quinine—another threat to their place in the present.

This was unacceptable for L. M. Sharma. Back from death's door, the legendary union leader thus recommitted himself to the struggle for his people. Traveling the plantations with his standard accompaniment of union activists, Sharma conveyed similar messages to the musters at Mungpoo, Munsong, Sittong, and so on. He may not have been the spritely activist he once was, but the old-timer toured the plantations with unmistakable urgency. After a lifetime on the political front lines, *parja patta* would be his final project—his *dhoko*, as he put it—in what remained of his days.

. . .

The world is not what it was in the time of quinine. Malaria is now fought with other drugs. The empires of the European colonial era have morphed into other leviathans. Framed against this backdrop of historic transformation, one might argue that remarkably little has changed on the cinchona plantations. But *that*, I'll argue, is precisely where it gets interesting. When so much else is changing, making sure "nothing" happens can require tremendous work, resolve, and struggle. It can also involve considerable precarity, hardship, and paradox. For plantation workers like Sunil digging out abandoned cinchona only to replant cinchona that may end up going to rot, the work of remaining on the cinchona plantation is compulsive and shot through with contradiction—none more un/timely than keeping alive an industry that the world has seemingly left for dead.

How then are we to understand these practices of remaining? If remaining involves maintaining one's place in the present, it is not a practice blind to the future. Workers' prospects of remaining on the cinchona plantations hinge directly on the question of what the future might hold. Crucially, this not a question that lacks answers. Governmental regimes attempting to privatize this "sick" industry, corporations looking to capitalize on its material resources, trade unions insisting on the plantations' revitalization, and individuals making do with the limited resources on offer suggest a surfeit of options. Just not necessarily mutually viable or *good* options. And so the search for an acceptable future goes on and the cinchona community continues to work—and where necessary fight—to defend their place in the present.

But are these practices of remaining a politics? Trade unions chasing away private investors and their well-heeled consultants, mobs snatching and burning proposals of an undesirable future, and communities mobilizing for land rights are easily recognizable as a politics. But what of workers heeding the plantation's bell and toiling in the cinchona fields? What of the Allays' clever negotiation of the plantation's rules in order to keep their home while becoming something else? What of nursery workers sprouting cinchona and people like Zimba and Suraj ensuring it takes root like it always has? Are these also a politics? These acts of remaining may not figure as perfect examples of "resistance" or "weapons of the weak," but they are compulsory and tactical because they are the precondition of

any subsequent politics and life in these spaces.[47] Particularly when transformative forces loom on the horizon and no viable future is in sight, remaining may itself be an act of political consequence. As L. M. Sharma reminded Rongo's workers on that blustery morning in 2021, remaining's triumphs can be tenuous, its failures catastrophic, its work ongoing. If not a politics proper, there is an ethics here—a call to the present and the tireless struggle of remaining when so much else has changed.[48]

At the end of the day, planting cinchona when there is no market for its bark may appear confounding—even Sisyphean. But this is what the inheritors of quinine's remains must do if they are to remain. For the time-being, there is no better option. We might count these perplexing conditions among the tragedies empire leaves in its wake. But for a community searching for a future amid the remains of old, to remain today is also to seed another possibility tomorrow.

These are the circumstances in which we find Sunil working on the steep slopes of Munsong. The long view of world history might frame this as a scene of what empire and quinine have left behind. On a Thursday morning, however, Sunil and his coworkers don't have the luxury of ruminating on the world-historical. They are more down in it—wrestling with the roots, rocks, and all the rest—trying to clear the way for something new. This is what comes *after* quinine's rise and fall, *after* the proverbial medicine runs its course. These conditions of the here and now may not be ideal. But in the world of remains, they are the stuff with which life today must be forged. And so Sunil gets back to it—the rocks in his shoes be damned!

Importantly, answering the day's bell and clearing hillsides of abandoned cinchona aren't the only means of inhabiting quinine's after. There are other projects, other struggles, stirring in the remains—some of a more insurgent kind. It is to these that I now turn.

3

Until Gorkhaland

Agitation in the Remains

"CRPF aayo! CRPF aayo!" The call would ring out through the plantation darkness, warning of a possible raid by the government's paramilitary Central Reserve Police Force (CRPF). Again the call would pierce the night—"CRPF aayo! CRPF aayo!"—moving through the cinchona and villages, sending young Gorkhas scrambling from their homes and into the jungle to wait out the danger. To be a Gorkha man caught in a raid during the agitations could mean anything: violence, arrest, false charges, disappearance. And so would sound the sentinels of Gorkhaland, "CRPF aayo! CRPF aayo!"—a warning of the enemy's approach, a signal to escape to the forested hillsides they knew so well.

Tonight would be different. Tonight the people of Mungpoo would hold their ground. Gebu was just sixteen in 1986 when the first Gorkhaland agitation began. The son of a plantation officer, Gebu grew up privileged compared to his cinchona laborer friends. He had things they did not: a colonial-era bungalow to call home, a better education, a horse, a gun. But Gebu was also a Gorkha, and, as he told me in 2020, he soon found himself swept up in the movement.

> My first brush happened just below our bungalow in the field, what we call the *bari*, down by the cowshed. There were some sweet potatoes there that were being ravaged by wild boar at night. I was there, along with a *chowkidar* [guard], waiting with the gun for the wild boar to show up so that I could shoot them. And as I was waiting, I heard quite a commotion in the village. Then over loudspeakers an announcement came to turn off all lights. Of course, we didn't have electricity, but people used to use batteries. They announced to turn off all lights and for all the young people, young men, to come out on the streets. So we went to the main square, and everyone was saying that we need more people because this guy

R. K. Handa, a much-feared police officer, was coming. He was probably the superintendent of police, the SP, then, so he was well known for conducting raids and instilling a lot of fear. If he was coming through Mungpoo, that definitely meant that he would be conducting raids. As I went down to the main road, I could easily recognize the voice on the loudspeaker: it happened to be one of my buddies, much senior to me. So immediately they singled me out since I had a gun. They said, “You need to come with us.”

They led me through the bazaar. All the lights were off. Complete blackout! I could see some of the local boys sprawled across the tin roofs. I don’t know what they were doing. They probably had some crude homemade bombs or explosives. As we approached Nali Dara [the main junction in Mungpoo], there was quite a bit of cinchona, quinine, growing there along the road. And when I looked, I saw a lot of people in there. You know, among the cinchona. A lot of people had gathered with *khukuris*, bows and arrows, knives, whatever they could get their hands on. People actually had already showed up there, anticipating the raid. But the leaders led me onward to the junction at Nali Dara and put me behind a stone chorten [a small Buddhist stupa]. They sat me there and said, “If the SP comes from the road below toward Darjeeling, then . . . ”

I was on edge point, up there behind the chorten. I probably had three rounds with me, which I had repacked myself. I wasn’t even sure whether they’d actually go off. My heart was racing. It was racing! But then the only thought, the foremost thought in my mind, is just simply: I will just give it a shot. I will give it a shot. At least when the time comes, when he shows up, I’m actually going to just try my best to shoot. I wasn’t thinking of any consequences. Nothing. Nothing! Imagine the consequences: that was a government gun belonging to my father, a plantation officer! But I thought nothing of that. Just what I’ve been told. I’ve been asked to do this. This guy, Handa, is the enemy, right? So he was just that concept of the enemy. Yeah, well, I have to fight!

• • •

What possibilities of resistance, revolution, and justice lay in the remains? This chapter explores a violent reanimation of quinine’s remains: the Gorkhaland agitations. Since the 1980s, the region’s demographic majority, the Gorkhas, has waged three subnationalist agitations for a separate state of Gorkhaland. The movement’s goal is to create a homeland for the Gorkhas within India, where they can govern themselves free from the exploitation, discrimination, and marginalization that have dogged their existence in India since the colonial period. Attaining Gorkhaland, however, requires prying the region from West Bengal, which the Gorkhas see as their archenemy and a colonial force in its own right.

The cinchona plantations sit squarely within the demanded territory of Gorkhaland. And their local population is almost entirely Gorkha. The fact that the plantations remain the property of the West Bengal government has made them a particularly violent arena of the Gorkhaland agitations. Cinchona workers have

been centrally involved with the Gorkhaland movement from the start. Gebu's story of the ambush at Mungpoo is just one example of how the cinchona community has taken up the fight for Gorkhaland. Workers shared with me harrowing tales from the 1980s of decapitated heads appearing at their morning musters, homes ransacked, go-downs set ablaze, plantation offices looted, robberies, raids, disappearances, kidnappings, and murders. The 1980s Gorkhaland uprisings remain the movement's archetype, but the agitations have returned, reappearing in 2007–8, when a new "liberation front" resurrected the cause, and again in 2017, when a devastating third agitation crippled the region with 104 days of blockades, violence, internet blackout, and food shortages. And still the demand for Gorkhaland is unrequited.

Attend a political rally in the hills, and you will hear impassioned chants of "Jai Gorkha! Jai Gorkha!" (Victory to the Gorkha!). Listen longer, and you will hear scathing critiques of West Bengal: "Bengal hamro chyan ho!" (Bengal is our grave!). And you will hear the Gorkhas' solution: "Gorkhaland hamro mangh ho!" (Gorkhaland is our demand!). The enmity echoes across the generations and takes particular form on the cinchona plantations. A local Gorkha plantation leader didn't mince words when explaining the Gorkhas' relationship to West Bengal. "The word I am about to use does not sound democratic," he told me from his home in Mungpoo, just months after the 2017 agitations, "but the people in Kolkata are colonial-minded people. They are of colonial design! When we speak of a democratic right of separating from West Bengal, they put us in jail on sedition charges. Is that democracy?" Now in his sixties, he grew up a son of cinchona soil and had served in multiple agitations. He was alone in neither his experience nor his judgment of West Bengal's "colonial" rule. Accusations of internal colonialization are rampant.[1] For those who toil on the exhausted plantations of this erstwhile colonial hill station, West Bengal's rule marks but the latest colonial claim to life and land. When the Gorkhas speak, they accordingly do so from the subaltern vantage point of generations of living and working under these conditions of compounded coloniality—first British, now Bengali.[2] Particularly for Gorkhas of the cinchona plantations, coloniality is therefore not a thing of the past. It is a condition that structures and haunts the present.

The Gorkhaland agitations are a response to these conditions of undying coloniality.[3] To understand their shape and feel on the cinchona plantations, one first must contend with plantations as a distinct kind of territorial formation. By design, plantations lay territorial claim to land and life. They uproot plants and peoples from often very disparate parts of the world, bring them to a place, and make them work together. Hard. Haraway and Tsing call this "multispecies forced labor."[4] Through these processes of transfer and extraction, plantations radically transform ecologies—often sucking land and life into a vicious cycle of exhaustion and dependence on the imperial economy that they serve.

As territorial configurations, plantations have their ways of eviscerating all that came before.[5] Their monocropped, monopolistic technologies of control countenance no other claims on space—no other notions of territory. What held true in the tea and cinchona plantations of colonial Darjeeling and Kalimpong has largely held true in the postcolonial era. That is, until Gorkhaland.

Put an ear to the ground, and one can hear other tellings of history, other murmurs of territory echoing through the remains. In claiming the cinchona plantations and greater Darjeeling-Kalimpong Hills as a distinctively ethnic or "Gorkha" space, the Gorkhaland movement poses a radically different notion of territory—one predicated on the presence, belonging, and work of the people who made these places what they were then and what they are now. The movement puts to the West Bengal–controlled plantation a vernacular theory of territory,[6] written in the impassioned, often-violent scripts of agitation.

Gorkhas typically refer to their struggle as either an *andolan* (an anodyne term in South Asian languages meaning "movement") or by the English word *agitation*, the double entendre of which is useful. In the fight for Gorkhaland, *agitation* is equally a political project and an embodied state—that is, a politics of agitating and an experience of being agitated. Politically, agitation involves tactics like protests, region-wide strikes (*bandhs*), destruction of government properties, and guerrilla warfare. Experientially, agitation involves being on edge, anxious, and collectively uncertain about what tomorrow will bring. Importantly, one form of agitation begets the other. And they leave their traces. The traumas of three unsuccessful Gorkhaland agitations have accumulated in the body and body politic. On the cinchona plantations, they have left a people and their land scarred and wanting. Agitation, in these regards, is written into quinine's remains. There it lives as both history and imminent possibility. Indeed, even when the hills are not burning, the potential for agitation is always present—a project and condition prone to return.

For Gorkha cinchona workers, the plantation's imperious control did not end with the British Empire; it merely changed hands. Even as West Bengal has steadily abandoned the quinine project of its British predecessors, the state government's grip on the plantations is unrelenting. This is especially clear in the context of the agitations, wherein the cinchona plantations have morphed into a theater of insurgent and counterinsurgent operations. Part of this owes to the territorial configurations of these spaces. For Gorkhas, the cinchona plantations are an ethnic territory to be pried from the neocolonial grips of West Bengal. The government of West Bengal, conversely, has made the plantations a stage of state power and persistent domination. Part owes to the terrain of the cinchona plantations themselves. Steep, densely forested, and remote, these tracts have proven ideal terrain for the guerrilla warfare on which the movement has depended. As territory and terrain,[7] the cinchona plantations have thus proven a unique battleground in the Gorkhaland struggle.

Here I explore the Gorkhaland agitations from the distinct vantage point of the cinchona plantations and the cinchona community itself—a people who have fought and "agitated" for these places that are their home.[8] Seen through the prism of agitation, the cinchona plantations appear to be many things: a territory to be reclaimed; property to be owned and developed; the terrain on which subnationalist struggle is fought; the grounds on which life is lived.[9] Above all, they are places of *belonging*: belonging in the sense of being in and of one's place and community and belonging in the sense of something that is rightfully one's own.[10] Belonging—and the rights, dignity, and justice that go with it—is what history has denied the Gorkhas. It is what is at stake.

And so it was that sixteen-year-old Gebu found himself crouched behind that chorten, gun in hand, waiting for the headlights and his moment to do what his people needed. Scared but ready, Gebu lay in wait through the night, his community hiding behind him in the cinchona. Ultimately, the SP's headlights never appeared. The next day Mungpoo learned that the SP, fearing Gorkha informants in his force, had "changed his mind" at the last minute (a common counterinsurgent tactic of the time) and raided the nearby town of Jorbungalow instead. The ambush therefore never happened. Gebu never had the opportunity to pull the trigger. But he believes he would have, likely at the cost of his own life.

Listening to Gebu tell his story, I tried to imagine being in that position, a would-be assassin at age sixteen. "I'm just trying to put myself in your shoes," I said to my friend. "I mean, you're a Gorkha. I'm sure there was just this immense feeling of solidarity with everybody in that moment. And this is the enemy."

"It's simply just that," Gebu responded. "We're all in this together, whatever the consequence."

UNSETTLING TERRITORY

The rumor is legendary. Deep in the throes of the first Gorkhaland agitation, CRPF commandos descended on the cinchona plantation offices at Munsong. It was just after dark when the paramilitary unit appeared, seemingly out of nowhere. They told the *chowkidar* to run, which he did. As commandos surrounded the dilapidated bungalow, the manager and staff likewise fled. With the premises vacated, the commandos stormed the offices. What happened inside remains a mystery. Three hours later, though, the commandos climbed back into their jeeps and disappeared as quickly as they appeared. The next morning the staff returned to find the office ransacked. Tables were upturned. The office's safe was broken open. Yet nothing, at first, seemed to be missing. Only later did the staff realize that a single file had gone missing. It was called "File 6," and it dealt with the historical boundaries of the Munsong plantation. Across the top of this file was allegedly written "Property of the Kingdom of Bhutan." Now it was gone.

I chased this rumor for years, never quite getting a definitive version of what happened that day in Munsong. Eyewitnesses are hard to come by. The traumas of agitation have muddled memory and made it mercurial. Not everyone on the cinchona plantations has heard the story. But for those who have, it has assumed mythical properties—not only for the fantastic qualities of a state swooping down to confiscate a mysterious file, but also for what it says about the order of the world in quinine's wake.[11] I heard many tellings during fieldwork, each with its own gaps and flourishes: the file is only thirty pages long; it's written entirely in calligraphy; it's in New Delhi; no, it's sealed and locked away at the Department of Forestry. Nobody's quite sure where the file is or what it says, much less whether it still exists. Yet the story continues to be told. The rumor moves.

It moves for two reasons. The first concerns how Munsong became British territory—what we might think of as colonial territory formation *then*. The second concerns how territory is made and maintained *now*. Before the British colonial period, the borders and demographics of the region were not what they are today. In the early nineteenth century, Nepal reached as far east as the Teesta River, encompassing today's Darjeeling district. Kalimpong was part of Bhutan, until the British annexed it in 1865 at the close of the Anglo-Bhutan war. Before the colonial period, sovereignty seems to have been relatively fluid, as indigenous Lepcha, Bhutia, and a smattering of Nepali-speaking (Gorkha) communities paid tribute to different sovereigns at different times depending on the circumstance. But as the historian Catherine Warner has ably shown, the British effectively territorialized the region, formalizing borders and instituting new systems of taxation, and through these political technologies, establishing new forms of rule.[12] These were the colonial histories through which the hills—and, ultimately, places like Mungpoo and Munsong—became the official territory of the British Empire.

The rumor poses an alternate version of this history. The details are opaque, yet every telling I heard came back to the same detail: that file. Across the top of this British colonial document was reportedly written "Property of the Kingdom of Bhutan." Others have it as "Rent of Bhutan"—seemingly in reference to Munsong originally being part of Bhutan but also raising questions about how that territory came into British hands. Recall from chapter 1 how the British expanded the cinchona frontier into the Kalimpong Hills, driven by the moral imperative of protecting human life from the malaria killing multitudes in the plains below.

The rumor posits a glitch—or crack—in Munsong's colonial foundings and any triumphant narratives thereof. That mysterious file bearing the name of another sovereign casts doubts on the legitimacy of British claims to this territory by insinuating that the empire was perhaps leasing the land from Bhutan all along. From there the crack quickly spreads. For if the British lacked legitimacy, then so too do the inheritors of that colonial mantle, West Bengal. What might that mean for the Gorkha workers who've lived and worked on this land for generations?[13] What might it mean for Gorkhaland? Fast-forward to the 1980s agitations when the hills

were erupting in a very different project of territory making. Someone somewhere knew about the file, ordered the raid, and made it disappear.

Only it didn't. Instead, the file took new life precisely because of its spectacular disappearance. The reasons for the rumor's salience are both historical and contemporary. Historically, it suggests something faulty and untoward in the founding of this land. It reminds listeners on the cinchona plantations that these were lands taken and bent to the will of empire. In doing so, it lays bare the obvious state secret that imperial territory always rests on shaky claims backed by violence, force, and particular versions of history,[14] that it is always open to question and contestation. For a people seeking their rightful place in India, this is a burning issue. It is an opening.

The rumor's provocation is to unsettle territory *then* in order to unsettle territory *now*. It reopens the question at the heart of the Gorkhaland movement: To whom does this land belong? The rumor moves not only for what it suggests about Munsong's colonial past but also for what it says about life, power, and territory in the present—*after* quinine. It corroborates what Gorkhas today know all too well to be true: this holding of state territory *still* requires its disappearances, violence, and military operations. For the Gorkha cinchona workers who tell this tale, the raid at Munsong was not just a historical coverup. It was yet another instance of territory's violent constitution in this corner of India.

If the rumor unsettled territory through insinuation, the Gorkhaland movement has elsewhere been more direct. Subash Ghisingh, leader of the Gorkhaland National Liberation Front (GNLF), which launched the first agitations in the 1980s, was a master in this art. The "militant-poet" repeatedly dismantled the foundations of British rule in order to justify Gorkhaland. Ghisingh made it a point to morally deconstruct the treaties that brought Darjeeling and then Kalimpong under British control.[15] "The aboriginally inhabiting Gorkhas," Ghisingh wrote in 1983, "became in serious false position when their historic land and territories were mercilessly ceded to the land of the British empire by the Treaty of Sugaulee on 2nd December, 1815." Ghisingh elaborated that one treaty after another had subsequently built on those shoddy foundations to lead to the Gorkhas' contemporary crisis. Ghisingh's ultimate target, however, was not the British's Empire's claim to territory; it was West Bengal's. To deny Gorkhaland on the logic that contemporary "Bengal would not be divided," as was the government's common refrain, was to miss the fundamental point. "Gorkhaland has never been a part of Bengal," Ghisingh insisted. "The British forcibly added this land to Bengal. So by granting our demand, the Centre would just right an historical wrong."[16]

As headlines of "the hills burning" began splashing across national newspapers, the charismatic Ghisingh pleaded for India to recognize the continuities between British and Bengali rule. "The same British policy was, and is being, followed and adopted by the West Bengal Government." he pleaded in a 1987 letter to Indian prime minister, Rajiv Gandhi. "[This] makes it crystal clear that the Gorkhas of the hills areas are simply the political slaves of West Bengal."[17]

Ghisingh didn't just unsettle territory. He also unsettled his own people by stoking the Gorkhas' anxieties of belonging in India—what I've elsewhere termed "anxious belongings."[18] These anxieties date to the colonial migration patterns that brought many (though not all) Gorkhas to colonial Darjeeling to work for the British. These anxieties have been continually reaggravated as India's Gorkhas have been excluded as "foreigners," "outsiders," and "chinkies." The ethnic cleansings of Gorkhas in India's Northeast and in neighboring Bhutan in the 1970s, 1980s, and 1990s only underscored Gorkhas' insecurities regarding their place in India.[19] Ghisingh fomented these anxieties and offered their cure. In his diagnosis, "The growing fears of the Gorkhas had spread like a cancer. There was just one capsule which could clean the system of this affliction—Gorkhaland."[20]

In 1986, the GNLF's agitation spread like wildfire. Bands of GNLF fighters took to the forests and began attacking government property and personnel. The government countered by deploying police and paramilitary forces like the CRPF in an ill-fated attempt to tamp down the insurgency. As the violence escalated, political graffiti painted the logics and landscape of the Gorkhas' agitation.

"Bengal must stop looting us . . .
We are not slaves of Bengal . . .
Bengal is not our master."

"Gorkhaland Is Dearer Than Life."

"Deceitful leaders trying to dislodge the movement for our land, beware!"[21]

The tea estates were one arena of the struggle. The densely populated cities of Darjeeling Town and Kalimpong Town were another. Many of the agitation's most notorious events unfolded in these urban centers. On July 17, 1986, for example, Gorkha demonstrators gathered in Kalimpong to burn copies of the 1950 Indo-Nepal Treaty, which Ghisingh claimed allowed Indian Gorkhas to be misconstrued as outsiders in India. Police fired on the demonstrators, arresting twenty-seven. When thousands of Gorkhas reassembled at the *mela* (fair) grounds at the center of town to protest the arrests, the CRPF took to the rooftops and opened fire. The massacre at Kalimpong left thirteen dead.[22]

THE CINCHONA BATTLEGROUNDS

Fifteen miles down the road, the agitations were taking shape in very different terrain. On the otherwise sleepy Munsong cinchona plantation, the agitation set in "little by little," the plantation's head clerk of the time recalled, before erupting in "full force in 1987 and 1988." Enjoying a sunny day at Munsong in 2017, the now-retired Gorkha clerk explained to Vikash and me how, slow start aside, the violence quickly escalated. "People were murdered," he explained. "Guards

were set on fire, and many more burnings." Vikash's father was Munsong's manager during the agitations, so Vikash had his own experiences to share. As the two of them swapped stories, the clerk told harrowing tales of his own implication. One of his duties as head clerk was to distribute wages—a suddenly dangerous job. Despite being a Gorkha, the clerk soon found himself on the wrong end of the GNLF's guerrilla warfare. It happened at Munsong's administrative offices—the same site where the CRPF disappeared the file featured earlier. "I was tidying up my table," the clerk recounted, "when suddenly I was in the aim of a rifle, at gunpoint."

"Pointed at you?" I asked.

"At me!" he responded, holding up his hands as guns. "They entered swiftly with rifles. Two were standing outside. Six entered, disconnected our telephone lines, discharged blank fire, and asked me where the money was . . . I was thinking fast. I said, 'Brother, I don't have any money. On this table, you will find all the papers that show that all of the wages have already been disbursed. If you wish to check the money vault [a wooden box at that time], you will find it inside the chamber.' One went inside and gave one kick to the vault. At that very moment, an officer happened to be coming out after receiving his salary. They hit him hard on his hand, strewing his money all over the floor. They quickly picked it up and stuffed it inside their jacket pocket. Then there was no more money for them. It was finished. They yelled 'Jai Gorkha!' and left."

Isolated on a steep hillside, surrounded by dense cinchona stands, and flush with cash on payday, the office was a sitting duck. So it is logical that GNLF guerrillas targeted it. The brazen attack on the plantation's wages was nevertheless a problem: these, after all, were government funds going *to* Gorkha workers. Management scrambled for a solution. Vikash's father happened to be overseeing the disbursement of Munsong's wages at the time. When I interviewed him many years later, he explained the dangers as follows: "About 20 to 25 lakh rupees would have to be brought every month to Munsong. The police were not able to do this work. The CRPF was deployed to do this. The money was brought in a sealed box in a truck that was heavily secured." Vikash's father was well connected, so he worked his personal contacts and eventually got through to Ghisingh. Noting how the robbery of wages was robbing Gorkhas of vital resources in these dire times, he pleaded with the GNLF leader to keep his cadres at bay. Ghisingh agreed. But with the agitation intensifying, every payday remained a peril.

Plantation coffers were hardly the only assets targeted. GNLF cadres on the plantations seized jeeps and building materials. Bark disappeared from drying sheds. Timber vanished from the hillsides. Assets that weren't taken were destroyed. "You cannot imagine how merciless the politics of destruction started to become," the director of the plantations at the time, S. K. Chatterjee, told me from his Kolkata home decades later. "Ghisingh's approach was to destroy the

government institutions and the laboratories and fields, which are owned by the government."

As territory and target, the cinchona plantations were distinct. Where *off* the plantations GNLF cadres selectively attacked government outposts, *on* the plantations everything was government property and thus a potential target. Many of the plantations' Bengali botanists, chemists, and other officers fled. Those who stayed had little choice but to do the GNLF's bidding or face the *khukuri*. The tables had turned. The Gorkhas now held the handle and the Bengalis the blade.

Gorkha plantation officers found themselves in a difficult position. By dint of their posts, they worked for West Bengal. But they were also Gorkhas, beholden to their fellow Gorkhas. Vikash remembered his father "trying to strike a balance as best as he could between these two forces. . . . If somebody wanted to burn down the government property, [he would] try to talk people out of it, you know, drive some sense into them and tell them, 'This is your own. This is *our* own. We should not destroy this.'"

But, of course, everyone knew that the plantations were not Gorkha workers' "own." "Eventually the scales starting tipping," Vikash recounted. "Things were really getting out of hand. I mean, a bunch of people rock up and decide to burn up the government property, a public property. Nobody could stop it, right? You just couldn't stop it. So you just sit back and watch. It's all you could do."

Then there was the labor. Plantation work continued through the agitation, but laborers were arriving to their morning *muster* with sharpened antiestablishment sensibilities—some having spent the night before agitating under the cover of darkness and/or waiting out raids in the nearby jungle. Laborers by day. Guerrillas by night. Whether a worker was taking up arms or not, no one wanted to be a "slave of Bengal," as the graffiti had it. Beyond getting one's name in the books to ensure wages and facilities like their homes and fields, there was little incentive to do the hard labor that the West Bengal–owned plantation required. Foot dragging, defiance, and indifference eroded the work culture and discipline (*anushasan*) that had earlier made the plantations' ecology go. With workers checking in and checking out, the effects spread into the fields and factory, where deteriorating botanical and chemical productivity further weakened an industry already on the brink of collapse.

In 1988, Ghisingh backed off his "nothing short of a separate state" stance and began negotiating with New Delhi and West Bengal for a compromise. After three years of violence, many Gorkhas were relieved to have the agitation's end in sight. Hard-liners were not having it. The Gorkhas had come too far to turn back now. Soon the GNLF's most radical elements splintered off into the Gorkha Voluntary Cell (GVC), a guerrilla outfit led by the grizzled Chattrey Subba. As the GVC took to the jungles to carry on the fight, the cinchona plantation became a battleground between not only Gorkhas and West Bengal but also rival Gorkha factions.

The internecine violence was horrific. "There were two groups in those days—one of Chattrey Subba (GVC) and the other of [local GNLF leader] N. T. Moktan. They were at loggerheads with each other," Vikash's father explained to me. "If one met the other, they would behead each other, and the head would be hung. The ears would be chopped off and stuffed in the mouth." One evening, he recalled of his days as plantation manager, "armed men carrying guns came into the office and sat down. Many! About twenty to twenty-five. And there was another circle of men outside the office standing guard to protect the group inside from the rival group. They had come to ask for petrol. Their last demand was that I buy a weapon. It was some sort of light machine gun. The leader came and showed me a bill and told me to buy this machine gun." The guerrillas' demand put Vikash's dad, himself a Gorkha, in an impossible situation. "If I bought that weapon during the agitation," he explained, "I would be blacklisted [by the cinchona plantation administration and thus fired]. They were using the manager's jeep for themselves too. These agitators had already taken the vehicle! I said I could not buy the weapon, no matter what they did to me."

Fortunately, these were GNLF (not GVC) guerrillas, and Vikash's father always carried a letter from Ghisingh explaining that he belonged to the GNLF and thus nobody was to harm him. The guerrillas backed off this time. Nevertheless, with multiple factions taking aim at the plantations and each other, the situation was becoming unmanageable.

As the agitation spiraled out of control, many used it as a foil to loot the plantations for their own gain. More troubling, some used it as cover to take out grievances on their neighbors. Being a member of a rival faction, or worse yet, a communist-leaning *macpa* could be pretense enough for harassment, even murder.[23] (I heard stories of both.) Gorkha-on-Gorkha violence sullied the agitation. Attacks on the plantation were one thing; attacks on fellow Gorkhas were quite another. In their remembrances, people frequently lamented to me how "out of hand" things got. Many blamed Ghisingh. "I speak the truth," one elder worker told me, looking back on those tumultuous days. "Ghisingh was a sinner. . . . He called for a forty-day strike. His brain was twisted. He made brother kill brother. Is it possible to get a state doing that?"

History has rendered this a rhetorical question. The 1980s left hundreds dead and thousands of homes destroyed.[24] But a separate state of Gorkhaland was not to be. In 1988, Ghisingh and the GNLF relinquished their demands and signed a Memorandum of Settlement (MoS) establishing the Darjeeling Gorkha Hill Council (DGHC), a semiautonomous administration that granted Gorkhas a marginal degree of self-governance in the three hills subdivisions of Darjeeling, Kurseong, and Kalimpong. The gestures to ethnic autonomy aside, the DGHC and the hills remained squarely under the jurisdiction—and thumb—of West Bengal.[25] Clearly, this was no Gorkhaland.

The effects (and affects) of the first agitation still ripple through the hills. In its logics, tactics, experiences, and disappointing ends, the GNLF's movement became the archetype for all future agitations. The 1980s agitation promised a homeland. In the end, the MoS that brought it to a close only reinstituted familiar forms of domination. The settlement termed it a "restoration of normalcy."

Nowhere was this "restoration of normalcy" more apparent than on the cinchona plantations where West Bengal's rule emerged from the agitation curiously intact. The MoS laid out nineteen "subjects" that would be brought under DGHC control. Among them were forest management, agriculture, water, public health, sanitation, tourism, and fisheries. Not once did the MoS mention the cinchona plantations. In the government's adjudication of ethnic autonomy and territory, the cinchona plantations didn't figure at all. As territories lost in the lost cause of Gorkhaland, the default was that they would remain under the control of West Bengal.

Which isn't to say things didn't change. Nearly everyone nowadays looks back to the 1980s agitation as a tipping point from which the cinchona plantations have never recovered. The agitation inflicted lasting material damages. Acreage under cultivation and quinine production dropped precipitously during the struggle, never to return to its pre-agitation levels. With workers increasingly dragging their heels, cinchona trees left to grow wild on the hillsides, and a factory sputtering through its dying days, many look back to the 1980s agitation as the time when the plantations lost their way. It was when "everything went wild," as one respondent put it, "when nothing ever again came under control."

The West Bengal government emerged from the crisis even more reluctant to invest in a "sick" industry where the government itself had become the enemy. As a plantation GNLF leader explained, "The movement was very violent. No scientist, bureaucrat, or technocrat could come here. The situation was that of terror, so the government did not want to invest in any scheme at all." At the same time, the violence also underscored the political dangers of abandoning the plantations and their residents outright. Faced with this predicament, West Bengal effectively put the haggard industry on life support, providing just enough to keep the plantations going but never enough to revitalize—or heal—these lands and lives.

Managers tried their best to get workers back to work after the agitation—to capture some of that *anushasan* and pride of earlier eras. But "the hangover of the agitation was still on," as one told me. "Workers' attitude against the administration was as strong as ever. It would take a lot of time for this stubborn defiance to cool down." The defiance may have cooled, but nothing would be the same. Emboldened by the agitation and frustrated by its disappointing ends, trade unions continued to threaten managers. Rowdies continued to kidnap and extort officers.[26] Workers continued to drag their heels, get their names in the books, and hedge their bets. Lacking buy-in from workers and government alike, the

workday shortened, yields waned, and the factory sputtered. India's quinine industry crumbled further into remains.

The same can't be said of the cinchona community's politics. Hardly had GNLF fighters given up their guns to end the agitation in 1988 when the threat of privatization emerged in the early 1990s. Cinchona workers and their unions subsequently girded themselves for a different fight, the battles of which were covered in the previous chapter. The vitriol with which they chased off the representatives of Hindustan Lever, PriceWaterhouseCoopers, and McKinsey & Company might not have been as violent as the Gorkhaland agitations, but they underscored the plantations' political volatility.

The West Bengal government appeared increasingly unsure how to handle the plantations. The Directorate of Cinchona and Other Medicinal Plants was, at the time, overseen by West Bengal's Department of Commerce and Industries, which focused on the "promotion and development of large-scale industries." The cinchona plantations dubiously fit that bill. Yes, the land and manpower were large in scale, but products were selling at barely a trickle. The quinine factory had recently closed. Financial losses were accruing by the crore. In 2004, West Bengal appointed the Standing Committee on Commerce and Industries and Industrial Reconstruction to investigate. Its findings were troubling. The Standing Committee found that the cinchona plantations' cost to produce one kilogram of bark was more than triple the price it could fetch on the open market. "The high cost of inferior raw material," the committee's report noted, "totally shattered whatever commercial potential" the cinchona directorate might have. It went on to lament "the insidious growth of manpower," before floating an array of half-baked suggestions—none of which offered a definitive way out of the "crisis."[27]

The situation looked intractable. For the moment, privatization seemed off the table, thanks to the trade unions' resistance. The desires for Gorkhaland, which surfaced periodically through the 1990s and 2000s, added a whole other set of contingencies to the equation. Unsure what to do, the West Bengal government did what bureaucracies are well geared to do: it passed the buck, transferring the cinchona directorate from Commerce and Industries to the smaller Department of Food Processing Industries and Horticulture in 2006. The latter's agricultural expertise seemed an altogether better match than the former's focus on "large-scale" industries. Cinchona workers saw this move as a signal that, going forward, the government would be looking to other crops to offset cinchona's losses.[28] Gorkha plantation officers, for their part, were given little explanation of the transfer. In talking about it years later, one union leader speculated that the transfer from Commerce and Industries to the less prestigious Horticulture was "revenge" for thwarting the government's attempts at privatization. Perhaps the officials at Commerce and Industry were simply fed up—fed up with the cinchona community, its politics, and, ultimately, its unwillingness to adhere to West Bengal's designs.

All of this—the Gorkhaland agitations, the resistance to privatization, the bureaucratic passing of the buck—transpired against the backdrop of quinine's gradual fall from the world stage. Decades earlier, decolonization and the advent of synthetic compounds like DDT and chloroquine had touched off an external crumbling of the quinine assemblage, hatched at negotiation tables and labs far from the Darjeeling Hills. The Gorkhaland agitations marked an internal crumbling, driven by the passions of ethnic belonging, yet inseparable from the imperial histories that brought these lands and communities under the ambit of empire. The fact that the Gorkhaland agitations found such violent expression in the cinchona plantations comes as less of a surprise when we account for these histories. The Gorkhas have said it clearly: these were and remain sites of colonial domination—first by the British, now by West Bengal. So long as that was the case, agitation would be a potentiality sown in the people and plantations that remained.

AGITATION RETURNS

The second Gorkhaland agitation began on a different stage. In September 2007, one of Darjeeling's native sons was crowned the winner of the popular television show *Indian Idol*. Prashant Tamang's victory brought euphoria to the hills. For the marginalized Gorkha community, this was a coming-out party on India's national stage. But the euphoria soon turned to rage when a radio DJ in New Delhi made discriminatory remarks on air, joking with his Delhi listeners that there would be no one to serve them their *momos* (dumplings) or guard their houses now that the Nepali guy had won *Indian Idol*. The comments played on stereotypes of Gorkhas as *chowkidars* and menial workers there to serve upscale Indians. The DJ's discriminatory comments thus struck a nerve and sparked protests across the hills. On September 28, thousands of Prashant supporters marched in the nearby city of Siliguri to file a complaint against the DJ in the Siliguri court. A skirmish broke out at the front of the procession. A Bengali mob then turned on the protesters, forcing eight hundred Gorkhas to seek refuge in the courthouse grounds. Bricks rained over the courthouse walls, vehicles burned outside, and the police vanished. The mayhem only ended when the army was finally called in to free the Gorkha hostages.[29]

Groups like the All Gorkha Student Union (AGSU) quickly connected the saga to the unrequited cause of Gorkhaland. "The recent Siliguri riots have prompted us to speak out," AGSU declared on September 30. "The incident made us feel that the Gorkhas are not safe. We always have to prove our identity in this country. This is happening because we do not have our own land. . . . The Gorkhas require their own land!"[30]

Previously unimaginable political transformations ensued. Just over a week after the riots, on October 7, more than twenty thousand Gorkhas took to the streets of Darjeeling to birth a new liberation front, the Gorkha Janmukti

Morcha. Led by former GNLF henchman, Bimal Gurung, the new party promised to deliver what the GNLF had not: Gorkhaland. Seizing the affective potential of the moment, the Morcha violently ran Ghisingh and the GNLF out of power. By early 2008, the hills were again convulsing in agitation.

On the cinchona plantations, Gorkhaland 2.0 followed a familiar script. First came the closing of ranks. You had to take a side: either convert to the Morcha or stay with the GNLF and face violent consequences. Nearly everyone chose the Morcha. Down came the tattered and faded green flags of the GNLF that had flown over the plantations since the 1980s. Up went the freshly sewn green, white, and yellow flags of the Morcha—also bearing the Gorkhas' signature weapon, the *khukuri*, this time with blades crossed. As agitation coursed through the body politic, the cinchona plantations again transformed into a battleground. With Morcha cadres targeting the plantations, go-downs ablaze, the police and CRPF a constant threat, protests and strikes crippling everyday life, and profound uncertainty over what tomorrow would bring, the agitation felt more like a return than something new. Still, there was a widespread belief that this time things would be different.

To most plantation residents' relief, the second agitation's violence never reached the levels of the 1980s—though it did reactivate those earlier traumas. The similarities were uncanny. However, there were important differences, particularly concerning how the Gorkhaland movement framed the cinchona plantations. Unlike during the first agitation when the plantations got largely subsumed and lost within the greater territorial demand for a separate state, the Morcha made gaining control of the cinchona plantations a major—and clearly articulated—objective of the movement. This impetus emanated from *within* the cinchona plantations, where local Gorkhas insisted that they and only they had the wherewithal and right to take the plantations forward. The Morcha party heeded their call and made it an express goal to pry the plantations' lands, industry, and sundry resources from West Bengal. Unlike during the first agitation, the cinchona plantations consequently emerged as a territory within a territory, one requiring special liberation.

On the ground, there were changes toward that end. In 2008, G. C. Subba became the first son of the cinchona soil to be promoted to director of the plantations, breaking a glass ceiling that had long kept Gorkhas from the top rank of plantation leadership. The energetic scientist brought vision and deep connection to these lands and communities. They were, after all, his own. Dr. Subba set in motion a range of projects (orchid cultivation, experiments with *Taxus baccata* production, ecotourism development, etc.) to revitalize and diversify the plantations. Subba's proactive approach resonated. But as the agitation gained steam, his allegiance to the Morcha became complicated. More and more demands came his way—some of them of dubious legality. More and more "proposals." More and more "good ideas" for the plantations. The agitations deepened. The purse strings loosened. Checks got signed. Account ledgers did not. But things were happening—by "hook or crook," as plantation workers like to say.

After three years of strikes and sporadic violence, the second agitation ended much like the first: with an agreement, signed in 2011, to establish a semiautonomous district council, this time rebranded as the Gorkhaland Territorial Administration. Formally established in 2012, the GTA offered marginal gains in terms of autonomy. Yet like its predecessor, the DGHC, it remained squarely under the jurisdiction and power of West Bengal. Not surprisingly, this latest arrangement met a lukewarm response on the streets.

There was reason for optimism on the cinchona plantations, however. Morcha negotiators had pressed hard for the plantations to be brought under Gorkha control. Their work seemingly paid off when the settlement brought the Directorate of Cinchona and Other Medicinal Plants under GTA control. With Dr. Subba presiding over the plantations and answering to the Morcha-dominated GTA (with which he was close), there was finally a sense that the cinchona plantations were in good hands. Gorkha hands.

Only they weren't. The first indication that the plantations' newfound sovereignty was not what it seemed came with the question of who was to lead the directorate. The Morcha-led GTA wanted their man, Subba, to stay on as director (despite his term being up). West Bengal wanted a fresh face and launched a search to replace Subba. The government hired Dr. Samuel Rai, a preeminent agricultural scientist from Kalimpong, who specialized in ginger cultivation. Rai was a Gorkha, but, importantly, he had no relation to the cinchona plantations or to the ruling Morcha party. With the GTA's and West Bengal's respective directors chosen, a proxy battle over who really controlled the plantations ensued. The Morcha-led GTA tried everything to keep Subba in power, including unsuccessfully intimidating Rai to defer a year (potentially nullifying his contract), having Subba refuse to vacate the director's bungalow, prompting the staff to all but ignore Rai when he first arrived in the office, and even creating a new advisory position to install Subba between the directorate and the GTA, effectively superseding whatever power Rai would have as director.

West Bengal was having none of it. The state government leveraged its considerable bureaucratic might to oust Subba and install Rai. Subba soon found himself under investigation and eventually arrested by West Bengal's Criminal Investigation Department (CID) for financial irregularities during his tenure.[31] This battle of directors was the first shot across the bow.

Elsewhere, plantation leaders and workers had a slower but no less painful realization that the GTA's victory of obtaining the directorate was not what it seemed. Morcha leaders and real estate developers were eager to capitalize on the 26,000 acres of plantation land now at the GTA's disposal. But their plans began running into legal trouble. Bureaucrats and attorneys muddling through the details of the GTA settlement found that, in fact, it was only the directorate—that is, the *administration* of the cinchona plantations—that had been transferred. And even that transfer was dubious; the directorate was still listed under the Department of Food

Processing Industries and Horticulture portfolio. What had clearly not been transferred were the plantations' lands, infrastructure, and capital resources.[32] Those remained the property of West Bengal. Subsequent years would see a raft of GTA-supported development projects—ecotourism resorts, an ashram for the colorful Hindu yogi Ramdev, and other endeavors[33]—thwarted on the grounds that the GTA did not have the legal standing to sell or develop these lands. Legally, they were still under the control of the government of West Bengal.

This created the confusing arrangement of plantation leadership having to answer to the GTA and West Bengal—two masters with very different designs on the plantations. Rai spent much of his first years as director shuttling between various departments and ministries in Kolkata and the GTA's headquarters in Darjeeling trying to figure out, first, who controlled what and, second, how to navigate and appease these competing forces, all the while trying to keep the plantations afloat. The confusion translated down to workers, who didn't know who owned their land or where to take their appeals. Consider, for instance, the Allays. For years, the family had been embroiled in a dispute with the directorate, stemming from a road that the plantation had cut through their fields in Munsong. Standing on the terrace of his homestead, K. B. Allay pointed to the road snaking its way down through the fields flush with corn and other crops that the family was growing. "It's confusing now," he told me. "Before, all this was handled by the Bengal government. Now it's been given to the GTA, and we don't know what exactly was given. It is said that it is within the GTA's authority, but we have no idea what has been given to the GTA. It's confusing."

The confusion was pervasive. Everyone I spoke with during fieldwork, from the top rungs of the plantation hierarchy to laborers in the field, seemed unsure about who controlled what. One thing, though, became gradually clear: the plantations remained the property of West Bengal. This was painful to accept. The cinchona community had fought hard and sacrificed significantly for this land. They had seen their home and lands become a battleground, but for what? Amid the agitation's fruitless aftermaths, many felt duped and at a loss. How, after so much agitation and suffering, could the plantations remain the territory of West Bengal?

Chalk it up to a sovereign sleight.[34]

UNREQUITED DEMANDS

A hundred days is a long time to go without. A hundred years is even longer. By 2017, the Mungpoo and Munsong cinchona plantations were well over a hundred years old. The Gorkhas' unanswered calls for ethnic autonomy had also crossed the century mark.[35] Quinine had risen and fallen from the world stage, yet on the cinchona plantations frustratingly little had changed. Amid these remains, one had to ask: How much coloniality could—or would—a people take?

In May 2017, the West Bengal government announced that the Bengali language would be made a compulsory subject in Darjeeling schools.[36] Chief Minister Mamata Banerjee soon thereafter visited Darjeeling for a cabinet meeting and conspicuously neglected to meet with any local leaders. Seeing these affronts as the latest instances of West Bengal's colonial designs and needing a boost before upcoming elections, Bimal Gurung's Morcha party launched violent protests on June 7, 2017. Police shootings on June 17 left three dead in the streets of Darjeeling Town. The Morcha responded by calling an indefinite strike (*bandh*) across the region. Local Gorkhas were unprepared for what lay ahead, but they banded together in powerful solidarity. The protests and indefinite strike rapidly escalated into a full-blown agitation. Facing renewed demands for Gorkhaland, the government imposed an internet blackout and deployed the paramilitary companies of the Sashastra Seema Bal (SSB) and the vaunted CRPF to counter the insurgency. Curfews, sporadic violence, food shortages, and crippling uncertainty ensued, as the agitation spanned more than a hundred days over the summer months. When it was finally called off in September 2017, the agitation had left over a dozen dead and the Gorkha community once again traumatized and at a loss.

I was not there for the 2017 Gorkhaland agitations. I left India to get married in the United States just weeks before West Bengal announced the imposition of the Bengali language. As I followed the ensuing events from afar, I can't say I was surprised. The imposition of Bengali, Banerjee's disregard for Gorkha leaders, and the state violence all reactivated a longer history of colonial and neocolonial domination. These expressions of power had their antecedents. And so too the project and experience of agitation.

When I returned three months after the agitation, the hills bore the scars. Peeling graffiti demanding Gorkhaland told of the cause. Burned carcasses of government vehicles told of the means. Bewildered eyes told of the ends. The stories I gathered in the wake of the 2017 agitations sounded a lot like those from earlier agitations: go-downs burning in the night, CRPF raids, arrests, solidarity, suffering, and, in the end, disappointment.

Munsong felt the effects acutely. The blockades and strikes left the remote cinchona plantation largely to its own devices. In 2019, two years after the agitations, I sat down with a group of youths and two teachers to reflect on the tumult. As we sipped tea in Munsong's schoolhouse afterhours, they took me into their experiences. "There was an absolute halt to everything. The strike was very strict," the teacher shared. "If anyone plied a vehicle, it would be attacked. It was not allowed even within the village. It was sheer foolishness." As food supplies dwindled, the Morcha and other organizations eventually organized regionwide relief efforts to offset the shortages. In the meantime, the crops and livestock that Munsong residents had growing on their homesteads helped them get through. Rationing was nevertheless necessary. The teacher continued, "The situation was such that what they typically consumed in a week had to be managed for a month." Because

schools and the plantations were shut, he, like many others, had little choice but to secretly cross into neighboring Sikkim for work, which he found (ironically) at a pharmaceutical plant manufacturing state-of-the-art drugs.

Chesa, at twenty, abandoned her studies in Kalimpong Town to ride out the agitation at her family home in Munsong. For Chesa's family, even putting food on the table involved significant risk: "There was no shortage of vegetables, but we had to go to Sikkim to buy rice and daal. We wouldn't be allowed to go over [the border], so we had to go in the darkness either at dawn or at night."

Others set up more professional blockade-running operations. Ever the businessman, K. B. Allay put his taxi and entrepreneurial skills to another kind of work. He teamed up with a local Marwari trader and began making 3:00 a.m. runs to Siliguri to fetch crucial staples for villages up and down the Munsong plantation. Hearing K. B. tell his story, I got little sense of profiteering. Rather, he talked of his blockade running as *seva* (social work). When K. B. and his business partner finally got caught, the Morcha blacklisted them and threatened to destroy their property if they continued to defy the party's blockade. But K. B. had no regrets. He and his community had made it through. They would do it again.

The agitation was particularly hard on Munsong's youth. Back at the schoolhouse, Chesa and her friend Diki walked me through the difficulties. "The children were at home," Chesa explained. "Studies collapsed. Many students sought admission in Sikkim. Those who wanted to study in the cities were not able to fulfill their dream. Some lost a year." This was the first agitation of Chesa's and Diki's adult lives. Now generations removed from the 1980s agitation, I was curious to know about *their* emotional investment in Gorkhaland. Did they go to rallies, march beside their elders, and sacrifice for the cause?

"It was compulsory," Chesa answered, leaning into Diki and beginning to giggle. "We did go sometimes. There was a Gandhian *dandi* march [a civil disobedience protest modeled on Gandhi's famous Salt March of 1930] in Kalimpong. We took part in it. We reached Kalimpong on foot from here [a 15-mile distance]. It was really painful. We came back walking and soaked our feet is hot saltwater. But the result of it is zero."

Zero. It was a telling figure but one that elides the accumulated effects of now three agitations and counting. Summoning over one hundred years of unrequited demands, the third Gorkhaland movement and its 104 days of agitation met a familiar fate. When the dust had settled, Darjeeling's ruling party, the Morcha, had split. Its once-beloved leader, Bimal Gurung, was out of power and on the lam—the subject of a massive manhunt.[37] West Bengal appointed in his place a less troublesome Morcha leader, Binoy Tamang, to lead the GTA. Handed power by Mamata Banerjee, Tamang and his deputy, Anit Thapa, commenced with the vanilla refrains of working with West Bengal to bring peace and development to the hills. As these newly appointed Gorkha leaders cozied up to Banerjee, her TMC party continued its steady advance into the hills. On the cinchona plantations and

beyond, many began converting to the TMC. Never mind that the Bengali-dominated TMC brooked no possibility of Gorkhaland; aligning with West Bengal's ruling party had its advantages. And everyone was tired. Tired of agitation. Tired of false hopes and stymied dreams. Tired of sacrifice. Tired of zeros.

Reconnecting with my friends amid these aftermaths, it was hard not to see the effects of counterinsurgency. The Gorkhas' demands for territory again had been violently suppressed. The unity of the 2017 summer was gone. The Gorkhas were splintering into rival factions. The Bengali TMC, the erstwhile enemy, was creeping farther into the hills. The plantations also bore their damage. Experimental plantings of crops like ginger had gone to rot. Workers were trying to recover lost wages. Students were trying to get back on track. Unions were struggling to navigate an upended political landscape. Socially and materially, the plantations were divided and exhausted. And to what end? If anything, Gorkhaland and a viable future for the cinchona plantations appeared less attainable after this latest agitation than before. This was the tragedy of the new normal. Scarred and unrequited, these lands and lives would remain under West Bengal. The dream of Gorkhaland, deferred.

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What then are we to make of the Gorkhas' unrequited demands for autonomy, rights, and justice? How are we to weigh the acute expressions of agitation on the cinchona plantations? What do the cumulative zeros of three Gorkhaland agitations say about the prospects of resistance, revolution, and justice amid the remains of quinine and empire more broadly?

On the cinchona plantations, the oppressions of the past are hauntingly present. In these places where one form of domination (British) has given rise to another (Bengali), coloniality is written in layers. It is ever evolving and recursive.[38] The Gorkhaland movement poses a critique of—and redress for—these undying colonialities.[39] It is an intensely local struggle, but the movement needs to be read at multiple scales. One can understand neither the political project nor the experience of its agitations without recourse to the world history through which Darjeeling and Kalimpong were brought under British control. This is particularly the case on the cinchona plantations. Since their colonial founding, these places have remained a distinct territorial formation. And as West Bengal's methods of counterinsurgency illustrate, they *still* require their silences, violence, and oppression to function as such.

Consider again the rumor. Like a good myth, the tale of the CRPF's raid at Munsong explains the order of things across the ages—not only in quinine's colonial heydays but also after. Like Ghisingh's deconstruction of the colonial treaties on which the power of West Bengal stands, the rumor provocatively questions the triumphant narratives of Munsong colonial founding. In so doing, it helps unsettle one form of territory in order to make way for another. Through their agitations,

the Gorkhas have made it potently clear: this is *their* place, not West Bengal's. The demand for Gorkhaland turns on a different logic of territory from those of West Bengal and the British Empire before it. It articulates a vernacular theory of territory based not on silencing the secrets of the past but on giving them voice; not on disappearing a people but on recognizing their presence; not on the violence of state formation and counterinsurgency but on the belongings of a community and their unrequited quests for rights and autonomy. The Gorkhas' audacity is to imagine—and demand—territory based on the embodied truths and presence of the people who call a place home.[40] To hear their call is to brook a very different horizon of territory. To hear it echo through the cinchona is to fathom another horizon of life after quinine.

At present, however, the cinchona plantations remain largely under the thumb of West Bengal. That *continued* control, for the cinchona community, represents the grounds for—and grounds of—agitation. The historical roots of Gorkhaland may run deep into the colonial past. Ultimately, though, it is these conditions of life after quinine that have made the cinchona plantations such a potent arena of subnationalist struggle. Whether it was sixteen-year-old Gebu hiding behind the chorten with gun in hand, GNLF guerrillas waging war on the cinchona plantations, or youths like Chesa and Diki rallying for the cause, the takeaway is clear: until and unless the coloniality of the present is redressed, quinine's remains will carry in them the potential for agitation.

Power works in quieter but no less insidious ways in the downtime between agitations. The flash of hope that the plantations were coming into Gorkha hands has since given way to the hard reality that West Bengal still controls their fate. With no market for Indian quinine, many residents fear the day when West Bengal pulls the plug on this "sick" industry once and for all. What such a "death" would mean for the cinchona community, and when it might come, is unclear. For now, the cinchona plantations remain.

Coloniality stalks the cinchona community, in these ways, as a form of control over both space and time. In the next chapter, I extend this interest in time and temporality to explore who, what, and how people are becoming-after quinine. Doing so, I shift attention from the Gorkhaland movement to some *other* projects through which people are seeking to forge dignified lives in quinine's wake. In tracking these more hopeful makings of the life thereafter, we would do well to heed the lessons of agitation and remember the possibilities that stir amid the remains. Particularly when the end seems nigh, remains have their ways of finding new life.

It is to these becomings that I now turn.

4

Beyond Ruin

The Arts of Becoming-After

When it came to making a life after quinine, Anit had something to say. The well-dressed laborer had been sitting quietly throughout the conversation as his peers talked Vikash and me through the difficulties of their lives on the cinchona plantations. But now that they had said their piece, Anit needed to say his. He framed the matter in the terms of compulsion and sacrifice.

> You asked right at the beginning what the situation of cinchona is right now and what can happen in the future. The situation at present shows a dark future. The young generation has a future that is gloomy, the reason being the system of cinchona is already collapsing. . . . But we have a compulsion. We have to sacrifice a family member, a son, to work on the cinchona plantation. This is our compulsion. . . . We have to save our homestead, our land. And it is for this very reason, one son has to stay back in the plantation to safeguard the shelter that the family has. We are sacrificing our educated sons for the safety of our homes. We are turning the educated young man into a laborer. He is going to be a laborer forever. So we are mindfully, purposefully, sacrificing the future of our son, even if he is educated, for the sake of this system.

Anit's eloquence caught my attention.[1] Where his coworkers had spent much of the focus group expressing their despair in increasingly desperate terms,[2] Anit's equanimity belied the frustrating circumstances of which he spoke. We were seated in the heart of Mungpoo. The weather was terrible. All around us the plantation were crumbling. The future looked grim. People were frustrated, Anit included. But there was something about him that made him different: a poise, a clarity, a resolve, something. I wanted to know more.

In the years that followed, Anit and I became friends and I learned more about the remarkable life that informed his testimony on that rainy day at Mungpoo in 2019. Anit, it turns out, spoke from experience. He was one of those educated

youths, and he had overcome considerable adversity to get to where he was today. Anit was born into a Dalit family of cinchona workers. He and his four older sisters grew up in a village on the Mungpoo plantation, where his father worked. Tragedy struck, however, when Anit's father died when Anit was only twelve. His sisters, by then, had married and moved away, leaving no one to fill his father's *badli kam* post. To retain his family's place on the plantation, Anit joined the plantation workforce at age twelve.

Even as he began his life in the fields, Anit managed to carry on with his studies. Soon, though, an uncle began angling for Anit's job. Still grieving, Anit and his mother found themselves in a legal battle to defend their *badli kam* post. Fortunately, they won the case and Anit continued working on the plantation. The legal victory would play an important role in determining his life course. As he explained to me many years later, visiting the court at such an impressionable age "inspired" him. It was arguably the first case for the lawyer he would one day become.

Two years after his father's death, Anit's mother also died. Anit was now fourteen, an orphan, and solely responsible for maintaining his family's homestead. "I lost my mother in Class 9. Then after, I left home," he explained. "All of my friends, my friends circle, they showed me great love. They requested me, as per my choice, to stay with them. So I stayed with my friend here in Mungpoo. So I was alone but with my friend. And from there I was able to finish my Class 10. Then, after, I joined my duty as *chowkidar* [a promotion from field laborer]."

It took a while, but four years later Anit passed his high school exam and earned his diploma. In his early twenties, Anit married and began organizing the plantation's Scheduled Caste (Dalit) community, eventually becoming general secretary of the local All India Nepali Scheduled Caste Association. He continued working on the plantation, but his mind was taking him other places. Anit approached the headmaster of a college in Darjeeling about enrolling but was told it was impossible because of the gap in his studies and his obligations to the plantation. Eventually, though, the persistent Anit convinced the headmaster to give him a chance. Anit enrolled, bought a motorbike, and began making the unlikely commute from field to college. Three years later, he earned his degree, only to return to work on the plantations. But the law kept calling, so Anit applied to law school in the bustling city of Siliguri in the plains below Darjeeling. The three-hour commute was more difficult, as were the studies. But his neighbors and coworkers covered for him so he could focus on his education. Anit's intellect and perseverance earned him a law degree in 2018. He passed the Indian bar exams in 2020, officially becoming a lawyer.

Anit wanted me to understand that he did none of this alone. It took a village. His friends and village neighbors were integral. "They helped me *a lot*," he explained. "They never told me, 'You are off going to college and getting the same wages as we are here.' They never complained. Instead of that, they always encouraged me. Had I not been in my home community, it would not have been

possible." Anit's gratitude ran deep. When his parents died, his community took him in, sheltered him, and gave him love, as he put it. When his dreams took him elsewhere, they supported him, covered for him, and kept his trajectory moving forward. Now a lawyer, Anit was determined to pay his people back for all they had done for him.

Anit continued his work on the plantation, but he was also keen to develop his law career. He joined the court in Darjeeling Town, found a position with a local firm, and began practicing when he could. Then the plantation intervened. When the director caught wind of Anit's burgeoning law career, he issued a letter to the Darjeeling court explaining that as a scheduled government cinchona plantation worker, Anit was legally bound to another kind of labor. Not in the courts but in the plantations. And so it was there, at Mungpoo, where we first met in 2019. Such was the compulsion and sacrifice of Anit—a lawyer but in the archaic logic of the plantation, forever a laborer.

. . .

Who and what do people become amid the remains of empire and industry? When the world moves on to other things and times, how do people carry on building their lives amid the aftermaths? How do they become-after? Anit's biography is remarkable for its tragedies and triumphs, but the challenges he has faced reverberate through the cinchona community. The difficulties of the cinchona plantations are inescapable. But there is more to these places than just postcolonial ruin. There is also perseverance—and a variously embodied determination to overcome the long odds that quinine's colonial history has handed down through time. Beyond all else, there is a vitality that animates the life projects of those who remain. In this final chapter, I want to honor that vitality, see where it goes, and explore more deeply what people are making of life after quinine.

Scholars have used the concept of becoming to highlight the openness of human life-forms. We have accordingly learned more and more about how humanity is constantly becoming-with nonhuman things like plants, animals, and chemicals.[3] This perspective is essential to appreciating the makings of life on the colonial cinchona plantations. The remains of India's quinine industry, however, have bequeathed different challenges. Decades after the factory manufactured its last dose of quinine, the question facing the cinchona community is no longer how to *become-with* cinchona, quinine, and all the rest. It is how to *become-after*. To frame it this way is to extend scholarly interests in becoming to another time and space: to the time *after* quinine.[4] The becomings that interest me in the After aren't so much the life-forms discovered by the colonial botanist, malariologist, or chemist of the nineteenth century. They are the lives taking shape on the beleaguered plantations of the twenty-first century, in the rusting factories of times gone by, and in the spaces in-between where the unwitting inheritors of empire's remains—people like Anit—dwell, struggle, and occasionally thrive.

Because these stories of becoming-after are always being written, they are best told with a spirit of optimism *and* with an abiding concern for what the remains will and will not allow. On the cinchona plantations, this means keeping one eye on the ruinous conditions quinine and the British Empire have left behind and one eye on the ongoing projects to forge *other*, more dignified forms of the life thereafter. These projects of becoming-after are, as we'll see, categorically multiple. They entail a suite of tactics and a notable embrace of experimentation, cunning, and risk. The search for viability has led the cinchona plantations and their community through a revolving door of Plan As and Plan Bs, which have thrust them into uncharted territory. Desperate to find a way forward, people are trying this, then that. They are playing their hand and hedging their bets. They are pushing the envelope of possibility—and the boundaries of right and wrong. No one is quite sure where this will all lead. But the plurality of approaches makes sense. Particularly when the end may be nigh, becoming-after is often best pursued through an all-of-the-above approach. This may entail, for the time-being, sticking to the ways of old while simultaneously experimenting with new kinds of livelihoods and life.

As cinchona workers illustrate every morning when they make their way to the plantations' fields, nurseries, and factories, the burdens of the colonial past are immense. In the worst instances, these inheritances can be ruinous. Yet, to keep with the openness of becoming, one might also notice other paths through the plantation, other kinds of lives being made, other kinds of projects under way.[5] The circumstances are, no doubt, bleak. But there is also more to the story, Anit's included.

Anit could have left the cinchona plantations. By becoming a lawyer, he *could* have made a livelihood—and life—elsewhere. But this would have required forsaking his home and community. So Anit chose to stay on the cinchona plantations. He chose to work and to serve. What the future holds for Anit and the cinchona plantations that are his home is uncertain. For now, he finds himself the reluctant inheritor of quinine's remains. Unable to pursue his otherwise bright career in law, Anit continues to show up, get his name in the books, and do what is required. For this lawyer-laborer and the community to which he owes so much, becoming-after is the challenge that the plantation's bell rings in daily. It is an individual and shared project. And so he rubs the sleep from his eyes and begins the work at hand.

THINGS AND TIMES

Becoming-after is materially and temporally complicated. Quinine has left in its wake a morass of remains—material, institutional, and otherwise. To the extent that these "things" shape the life thereafter, they must be dealt with, lived with, made something of.

The challenge is that these things are not necessarily what they once were. And neither is the world. Take, for example, cinchona. The fever tree's miraculous

bark saved countless lives across the British Empire. Its peculiar growing habits, furthermore, opened space for the lifeways that have defined the cinchona community. Today, however, the fever tree's world-making materiality works in different ways. Cinchona is most workable and its bark most potent when the plant is young and tender. Allowed to grow freely, the equation changes. Abandoned cinchona saplings have now grown into full-fledged trees, whose bark is too weak to compete in the global quinine market. The dry bark that sits rotting in the go-downs of Darjeeling's plantations now contains less than 2.5 percent quinine (down from colonial averages that hovered around 4 percent).[6] The flagging potency renders bark unable to compete with the East African bark whose quinine and alkaloid content roughly double that of Darjeeling.[7]

Mature cinchona's bark may be weak, but its trunks are thick. Its roots are gnarled. Clearing hillsides of long-neglected cinchona stands has become one of the most hated jobs on the plantations. Yet it is what is required to clear space for something new—whether ginger, coffee, or new cinchona stands, all of which are being piloted. These efforts to revitalize the plantations thus involve a head-on encounter with the fever tree's materiality, now of a different shape.

The chemical manufacturing side of the industry has suffered a parallel decline. Lacking the R&D to keep afloat in the synthetic-driven pharmaceutical market, the government quinine factory's extraction techniques grew dated from the 1950s on. The factory's aging machinery, by the 1970s, could no longer handle the volume of bark grown on the surrounding hills. Budgets ran short. Manufacturing inputs stopped showing up on time. There was nothing managers could do, they lamented to me years later, to keep the factory going. After a century of pumping out lifesaving quinine, the factory sputtered through the 1980s and 1990s—sometimes running at capacity, sometimes lying in wait for the required materials to produce its product. In 2000, when the factory produced its last dose of quinine, it did not so much formally close as simply stop working once and for all. Since then, bark has sat rotting in go-downs and on the factory's floor—a telling disarticulation of the field-to-factory nexus that thrust Darjeeling's quinine industry to the fore of the British Empire's battle against malaria.

Looking to breathe some life into this scene, the cinchona directorate revitalized the factory for a test run in 2014. With some tinkering and a fresh coat of paint, the sleeping industrial giant roared back to life, proving that it could still make quinine. The problem was that the entire facility now fell below the good manufacturing practice (GMP) standards required to sell on the national and global market.[8] Updating the factory to compliance would require massive capital investments—a nonstarter for an industry long in the red. And so, after the briefest of awakenings, the factory again sits dormant and deteriorating—a relic of another time.

These dynamics illustrate the decidedly material ways in which quinine's remains constrain what these places can become. Nothing, however, constrains

the plantations' *people* like its system of labor. The *badli kam* system may provide government jobs, homes, and facilities, but it also binds.

Consider again Anit. Like so many others, Anit has found his project of building a life after quinine bound by the plantation's unrelenting "system," as he put it. Stories like his add a sobering note to the scholarship on becoming, which has tended to look optimistically to becoming's open-endedness.[9] Anit and his community's efforts to forge lives beyond the plantation's toil certainly share in this Deleuzian embrace of the open and unknown, vested as they are with hope and possibility.[10] Yet these projects of becoming-after remain tenuous and encumbered by all that the British Empire and quinine have handed down through time.

These quandaries echo through the cinchona community, particularly among the young people. With the plantations offering little prospects for the future, more and more of them have sought education and employment in nearby cities like Darjeeling, Kalimpong, and Siliguri or farther afield in Kolkata, Bangalore, and New Delhi. Yet many aspiring youths know they may be called back and compelled to sacrifice their ambitions to support their families' basic means of existence. That these plantations are no longer making the lifesaving drug for which they were founded only underscores the paradox and perversity of these sacrifices.

Meanwhile, as India and West Bengal deepen their commitments to free-market capitalism, the specter of privatization looms. Privatizing this public sector industry, by nearly all accounts, would effectively end life as it has been known and lived for generations on the cinchona plantations. Workers are keenly aware that it could end any day. Anit and his peers, in this way, embody a distinctly postindustrial form of precarity, comprising equal parts *uncertainty* about what the future holds and the *intransigence* of an industry's material and institutional remains.[11] In such circumstances, the horizons of becoming-after are seldom open and free but rather tethered and troubled.

They are also imbued with urgency. Knowing that time may be running out to salvage the plantations, the directorate and the workers have launched an ever-evolving array of experiments to revitalize these spaces. Multiple by design, these experiments have seeded the present with hope and possibilities that stand in seemingly stark contrast to the otherwise forlorn conditions of the industry. Scenes of overgrown cinchona stands, exhausted soils, crumbling factories, and would-be attorneys laboring in the fields of an obsolete plantation epitomize the ruinous conditions one might expect to see in empire's wake. But remains can also cut other ways. Institutions are stubborn, but they can be changed. The plantations' plants and soils may be diminished, but they are not dead. Plants can find new purposes. Soils decompose and recompose.[12] New seeds sprout from the grounds of old. Materially and biologically, much of quinine's remains are alive and pregnant with potential. None more than the people who call these places home.

Sensing time may be running out, people are forging new relations to what remains. They are repurposing the stuff on hand, taking new risks, and engaging

in fresh struggles to forge a better future while they still can. Some of these projects are taking shape within the structures of the plantation. Others, as we'll see, are taking shape actively against and beyond its strictures. Many of these projects are pending. And it is precisely their open-endedness—and stakes—that makes them interesting and important to study. As the clock ticks, the question stands: How to grow something new from the detritus of old? How to become—and rebecome—with what remains?

SPORES

In 2015, Dr. Samuel Rai invited me and Vikash to his bungalow for a workday lunch. At the time, I was just getting my research off the ground, so the lunch posed a great opportunity to get to know the new director and earn his approval (which I needed). I accepted.

On the day of, Vikash and I made our way to the directorate's headquarters at Mungpoo, where staff members escorted us past the long line outside the director's office and on to his bungalow located next door. His peon informed us that Dr. Rai was running late. This gave us a chance to take in our surrounds. The colonial-era Director's Bungalow was impressive. The cavernous rooms, high ceilings, and wide-planked hardwood floors told of colonial grandeur. The dusty furniture and flaking plaster, on the other hand, signaled that the bungalow had seen its better days.

Dr. Rai arrived an hour late, apologetic and flustered but also seemingly grateful to have a respite to sit, eat, and talk. We took our lunch in the bungalow's spacious dining room, then adjourned to the veranda for tea, where the staff had set up a table and umbrella to shield us from the sun. It all felt very colonial: the bungalow, the multicourse meal prepared for the occasion, the white man, the brown assistant, and the brown director enjoying the afternoon sun as plantation workers labored somewhere beyond the purview of our privilege. But Dr. Rai, like me, was also a scholar keenly interested in the history of cinchona, so the conversation was excellent. Sporting khaki shorts and his signature hiking boots, laced up tight, he exuded no shortage of enthusiasm. Dr. Rai was relatively new to the job, having become director only in 2013. Unlike his predecessor, G. C. Subba, he was not a son of the cinchona soil. He, in fact, had no real connection to the cinchona plantations. He was instead an agricultural scientist who had earned his PhD and scholarly reputation for his pioneering work in ginger cultivation. His appointment therefore came as a surprise to many on the cinchona plantation. As an outsider, the new director would have a lot to learn.

His charge was daunting. The plantations were running at a considerable financial loss and under duress from multiple angles. Only three years had passed since the Directorate of Cinchona and Other Medicinal Plants (but not the land) had come into the portfolio of the newly minted Gorkhaland Territorial

Administration. The plantations were consequently a tangle of bureaucratic confusion over who controlled and owned what. On assuming his post, Dr. Rai faced the unenviable task of answering to both the GTA and the West Bengal government. Cinchona workers and their trade unions, for their part, were wary of this outsider scientist who didn't understand the ways of the plantations. It was widely believed that Dr. Rai had been brought in to think outside the box, but outside-the-box thinking wasn't necessarily what everyone wanted.

The spirited Dr. Rai met these challenges head-on, with a broad smile, a booming voice, and boundless energy. He woke early to get in his exercise. And he worked late. Commuting weekly from Kalimpong and living alone at the Director's Bungalow from Monday through Friday, the new director put in long days, granting himself only a few hours' reprieve each week to indulge his love of American professional wrestling. But beyond that, he worked. This was the work ethic that had fueled his ascendent scientific career. He was determined to bring that spirit to the cinchona. Dr. Rai's gusto (and naïveté) raised eyebrows across the plantations. But people were at least willing to see what this ginger expert could do.

Dr. Rai commenced a series of experiments with various diversification crops, such as coffee, kiwi, and his beloved ginger. However, more was needed to revive the plantations, he believed, than a fresh portfolio of plants. On the human side of the equation, Dr. Rai set out to reinvigorate the pride and heritage of the cinchona plantations. With his wife, he began publishing a biannual journal, *Cinchona Sandesh*, showcasing the work of local intellectuals and artists, as well as his own forays into cinchona's colonial history. Pride and heritage couldn't just be the erudite stuff of a literary magazine, however. These sentiments also needed to become part of workers' everyday lives. To that end, Dr. Rai began summoning managers and *gangmen* to Mungpoo for biannual meetings, where a barrage of PowerPoints and corporate motivational lessons implored them to champion the dignity of the cinchona plantations to their workers. The "My Plantation, My Pride" banner (featured in this book's opening scene) was part of Dr. Rai's efforts to reinstill purpose in these plantations—botanical, cultural, and otherwise.

Midway through our tea, a plantation gardener strode purposefully across the lawn toward the table where we were sitting. His clean slacks and button-down shirt betrayed little of the soils in which he worked. The gardener was carrying something strange—an oblong object roughly the size of two bricks, with a fleshy, brown and white skin and some odd, almost extraterrestrial protrusions poking out from the top. Unfamiliar with mycelia-laden mushroom blocks, I had no idea what we were looking at until Dr. Rai set us straight: shitake. The directorate had recently sent researchers to gather shitake spores elsewhere in India in the hope that the lucrative mushroom would grow on the plantations' dank ground. The preliminary results of those experiments were now in—and robust! A quick exchange with the director, a flash of satisfaction across both men's faces, and the gardener

was off, returning to his experiment. Turning back to us, Dr. Rai explained that the initial results of the mushroom experiment were promising. Now the question was whether they could be reproduced and scaled up. If so, shitakes stood to become part of a new portfolio of crops that he hoped could steer the plantations out of their present impasse.

Shortly after this lunch, the anthropologist Anna Tsing published her influential book, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. The book centered on foragers (most of them refugees from the highlands of Southeast Asia) in Oregon searching for matsutake, the most valuable mushroom in the world and a species that happens to thrive in the disturbed soils of late capitalism. Following the matsutake from the "blasted landscapes" of the Pacific Northwest timber industry to markets in Japan and beyond, Tsing's magisterial study challenged readers to see indeterminacy and contingency—in this case, the chance meetings of spores, damaged environments, and humans—as wellsprings of collaborative life in the Anthropocene. Tsing's call to notice the patches of possibility that arise from the detritus of capital's world-making resonated with much of what I was seeing on the cinchona plantations—not least my encounter with the shitake in 2015.

And yet there was much more happening on the cinchona plantations. Dr. Rai's forays into shitake cultivation were but one of the many experiments conducted at Mungpoo over the years. From cinchona's introduction to the region in the nineteenth century to the array of plants currently being tried, experimentality and its attendant contingencies have been central to the plantations' development. Some of these experiments worked. Some did not. And none (to my knowledge) sprouted miraculously from the ground on their own accord. It took significant work—human work—to make the fever tree grow on these hills. On the steep slopes of the cinchona plantations, indeterminacy always cut multiple ways. For every cinchona seedling that survived, others were decimated by wind, freezes, hail, landslides, and fungal blights. The same holds for the experiments of today. The best laid revitalization plans have been waylaid by the Himalayan elements. The cymbidium orchid farm, the pride of the previous director, Dr. Subba, was destroyed by a windstorm. Forays into other medicinal plants like ipecac (for making the antiprotozoal emetine) and diascorea (for making the antioxidant steroid diosgenin, used for neurological disorders) showed enough promise to warrant the construction of on-site factories in 1982 and 1984, respectively. But these forays eventually petered out, prompting both factories to close. Other experiments like rubber and citrus remain in limbo. One can still find several hundred acres of rubber trees growing in the plantations' lower elevations. And while tapped, their small yields lend the plantations little economic viability. Mandarin orange stands covering 246 acres are now many years into a devastating fungal blight.

As for the shitake, I didn't hear much of Dr. Rai's mushroom experiment in the years that followed. I did, however, watch his gusto for the job wane. The

plantations' social, political, and material complexities were formidable, particularly for an outsider like himself. The West Bengal government and its Department of Food Processing Industries and Horticulture to which he officially answered had its designs. The GTA, to which he also answered, had its designs. On the cinchona plantations, local political parties and the trade unions pulled him this way, then that. Workers showed little buy-in. Officers had little leverage to crack the proverbial whip. This is to say nothing of the plantations' dire material and economic conditions—a problem that Dr. Rai, with his PhD in agriculture, was largely brought in to solve. The job wore on Dr. Rai. The lines outside his office became longer. His smile flashed less frequently. His voice boomed in harsher tones. His time and words with me became shorter. His support of my research became more circumspect and cagey. I got it: Dr. Rai was under immense pressure. The circumstances of the job made it so.

But he pressed on, nonetheless. He laced up his boots, made the commute, and took his seat as director. A man of plants, Dr. Rai continued experimenting with alternative crops that might help save the plantations. None, to date, has shown a clear path forward. While many of these experiments are still works in progress, others have joined the long list of projects whose carcasses lay scattered across the plantations—remnants of futures that were not to be.[13]

The accumulating failures give workers reason to be wary of these revitalization efforts. Nearly everyone hopes that something someday will emerge to make these lands and livelihoods viable again. On that hope, workers by and large embrace these experiments and the contingencies they entail. Few, however, are willing to leave it *only* to chance. Outsiders like Dr. Rai can carry on with their experiments. Cinchona workers wish them well. But they aren't holding their breath. Until and unless an actual savior sprouts from the ground, many have preferred to take matters into their own hands—never more than now, with time running short.

ARTFUL DEALINGS

Bibek and his family were poor, but they always did their part. Bibek's father worked for the Public Works Department and thus wasn't technically part of the cinchona plantations. But he and his family had lived in a small roadside shack in Mungpoo for decades. When roads needed repairing, Bibek's father was there for the work. Bibek therefore grew up in Mungpoo. When he was of working age, he eventually gained employment constructing tunnels for the new railway being built to Sikkim (which passed just below the plantation). After his father died, Bibek decided to upgrade the family home. He applied for a small loan through the central government's PMAY housing program,[14] tore down the decaying wooden shack, and began building anew. The modest one-room home wouldn't be much, but it would be his. A fresh start.

It all came crashing down on June 28, 2019, when a newly hired plantation manager ordered the dismantling of Bibek's "illegally constructed" house. The orders were executed quickly, and by the end of the day, the house lay in shambles. The crackdown caught many off-guard and met with widespread indignation. It didn't help that the manager who ordered the demolition was a Bengali. Bibek's neighbors rallied to his side, seeing this as an attack on one of their own and an enforcement of plantation authority devoid of any respect for the day-to-day realities of its people. As crowds gathered in protest, politicians joined the uproar, insisting they "would not allow injustice to be meted out to the downtrodden." The directorate quickly backpedaled, issuing a statement through a spokesperson that read: "Illegal construction has grown in the cinchona plantations. There is always a tipping point and it has to be controlled somewhere. However, considering the sensitive nature of the issue, this particular episode could have been handled with more tact."[15]

This not-quite-an-apology merits scrutiny. Consider the mention of "tipping points" and the "sensitive nature of the issue." As we saw in the discussion of the *parja patta* movement for land titles in chapter 2, most cinchona workers and their families have lived in their homesteads for generations. In the de facto logics of the cinchona community, these homesteads are theirs. The de jure reality, however, is that workers' houses and fields are government properties subject to significant restrictions, including rules concerning what can and cannot be built. Workers may be said then to have land but not land *rights*. For this reason, the cinchona plantations have featured centrally in the *parja patta* movement. Particularly in the wake of the 2017 Gorkhaland agitations, land reform emerged as a hot-button issue on the cinchona plantations—"sensitive," as the directorate's statement would have it.[16]

As politicians pounded podiums promising land reform, some cinchona plantation residents began taking matters into their own hands by subdividing, leasing, and even selling their government-appointed land. Technically, this is in violation of the plantation's restrictions, but the practice has become commonplace and widely accepted as workers look to ease the pressure of growing, multigenerational families crammed into the small homes provided by the plantation. Breaking up the family homestead allows residents to construct new homes and businesses in the vicinity of their families. It also allows family members not employed by the plantations to create livelihoods without leaving them. Bibek's case was a bit different. He was merely rebuilding a home on plantation land that his family had earlier appropriated. Though this was technically illegal, he and his family had lived there for years, so nobody thought much of it. Until, that is, the directorate made an example of him. Until, that is, his home became a "tipping point."

Others have been more audacious in their appropriations. Some residents have begun leasing and selling plantation land. These transactions are clearly illegal. And no one is quite sure of the extent of these artful dealings. Nevertheless,

a growing black market for real estate *within* the plantations is now a public secret. Plantation officers know these clandestine practices are happening. But the bleak horizons, coupled with Gorkha officers' own entanglements in the community, make them hard to call out, much less combat.

One such Gorkha officer was Kiran Sinha, who watched the black market develop during his final years of working on the plantations. When I first met him at his officer's bungalow in Rongo, we steered clear of the topic. The next time we met, this time at a relative's house in Kalimpong *off* the plantations, the freshly retired officer was at more liberty to speak. The issue surfaced when discussing how the plantations allotted land to laborers. "Nowadays, an acre is divided into five parts. Each worker used to get 20 decimals," Sinha explained. "At present land is not being given to anyone. The acre of land that was given to the worker in the old days is now being utilized by the successors of the worker. We are trying to set the land-labor ratio straight, but that too has not worked out well."

This was 2019, shortly after the demolition of Bibek's house became the talk of the plantations. Vikash noted the timing. "Yes," he said, as we sipped tea with Sinha, "and somewhere in between the director took an initiative to dismantle houses. There was widespread protest for this."

Sinha acknowledged the crackdown. "Well, the administration had become loose," he admitted. "Workers had stopped growing crops on their land. They gave away their land to others for money to make houses and shops. This was illegal encroachment of cinchona land."

Hoping to hear it straight from the horse's mouth, I played dumb. "Whose property is the land technically? The plantations' or the workers'?" I asked. "Can workers *sell* their land?"

Sinha was patient with his explanation. "These transactions happen clandestinely," he responded. "The greed for money is intense. There are no papers. . . . If a worker sells his land illegally to someone else, and they make a house there, there are no checks for this."

The directorate's inability to "check" these transgressive practices marks a major break from the past and owes largely to its dwindling personnel. Over the years, the plantations' rank-and-file population of workers has remained relatively stable (at roughly five thousand), thanks to the trade unions. Leadership positions, though, have dwindled significantly. Where the plantations once had fifty-eight officer-level positions, ranging from quinologists and botanists to factory and field managers, there were in 2019, at the time of this conversation with Sinha, fewer than ten.[17] As these experts have retired, taking with them knowledge that could be instrumental to quinine's rebirth, the West Bengal government has not replaced their lines. Many retired Gorkha plantation officers I interviewed saw this as the single biggest threat to the industry's future. On their more conspiratorial days,

they framed it as a strategy of attrition—West Bengal's way of slowly killing the "sick" cinchona plantations. Bereft of their apex leaders, the plantations consequently lack the hierarchy to enforce the discipline that previously ordered their more-than-human ecology. This includes controlling what people are doing with plantation land. "Nothing like that is done now," Sinha continued, noting the lack of officers, "Who will do it? The new appointees are new to the place. They are non-Gorkhas and have no inkling about these things. . . . The incidences of such illegal constructions have greatly risen. The directorate started to look into these discrepancies to stop this, but it could not be stopped."

Importantly, Sinha shared these insights as a retired officer, a Gorkha, and a member of the cinchona community. Outsiders like Dr. Rai and the new Bengali manager at Mungpoo could invoke their logic of tipping points and make examples of people. But so long as the directorate lacked personnel—and moral leverage—it would be hard-pressed to rein in this "illegal" practice. Up until the demolition of Bibek's house, the subdividing and selling of plantation land remained a public secret. But the directorate's crackdown pierced the veil of plausible denial. The black market was now, officially, on the plantation's radar—and, as such, a problem for officers and workers alike.

Talking about these things required deep knowledge of the plantations' inner workings and levels of trust that can sometimes be elusive for ethnographers like me. When friends and collaborators opened up to me about these ways of getting by, I was struck by how up in the air the ethics of these practices were among the community. Carried out under the pall of the plantations' possible demise, the lines between "right" and "wrong" appeared increasingly blurry.

Consider again the case of Bibek. As his neighbors made clear when they rallied to his defense, the plantations' bleak horizons rob the law of much of its authority. With workers finding it difficult to fulfill basic needs like houses to raise families, fields to grow food, and financial capital to forge a life within and/or beyond the plantation, the moral leverage lies not with an industry meant to serve humanity's mortal battle with malaria (as the British framed it) but rather with those who have little choice but to make do with what remains. Most members of the cinchona community have turned a blind eye to the subdividing of homesteads and the real estate black market, seeing these transgressive practices as either a by-product of the industry's dismal economic outlook or an opportunistic way of cashing in on the plantations' resources before these places meet their end.[18]

Still, I did hear concerns about where this would all lead. Residents lamented how the selling and leasing of plantation land has enabled outsiders to gain a foothold in the insular plantations. There was growing talk of "land mafias" from the plains buying up plantation land and imposing their economic will. The sight of outsiders and non-Gorkhas setting up businesses and homes on the

plantation left many residents wondering what this might mean for the cinchona community—particularly in the event of any future redistribution of the plantations' lands. Would these shifting demographics not cloud workers' claims on the land? Others feared the practices were leading the tight-knit cinchona community down a slippery slope that would end in division and greed. A former director shared with me his thoughts on what he saw as two emerging camps. The first believed that cinchona was finished and was content to live out the plantation's dying days. The second wanted to "make hay while the sun shined" by capitalizing on the resources at hand. He saw in both camps a fatalism that he feared could spell the social disintegration of the cinchona community. When I asked the former director what *he* thought the future held, his response was also dismal. "Well," he surmised, "if you follow the current graph of cinchona from its history until now, I don't see any future. Unless they do something drastic, it's going to be a dark age."

Others saw it differently. For the opportunists, the dark age was now, and they *were* doing something drastic by appropriating government lands. Socially these lands were, in effect, already theirs. So morally speaking, these appropriations were not a bad thing but good—a way of taking what should have been theirs all along. Clearly, opinions differed and, with them, people's relationship to the things and time that remained.

Everyone conceded that dividing and selling government land was in clear violation of the plantation's formal rules. But what these artful dealings might mean, now and going forward, remained an open question. For a community facing an uncertain future, overrunning the strictures that had gotten them this far brought with it a new set of risks, rewards, perils, and possibilities.

The dark clouds overhead, in this sense, have been generative. The possibility that West Bengal could soon end the cinchona plantation has altered the calculus by which people are adhering—and not adhering—to its disciplining of land and life. It has, in turn, fundamentally affected how people are orienting to what remains of this once-thriving industry. This kind of ethical reorientation is not uncommon. The industrial twilight is often a time of schemes and cunning—whether the "reallocation" of property, the selling off of trade secrets, or the hedging of workers into other enterprises to make ends meet. Side hustles, illegal activities, and before-it's-too-late opportunisms are to be expected when an industry no longer supports a community the ways it once did. These practices may be illegal, but they are not necessarily wrong in the moral economies of the end times.

The specter of the cinchona plantations' end has prompted an inventive redrawing of the lines between *illegal* (wrong in the eyes of the law) and *illicit* (wrong in the eyes of a people).[19] As I learned through fieldwork, the ethics of once-transgressive practices like selling plantation land are still being worked out—as are their outcomes. These practices underscore the openness of

becoming-after as an ethical and practical project. We might judge these artful dealings. Or we might take into account the circumstances, share with cinchona workers an anthropological wink,[20] and appreciate these dynamics as what happens *after* a world-historical substance runs its course . . . but *before* the window of opportunity closes on all that remains.

HOMESTAYS

The After is a time-space best painted in shades of gray.[21] While some families were selling and subdividing their homesteads, some saw other possibilities. Mingma and his neighbors all worked for the Munsong cinchona plantation. Unlike their coworkers' houses tucked deep into the forested recesses of the plantation, Mingma and his neighbors' homesteads were located along a motorable road—a particularly scenic route connecting Kalimpong Town to Sikkim via the ridge at Munsong. The views were magnificent. In 2011, Mingma and his neighbors began exploring the possibility of converting their plantation homesteads into homestays—small guesthouses, where guests could pay to stay the night, get a homecooked meal, and take in the sights.[22]

The legality of these business ventures was questionable. There was nothing in the plantation's by-laws that prohibited the establishment of homestays. But there was also nothing that expressly permitted these businesses. Mingma and his fellow entrepreneurs saw that this could be a problem. So in 2011, they approached the directorate for a No Objection Certificate (NOC). The directorate initially refused, but Munsong's manager (who was also a Gorkha familiar with the plantation's hardships) was sympathetic to their ambitions. They thus began collaborating to find a workaround. This they found by way of the Development and Cultural Boards established under the administrative control of the Backward Classes Welfare Department, Government of West Bengal. The Development and Cultural Boards were created to help ethnic groups within the Gorkha conglomerate—Tamangs, Sherpas, Gurungs, Rais, and so on—preserve and develop their heritage.[23] This included subsidies for the construction of "model houses" for their members. The cinchona directorate was already on record for having no objection to these model houses being built on the plantations. If Mingma and company could coordinate with their boards and approach the directorate under the pretense of transforming their homes into model houses, then the manager saw no reason he couldn't issue NOCs.

The workaround worked beautifully. In 2012, Mingma and thirteen others received NOCs, which they proudly displayed on the walls of their newly renovated homesteads-turned-homestays. The businesses opened to rave reviews. As tourists began arriving and money began to flow, other cinchona families took notice. Soon a rush of homestays were in the works. The directorate now found itself in uncharted waters. At one level, it was on board. It had long looked to tourism as a

FIGURE 23. Signs advertising homestays at Munsong, 2022. Credit: Photo by author.

way to mitigate the plantations' losses. Officers were therefore willing to collaborate with the homestay owners on the establishment of tourist viewpoints, cafés, and parks. On another level, though, the directorate was facing a proliferation of businesses for which there was little precedent or legal standing. It was all very gray. Shortly after Mingma's homestay opened, the directorate ordered managers to stop issuing NOCs. The directorate would not crack down on the homestays. But neither would it endorse these entrepreneurial endeavors. The "policy," instead, was to turn a blind eye.

The lack of NOCs did not stop construction.[24] By 2022, there were thirty-six homestays in Mingma's local division of Munsong alone—and hundreds scattered across the plantations more broadly. At these guesthouses, you can arrange tours of the plantations' sites, enjoy a homecooked meal of Nepali *daal-bhat*, and watch the sun set over the world's third-highest peak, Mount Kanchenjunga. If you know how to ask right, you might even get a taste of *tongba*, the warm millet wine that has long been the spirit of choice on the plantations. Though modest in their accommodation, the homestays offer their own kind of experience. Word spread quickly through the region's tourism networks. And with homestay owners tapping directly in to social media and websites like Airbnb, more and more tourists, mostly Bengalis from the plains, began visiting the cinchona plantations, bringing with them much-needed cash.

The homestays have been transformative. They have provided cinchona workers and their families with a new income, purpose, and pride of place. Through these entrepreneurial ventures, workers have actively capitalized on the cinchona plantations' history and natural beauty—effectively extracting value from these historic sites of extraction. Importantly, the homestays have also provided jobs and livelihoods that do not require leaving, leasing, or selling off their homesteads. In so doing, the homestays have allowed people to remain on the plantations—to stay home, as it were, yet become something different. Someone in the family still needs to answer the plantation's bell and put in the work. In this sense, homestays have hardly freed families from the plantation's clutches, but they have opened new prospects for life in the remains.

These projects stand on shaky ground, however. The land itself remains government property. Most homestays, moreover, lack NOCs. The lack of legal standing has brought with it insecurities in the near term and the long term. Without titles for their land and NOCs for their businesses, homestayers have been unable to access bank loans and government schemes to support their small businesses. What homestays' lack of legal standing might mean if the government ever decides to privatize or do something else with the cinchona plantations is unclear.

COVID-19 exacerbated the insecurity. Like tourism industries around the world, the homestays suffered during the pandemic. As Mingma recounted in 2022, "Two or three years ago, business was good, but then came COVID." Tourists stopped coming. Money stopped flowing. Lacking proper papers, homestay owners were unable to access the emergency funds that the government was providing to help small businesses survive the crisis. "I started this in 2012. So it has been about twelve [*sic*] years, with COVID disturbing it in between," Mingma explained in 2022, just as guests were finally starting to return. "We've been running these homestays, but we've been running it entirely on our own without any support from any department or government."

Recognizing their shared insecurity, Mingma and other homestay owners organized. They founded the Kulain Gau Homestay Association (with Mingma as president) and took their cause to the directorate in hopes of securing NOCs for *all* of their members.[25] "We are not asking for any vacant land of the cinchonas," Mingma continued. "This is my residence, and we have a floor downstairs also. What we are saying is that we will run homestays in our own residences, like I have been doing in this top floor of my own residence. The state government is giving a certain amounts of grants, but we have not been able to get those. So why don't you award us NOCs in your own pad [bearing the directorate's letterhead]."[26]

If the homestays opened possibilities, they also introduced less savory elements of business into the cinchona community like risk, competition, and conflicts of interest. The "if you build it, they will come" entrepreneurial logic had its limits.

Amid the sudden glut of homestays, coupled with the COVID-19 pandemic, many new homestays suffered. Rooms stayed vacant. Debts remained unpaid. And tensions rose between owners vying for their share of the market, and for their share of the plantations themselves. One afternoon in June 2022, I encountered a scene that showed these dynamics in particularly ugly terms. Not far down the road from Mingma's place, two families were renovating their homes to become homestays. During construction and long after the concrete had set, a dispute arose as to where exactly the boundary between the adjoining properties lay. Only a couple of meters separated the homes, and one still needed space for a staircase. Hoping to stave off what they perceived as an encroachment on their land, one homestayer filed a complaint against the other with the plantation manager. The tensions escalated in the days ahead. Police were now on hand and crowds had gathered at the disputed property line, where the respective homestayers were screaming to protect what was theirs. Some bystanders (like me) stood at a safe distance, watching the drama unfold from the road. Others shoved their way into the crowd gathered at the property line itself. Amid shouts and occasional shoving, police monitored the situation, hoping to keep the peace.

At the center of the mayhem stood the plantation's acting manager holding an iron rod, roughly the height of a man. *He* would draw the line. As he touched his rod to the earth and began scratching a line in the dirt, the matriarch of one family lurched violently toward her neighbor, screaming in anger. Suddenly a male relative clubbed the woman with his arm to stop her and then dragged her away. The crowd gasped and shifted, and the police dove in, trying their best to separate and calm the crowd's most volatile elements. All the while, the manager stood firm—rod in hand.

This chaotic scene showed a darker side of the homestays. It simultaneously underscored something more fundamental: cinchona workers are legally landless. While they may build businesses on the land where they have lived for generations, in the technical sense, these are castles built on sand. On that chaotic day, it was, in the end, the plantation manager who drew the line. Not the police. Not the courts. Not the community. It was *his* iron rod that scratched the line in the sand, determining who could use what. The property in dispute was never workers' property to begin with. It was the plantation's. The plantation would decide.

Still, one mustn't write off the meaningful changes that homestays have brought to cinchona workers and their families. They may rest on shaky ground, but these entrepreneurial endeavors have provided needed forms of income and purpose. For cinchona families trying to stay on the plantations yet become something beyond their toil, homestays represent an inventive way of repurposing the remains. The livelihoods workers are creating through these ventures are real. They are also tenuous. That is why Mingma and others are banding together to shore up the ground on which they stand. Their efforts, as the manager and his rod

made clear that day at Munsong, haven't yet afforded the rights and legal standing they desire. And so, for the time-being, the homestays continue to operate in the After's gray.

OF MIRACLES

It took a pandemic for a phoenix to rise from quinine's ashes. In early 2020, humanity was just coming to terms with the SARS-CoV-2 (COVID-19) virus spreading rapidly across the planet. Knowledge was limited. Treatments were lacking. As is often the case when new diseases appear, scientists began exploring whether existing drugs might be used to treat the novel disease. In February, Chinese researchers began studying whether the antimalarials chloroquine and hydroxychloroquine might be effective against COVID-19. These were the synthetic drugs that largely replaced quinine, beginning in the 1940s. Though originally used to combat the parasite-based malaria, both drugs were known to have antiviral properties.[27] Hence the Chinese's experiments to see if these old drugs might be put to a new scourge.

Chinese scientists weren't the only ones in those early days of the pandemic wondering if chloroquine (CQ) and hydroxychloroquine (HCQ) could be repurposed to fight COVID-19.[28] On March 13, 2020, the US Food and Drug Administration (FDA) approved two proposed trials by David Boulware, an infectious disease expert at the University of Minnesota, to study HCQ's efficacy against COVID-19 as a postexposure prophylaxis and/or a treatment for symptoms themselves. Boulware's studies were to be double-blind, randomized, controlled trials—the gold standard of scientific inquiry.

However, the same day that the FDA approved Boulware's trials, the interest in chloroquine and hydroxychloroquine took a markedly unscientific turn when an ophthalmologist (and professional bitcoin investor), David Todaro, tweeted that chloroquine could treat COVID-19.[29] Todaro's tweet included a link to a Google Doc, where the attorney Gregory Rigano and the supposed Stanford biochemist Thomas Broker were compiling evidence of chloroquine's efficacy.[30] Several days later, Didier Raoult, a controversial French doctor, got in on the act, proclaiming that he had proof that HCQ worked against COVID-19. The hype grew quickly. Elon Musk tweeted out the Google Doc "study." Rigano crowed about the drugs' virtues on Fox News. And shortly thereafter, Larry Ellison, chair of Oracle, met privately with President Donald Trump to laud hydroxychloroquine and offer Oracle's services to promote it.

By March 19, Trump himself was touting hydroxychloroquine, telling the American public of the "very, very encouraging early results" (a major stretch of the truth) and that the FDA had approved the drug (it hadn't, at least not for use against COVID-19). When asked why he was so enthusiastic about HCQ, Trump responded that it was "just a feeling" he had, being a "smart guy."[31] Pressured by

the Trump administration, the FDA issued an emergency use authorization for HCQ and CQ on March 27—a mere two weeks after the Google Doc went viral. The widely available drugs flew off the shelves in the United States and worldwide. Pharmaceutical giants like Bayer, Novartis, Mylan, and Teva meanwhile pledged tens of millions of doses to bolster the global fight against COVID-19.[32]

With the scramble on for HCQ and CQ, some began to wonder if quinine might also be an effective treatment. The link wasn't hard to make. HCQ and CQ were synthetically modeled on quinine. If synthetic versions worked against COVID-19, then why not the natural original? On that shaky logic, sales of all three antimalarials skyrocketed, with off-label use proliferating worldwide and black markets taking shape on the dark web and as far afield as Beirut, Cameroon, and Russia.[33]

Back in India, hope of quinine's rebirth raced through the cinchona plantations. By April 2020, the directorate had received numerous queries from Indian pharmaceutical companies interested in obtaining cinchona bark. Dr. Rai issued statements that with 500,000 kilograms of raw bark on hand and more available for harvest, the cinchona plantations stood ready to furnish the quinine the world needed to fight COVID-19.[34] Rai further took the opportunity to tell journalists what this moment might mean for the beleaguered cinchona plantations. Renewed global demand for quinine, he told reporters, had the potential to reverse "years of disappointment," "benefit thousands of laborers," and prompt the reopening of the government quinine factory.[35] Paradoxically, then, as COVID-19 began its deadly spread across the globe and into the plantations, it engendered hopes of quinine's resurrection. In these logics of a second coming, quinine and the cinchona plantations again had a place on the world stage, not wholly unlike the past. Same drug. Different disease. Another miracle.

The pandemic-born belief in quinine was not only about the plantations' future. It was also about surviving the present. As fear and the virus spread through the plantations, workers began helping themselves to the vast stores of bark that sat rotting in go-downs and drying sheds. They made the bark into teas and other homemade medicines that they hoped might stave off COVID-19. Even the director, with his PhD in agriculture, carried with him a tincture of local bark, which he took daily as a prophylactic. It was all very uncanny.

And it was cruel.[36] The science, once given the chance to run its course, did not pan out. Boulware's trials showed no significant evidence that HCQ prevented COVID-19 illness or infection.[37] Other trials of HCQ and CQ corroborated Boulware's findings. That, coupled with these drugs' well-known side effects and the dangers of off-label use, prompted the WHO to issue statements condemning the use of HCQ and CQ as treatments for COVID-19.[38] On June 15, 2020, the US FDA revoked its emergency authorizations for both drugs. As for quinine, preliminary research suggested that quinine sulfate (QS) had at least some antiviral activity against SARS-CoV-2 in vitro.[39] A review funded by the government of Indonesia (a country with its own history of cinchona and quinine production)

accordingly concluded that quinine sulfate "has the potential to be developed as a Covid-19 treatment with a better safety profile than that of CQ and HCQ."[40] Those recommendations, however, went nowhere. Whatever marginal gains quinine offered failed to lure the interests of big pharma, which had pivoted to the development of vaccines, monoclonal antibodies, and synthetic treatments like remdesivir. Quinine's second coming was not to be.

The wishful thinking that raced through the cinchona plantations is understandable, given the pandemic and everything else that was going on at the time. When COVID-19 struck, the cinchona plantations and the greater Darjeeling-Kalimpong Hills were still recovering from the 2017 Gorkhaland agitations. Privatization remained a perennial threat. The perils of the National Register of Citizens likewise loomed. Workers still did not have the documents and land rights to help them move forward, with or without cinchona. The pandemic added another layer to these compounding precarities, deepening the desperation for something—anything—to allay the maladies at hand.

COVID-19 took a deadly toll. Once inside the plantations, the virus spread quickly. Lacking equitable access to health care, many plantation elders died from diagnosed and undiagnosed causes during this period, including some who feature in this book. The plantations operated intermittently throughout 2020 and 2021, at times under lockdown with only essential workers on the job, at other times with a full workforce. When I was finally able to reconnect with my friends in person in 2022, the disruption and human and financial losses were difficult to weigh. One thing, though, was clear: the false coin of quinine's resurrection proved particularly cruel for a community already addled with more than its fair share of adversity.

The purported miracle of quinine's return to glory may have been uncanny, but it was not uncommon. Remains writ large breed hopes—some more substantive than others. Myths of Phoenix rising from the ashes find fertile ground in the barren landscapes of deindustrialization. In Appalachia, for example, politicians and laid-off miners still crow about coal's return, despite the turn to cleaner energy. In America's Rust Belt, where factories have closed and jobs have gone offshore, many workers still believe those same jobs can and will come back. Never mind that the world has moved on. Never mind that the equations of global capital are written on the wall. The promise of resurrection does important affective and political work for communities who feel themselves left behind by the march of history. In these nostalgic longings, history's recursion moves in another form: not only as the colonial or industrial past returning to compound the duress of the present,[41] but as hope. These wishful imaginings of the halcyon days of old are often based on grossly inaccurate representations of the past. And they are prone to conspiratorial logics. As right-wing regimes often illustrate, nostalgia for the fabled glory days can take dangerous political forms. That these regimes and the dark (often racist) logics they traffic in have found fertile ground among communities hard-hit

by deindustrialization is no coincidence. In their twilights, industries' remains easily transform into crucibles of credulity, nostalgia, and prophesied returns—however far-fetched.

That said, it was not simply nostalgia that drove cinchona workers' belief in quinine's possible rebirth. Even if it invoked quinine's colonial past, the miracle of the alkaloid's return to the world stage was not a dream of the past but rather a hope born from the desolations of the present. No one wants to return to the exploitations of the colonial days. No one wants *that* kind of recursion. Gorkha workers have made it perfectly clear through their agitations, through their demands for rights, and through their many projects of forging a life beyond the plantation's toil: they will no longer stand for the undying colonialities that have defined these places to date. No, a return to the colonial past is not what Gorkha cinchona workers want. What they want is a purpose and a place, *their* place, in the present—some solid ground on which to stand and become who and what they want to be.

Ultimately, this is what is at stake. Penultimately, this is what they are fighting for—now, while they still can.

LIFE IN THE MEANTIME

The COVID-19 pandemic made returning to India for fieldwork untenable in 2020 and 2021. During this time, I relied on Vikash and my personal contacts to keep in touch with the cinchona plantations. But the pandemic also prompted me to embrace other methods—most notably, the use of social media. The videos and articles that workers and journalists were posting were not quite the same as being there, but they gave me important glimpses of the plantations during the pandemic. As I pored through the videos of local political meetings and rallies, I began noticing a familiar face: Anit. Since our last meeting, his life seemed to have taken a political turn. So when I returned for fieldwork in 2022, I was curious to hear more.

We reconnected one afternoon in Mungpoo and began sharing our experiences of the pandemic. "In the meantime," I asked Anit, "have you been doing any sort of community work, activism? Have you gotten involved with politics at all?"

"Politics I was doing," Anit told me, switching between English and Nepali. "I was the spokesperson of the Bharatiya Gorkha Prajatantrik Morcha [the regional party that would go on to win the 2022 GTA elections]. I was very active."

"I thought you were," I said, "because I kept seeing you on videos posted on Facebook."

"Yeah, yeah. I was involved. Completely involved!" But, as Anit went on to explain, he had since resigned as party spokesperson in order to pursue his career on the plantation.

His career on the plantation? The same plantation that had earlier stymied his trajectory as a lawyer? This struck me as another unexpected turn, but as Anit

caught me up on his life since we last saw each other, it began to make sense. In October 2021, the directorate promoted Anit from his position as *chaprasi* (overseer) to the post of *gangman*—a position in which he would command upwards of five hundred workers. The promotion afforded him higher wages, a pension, and direct access to directorate leaders. The promotion was a recognition of his experience, seniority, and leadership abilities. It also marked a warming of relations between Anit and the director—an alliance he hoped to capitalize on going forward. As the promotion started coming into view in 2021, Anit strategically withdrew from politics. There would be too many conflicts of interest, he recognized. And besides, there was a longer game to play.[42]

Anit's ascension through the plantation hierarchy did not spell the end of his law career. Nor did it lessen his commitment to his community. Rather, he harbored designs of leveraging his law expertise for his people's gain—but now from *within* the plantation administration itself.

When I asked him, "Where do you see yourself in the next five years? What do you foresee? What do you hope for?," his answer was telling.

"Actually, right now," Anit answered, "I'm hoping to become a law official in the cinchona directorate. If I become a law official [working for the directorate], I can serve the people from *so* many angles. Because I know the problems of this society from the grassroots level to the official level. I can understand. And I want to go *through* this law profession. Being qualified, learned, and an advocate also."

Anit's credentials for such a position, were it to exist, were remarkable. And he was well aware of the quandaries that such a position might entail. How, as a law official working for the directorate, he might simultaneously serve the plantation's and laborers' interests remained to be seen. Having come up through the ranks, Anit knew full well that exploitation is part of the plantation's DNA. Still, he was optimistic that he could strike a balance and help his community from within the plantation's administration. No such position yet existed, he noted. But conversations were happening. An initiative was under way.

In the meantime, Anit was doing what he could as a *gangman*. Putting his law career on hold, resigning from politics, and doing the plantation's bidding wasn't ideal. "Being gangman," he confided, "I am not satisfied. But I have to do this. There are not really other options."

Certainly this was not the Plan A that the aspiring young Anit might have imagined for his life, but it was Plan A now. Recognizing its shortcomings, Anit made a pact with himself. If his plan to go from *gangman* to plantation law officer didn't work out, he would resign in two years' time, "live hand to mouth," and recommit himself fully to law, activism, and politics. "I need not only money," he explained. "I need my dignity also."

Early the next morning, Anit gave me a ride to the Mungpoo *muster*. In the backseat of his newly purchased sedan were several laborers, neighbors to whom he had offered a ride. No one said much as we drove sleepily through the cinchona

stands and early morning light. "This is our life," Anit commented, as we neared the field where hundreds were gathered to receive his orders. "At 6:30 every morning, by hook or crook, we must make our way to the day's *muster*. This is our life here."

Anit's comment captured the drudgeries of life after quinine: the repetition, hardship, bleak horizons, and inexorable paradoxes of laboring for a plantation that history has seemingly rendered obsolete. Yet as his story and others' showed, there were other kinds of life stirring in the remains: experiments to grow something new from the grounds of old; artful reclaimings of the lands and resources on hand; revolving doors of other Plan As and Plan Bs for making a life in the remains. In perpetual formation and multiple, these becomings bear their colonial burdens. But despite the weight, they also carry in them vital signs of hope and a better life thereafter.

Watching Anit work that morning, I was struck by the equanimity with which he commanded the *muster*. He managed his staff and moved through the laborers with a grace and respect that belied his authority as *gangman*. These were his neighbors, his people, the community that had helped him become who he was. He was above them in title only. Whether his aspirations of serving his community as a law official with the plantation administration will materialize remains to be seen. In the meantime, Anit moves through his days with a quiet resolve and unmistakable hope, built on a lifetime of bucking the odds that history has dealt him. What will become of his life—and the plantations and community that were so instrumental in shaping it—will be decided in the years ahead. In the meantime, there is work to be done.

. . .

Becoming something viable and dignified after quinine continues to prove challenging. The difficulties are largely written into the remains. Because remains involve such dense entanglements of the past and the present, material and immaterial forms, and human and nonhuman forces, becoming-after brooks little resolution. It is instead confounding and riddled with paradox. It is also vital for shaping the life ahead—both on the cinchona plantations and beyond.

The After will look and feel very different depending on where one stands. The horizons will appear very different in post-quinine Darjeeling than they will in post-coal Appalachia. The carcasses of industry will rot differently in Mungpoo than they will in America's Rust Belt or in post-Soviet Russia.[43] The colonial plantation will linger differently in Munsong than it will in sugar's wake in the Caribbean or cotton's in the American South.[44] These are different Afters, structured by different colonial histories and different world-historical substances. Identifying the histories of becoming-with that made these places and linking them to their communities' current struggles of becoming-after is not simply a matter of history

for history's sake. It is a prerequisite for mapping the challenges and unevenness of our anthropogenically affected present.

For Anit, the challenge of forging life after quinine is simultaneously a project of remaining on the plantations while becoming something beyond its ruin. To date, he and his community have not yet freed themselves from the cinchona plantation's unrelenting grip. As he suggested so evocatively with his "this is our life here" comment as we made our way through the dawn of another day, the After isn't so much a place one gets to as a condition in which one perennially dwells, struggles, and works. The meantime is hardly ideal. Chance and luck will undoubtedly have their say in determining what comes next. And while many hold dear to the hope that a savior will again rise from the cinchona plantations' tired ground or that quinine will miraculously return to the world stage, few are leaving their future solely to chance. They are instead taking it upon themselves to forge their own kinds of life, their own kinds of futures, with what remains.

That time may be running out for the cinchona plantations has imbued these projects with palpable urgency. It has also fundamentally altered the calculus through which people are engaging with the remains. Whether in the spores of shitake, the artful dealings of workers selling plantation land, the entrepreneurial designs of homesteads-turned-homestays, or the remarkable life of a laborer-turned-lawyer, these projects of becoming-after are experimental, tentative, and in constant formation. The same may be said of their outcomes and ethics. Until and unless the cinchona community finds a viable way forward, we can expect it to embrace a bevy of paths into the future. Some of these, of necessity, will lead to the cinchona fields. Others will follow different lines of flight.[45] Plurality is part of the process. Indeed, life on the twenty-first-century cinchona plantations augers a suite of tactics and the possible end of these places, an all-of-the-above approach.

Remaining after quinine may well require "compulsion" and "sacrifice," as Anit put it to start. But becoming-after requires something else altogether: perseverance, experimentation, and, as Anit himself illustrates, the belief that things can be better and the will to make it so. At the end of the day, becoming-after quinine may be freighted by the colonial past, but it is not without hope. Miracles aside, it is not without possibility.

Beyond all else, the work of becoming-after is ongoing—a project without end.

IN LIEU OF CONCLUSION

An Ethics for the Time-Being

It's 2022. After years of gathering dust, the Research and Development Lab at Mungpoo is thrumming with activity. A massive test is under way to determine what quinine—and life—is left in the plantations' cinchona trees. Lab technicians are at the bench, prepping samples, filling beakers with solvents, and loading test tubes in order to determine the alkaloid content of the plantations' barks. Everywhere one looks are samples. Thousands of cellophane bags, each containing bark and a tag indicating the location from which it was taken, line the lab's desks, shelves, and floors. Of the 200,000 samples collected, some are to be tested here; others will be sent to higher-tech labs across India. Laboratory glassware, much of it tinged by past chemical reactions, clutter the bench. Dusty bottles of toluene oil and hydrochloric acid with peeling labels sit below. On the wooden floor, three women sit trimming and bundling fresh cinchona cuttings, which their foreman packs hurriedly into coolers bound for Kolkata. There these live specimens will be tested for tissue culturing—an advanced biological technology that, if successful, would allow the most potent trees to be cloned in a lab and then repropagated on the plantations' steep hillsides.

The quinologist who has invited Vikash and me to the lab walks us through the chemical reactions she and her staff are using to test the bark.[1] It's an old process, she explains, but accurate enough to get a provisional sense of the cinchona trees' chemical vitality. She has recently been hired from the thriving private pharmaceutical industry of Sikkim. On taking this government post, she was shocked, she tells me, the first day she walked into her new lab. The open windows, dusty floor, antiquated machinery, heat, and humidity were a far cry from the climate-controlled, state-of-the-art labs she was used to in the private sector. But here she

was, a government scientist overseeing an experiment of critical importance to the cinchona plantations' future.

A year before, the West Bengal government hired Dex-Deft Research and Consultancy, an international firm based in New Delhi, to carry out a comprehensive study of the plantations. The government gave Dex-Deft license to study nearly all facets of the "sick" industry. On the plant side, Dex-Deft's consultants would analyze the plantations' soils, cinchona cultivation techniques, and diversification possibilities. On the chemical side, they would examine the factory's aging machinery, pharmaceutical manufacturing methods, and marketing. No analysis was more important, however, than that concerning the alkaloid content of the plantations' bark. This material reckoning would be pivotal in determining whether there was any hope in cinchona.

"What is the target that you think you need to hit—bare minimum?" I ask the quinologist.

"Three and a half percent," she says.

This strikes me as low. The Congolese barks that dominate what is left of the global quinine market average over 6 percent alkaloid content.[2] When I ask the quinologist about her logic, she explains that India's domestic market has shown 3.5 percent to be the minimum at which pharmaceutical companies are willing to buy bark—typically small purchases used for the manufacture of ayurvedic and homeopathic medicines (not for antimalarial or beverage quinine). She thinks that 3.5 percent would give the cinchona plantations at least some market to move their raw bark. Not ideal, but something. Perhaps enough to limp along a little longer.

When I ask the plantations' director, Dr. Rai, a week later what he sees as the target, he offers the more ambitious goal of "at least 6 percent." Producing barks in that range, he tells me, would enable the plantations to sell on the global market where major pharmaceutical and chemical companies buy bark to produce medical and beverage quinine.[3]

The initial results from the lab aren't great. The bark sampled from the plantations' go-downs, much of it old and deteriorated, is averaging between 2 and 2.5 percent—far short of the mark. The living trees, however, are giving some reasons for hope. The quinologist calls me over to her desk to have a look at the numbers. Her finger guides me through the figures. I see plenty of 2's and 3's, even some 1's. But then her finger stops. "Look!" she says, pointing to a number she underlined earlier. "See that? There's a 7 percent in Ranju Valley, an 8 percent in Rongo, and," turning the page, "another 8 percent in Rungbee."

If these high-yielding trees can be isolated and cloned via tissue culturing, there might be a future in cinchona yet. The plantations would likely need to outsource this cutting-edge work to commercial labs and then buy back the cloned specimens for cultivation, the director later explains. They would, moreover, still need

to speed up cinchona's notoriously slow time to harvest (from the sixteen-year life cycle to something closer to six or seven, the director estimates). Nevertheless, if they could combine the right trees with the right technology, the plantations stood a real chance at revitalization, he tells me. The factory could be reopened. Its product could be sold on the global market. India's quinine industry could finally move out of the red and into the twenty-first century, thereby giving these places and their people renewed purpose in the world.

But first they would need to determine the chemical vitality of the fever trees that remain. A threshold of viability would need to be met.

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In my years of working on this book, India's cinchona plantations frequently reminded me of other places and times. The abandoned fields, dilapidated buildings, and bewildered eyes often brought me back to the scarred hills, boarded-up main streets, and uncertain outlooks of rural Appalachia, where I've spent much of my life. The crumbling quinine factory looked eerily like the shuttered albatrosses of the Rust Belt. The overgrown cinchona fields reminded me of the postplantation Caribbean and worn-out landscapes I had traveled through in the Global South.

But the resonances also went beyond these postcolonial, postindustrial circumstances. The horizons of life after quinine, in many ways, resembled those of twenty-first-century humanity writ large: the setting and falling short of acceptable goals; the mounting frustrations with the present circumstance; the dawning realization that things cannot go on as they are, coupled with the inability or unwillingness to change; the sense of being stuck under the relentless weight of history; that nagging feeling that time may be running out to find a better way forward. As I delved further into the cinchona plantations, I began to see the problem of remains—how to live with them, what to make of them—as one of planetary proportions.[4]

Today the toxic legacies of empire and industry are accumulating in our bodies, lands, and communities. Microplastics drift ubiquitously through the atmosphere and seas. On these grounds, it could be argued that humanity has made—and is making—the earth a world of remains. So construed, the problem of remains figures as not simply a quandary for those that empire and industry have left behind. It is a central challenge of our anthropogenically affected times, now and going forward. I will not foist these big questions of the Anthropocene on the cinchona community with whom I have had the privilege to work. They have already borne more than their fair share of the world's burdens. One also needs to be careful to not map the conditions, projects, and horizons of life after quinine too precisely onto those of the world writ large. That said, I am interested in exploring what lessons if any stir in quinine's remains. What can the cinchona community teach us about the difficulties—and imperatives—of remaining when so much else is changing? How might their agitations for rights and justice provide some bearings for parsing other remains? What do their projects of becoming-after tell us about

the audacity, wherewithal, and risk necessary to create something new from the remains of old?

The cinchona community's answers to these questions are small in scope. But they may offer some traction for forging ethical forms of life thereafter. In this world of remains, my friends on the plantations pose a pressing ethical question: What do we do? And then how are we to do it? These questions conjure an ethics in two senses of the term. The first is *ethics* in the Kantian sense of how one acts unto others in the world.[5] What constitutes right and good? And how does one live a life according to these values? The second is *ethic* in the Weberian sense of fulfilling one's duty, one's calling—one's work ethic, as it were. As the cinchona community illustrates when they show up to do their day's work and when they struggle and strive for a better tomorrow, both kinds of ethics are invaluable. With the future undetermined, we might think of this as an *ethics for the time-being*—an amalgam of responsibility and perseverance that might help us meet at least some of the vast challenges at hand.

Back at the R&D lab in Mungpoo, a lab tech named Suraj is finalizing a bark sample for testing. Still in his twenties, Suraj wasn't of working age when the lab

FIGURE 24. Preparing a bark sample at the R&D lab at Mungpoo, 2022. Credit: Photo by author.

was last in operation. In fact, he only learned this process several months ago, when Dex-Deft called for testing. But he's getting more comfortable, he tells me, handling the chemicals and equipment. I look on as he mixes the finely ground bark with lime and water and then packs the paste into the long glass tube of a Soxhlet extractor machine. Suraj then measures out 250 milliliters of toluene oil, which he pours carefully into chamber. The viscous oil streaks slowly down the glass walls and into the bark, where it will begin to chemically extract the bark's alkaloids. With the sample now loaded, Suraj hits the switch on the Soxhlet.[6] It takes a few minutes for the machine to warm up, but slowly the solution starts to boil, steam begins to rise through the tubes, and the toluene begins pulling the alkaloids from the bark.

It is a time-tested method of extraction but with a new set of stakes. Can India's cinchona plantations still produce barks capable of competing in the global market? Does the fever tree still have the capacity to find a place in this world? Or has the chemistry—of the bark, soils, medicine, and the world itself—irrevocably changed? Is there enough life in what remains to revitalize this industry? Or should the plantations cut their losses and move on? If the results come back short of the mark, as initial results suggest they may, how much longer should these places and people stay the course that got them this far? How much longer can they?

These are questions that quinine's colonial history has distilled down through ages. And so, with the future hanging in the balance, we watch the alkaloids boil.

PARSING THE REMAINS

The tests I observed at the R&D lab in 2022 were similar to those run during the British colonial period. For an empire at war with malaria, alkaloid content and quinine extraction rates became an obsession. Saving lives, in a very material sense, boiled down to cinchona bark's molecular composition and quinine's unique chemical ability to stop the reproduction of the malaria plasmodium in the human body. If the colonial obsession with alkaloid content underscored quinine's materiality, it obscured the *other* forces—the plants, land, people, and extractive power of empire—that also made this alkaloid a world-historical substance. Without this assemblage of human and nonhuman elements, there would be no quinine to count. Not then. Not now. Although quinine no longer occupies its place at the fore of human history, much of what—and who—made it still live. What then is one to make of these remains?

The stories that make up this book, I hope, signal the need for nuanced engagement with the elements of the colonial past that remain. In writing this after-anthropology, I've sought an approach that doesn't shirk the ambivalences and antinomies of life in the remains for easy analytic distinctions or a pat politics. For however *colonial* quinine's past may have been, the cocktail of forces that made this humble alkaloid a world-historical substance also made the cinchona plantations and their communities what and who they are.

Today, those pasts of colonial becoming are not easily ferreted out. Nor are they easily forsaken.

If the cinchona community prompts a rethinking of clearcut distinctions between "colonial" and "noncolonial," they similarly beg deeper consideration of a people's changing relationships with the plants, land, chemicals, and infrastructure that compose the cinchona plantations. As the alkaloid tests of 2022 suggest, the materialities of these things still matter. They still have much to say about what and who the plantations and their people will become. In these places where plants, people, land, the colonial past, and the postcolonial present swirl into one another, the boundaries that often give us ethical and political bearings—for example, human and nonhuman, colonial and noncolonial, material and immaterial, past and present—are categorically obscure. For the cinchona community and others forged in the crucible of colonial becoming, separating the proverbial wheat from the chaff may be neither possible nor desirable.

Which is not to say that Gorkha cinchona workers lack ways of sorting through the imperial aftermaths. To the contrary, the cinchona community has its *own* ways of parsing the remains. Trade unions defending the plantations against privatization, Gorkhas agitating for Gorkhaland, and plantation workers artfully reclaiming the resources at hand all are ways of asking and answering: What must stay? What must go? What needs to change? And who has the right to decide? The cinchona community's answers to these questions may not map neatly onto prepackaged distinctions, but they are true to the concrete (though confounding) realities of their everyday lives.

In puzzling our way through this morass, we can ill afford to ignore the paradoxes that remains impart to the present. For those who live and labor on cinchona plantations whose product has run its course and whose bark now goes to rot, antinomy and ambivalence are inexorable conditions of the life thereafter. Foregrounding these inhabited paradoxes—and the creative ways people are working through them—has been central to this book and the *ethic/s for the time-being* I'm trying to chart here. Ultimately, though, the struggles and triumphs of the cinchona community show it best: remains may make for a complicated ground on which to forge just and viable forms of life. The worlds they constitute may be murky and hard to parse. But they are not without hope, possibility, or a politics.

ON BORROWED TIME?

It's getting late. Around the offices of the quinine factory, a dozen clerks sit at wooden tables, watching the clock, waiting for their shift to end. In another time, these desks teemed with ledgers tabulating factory inputs, outputs, extraction rates, medicines produced, and so on. In another time, clerks worked feverishly to keep pace with the pharma-industrial giant, steaming

and groaning away next door. Not today. The gates of the hulking factory are locked. Vats brought by the British to boil the fever tree's bark sit corroded and dry. Desks worn smooth by generations of paperwork are empty, save for a few personal items—a calendar here, a photo there. These clerks were once the factory's brains, the counters, the calculators. Yet, at 2:00 p.m. on a Friday afternoon in 2017, the main calculations concern the clock. The clerks who have made it this long sit watching the minutes tick away, doing their best to complete an honest day's work. By 3:30, when I pass back through the offices after visiting the factory, the desks are empty. The clerks have returned home. Another day in the books.

At this hour, similar scenes are unfolding across the cinchona plantations. The most earnest workers have lasted their full shift. Others went home hours ago to do other things with their day. Some, having gotten their name in the books at the morning muster, never reported at all. This is what work has become for many: doing what is required and little more. This is understandable in a plantation industry that history has rendered obsolete. But while the world has turned, the drudgery of life on the cinchona plantations remains.

Scenes of factory clerks watching the clock count down their days stand in stark contrast to the urgencies of the *parja patta* movement and insurgencies for Gorkhaland covered in earlier chapters. Sleepy and downtrodden one moment, agitated and hopeful the next, the cinchona plantations are places of multiple, often contradictory temporalities. In one instance, time can appear sullen and stultifying, and life can appear a mindless going through the motions, yet going nowhere. At another, time can feel as though it is running out, and life can be animated by increasingly desperate and inventive efforts to find ways forward, before it's too late. These scenes and jagged temporalities may be hard to square and harder to stomach. At the end of the day, though, they are homologous.

And they are embodied. Workers submitting to the plantation's orders, rising up against its injustices, and/or seeking lives beyond its grind may seem incommensurate. Until, that is, one realizes that it is the same workers shuffling their way to work one day and agitating for Gorkhaland the next. It is the same clerks staring at the factory's clock who are then going home to do other things with their day, like attend to their newly founded homestays or lead their trade union's next mobilization for workers' rights.

Cinchona workers understand that, despite their rich history, the plantations may be running out of time—at once obsolete and nearing their end. One might argue that the cinchona plantations and their people are living on borrowed time. But that would be to tacitly endorse a proclamation of doom—a doom deferred but a doom no less—that the cinchona community refuses. As their politics illustrate, the moment requires a different ethical and temporal formulation. "Borrowed" or not, my friends on the cinchona plantations believe there is still

time to revitalize and make something better of these places.[7] The challenge is how to do so before the book closes on them once and for all.

REMAINING/BECOMING

On April 29, 2022, cinchona workers began a fresh march for justice. "We want justice!" trade union leaders chanted. "JUSTICE! JUSTICE!" the marchers responded.[8] The procession of roughly a hundred workers snaked slowly through the Rongo cinchona plantation, keeping time with the call-and-response cadence of their chants. "All laborers are one," union activists shouted. "WE ARE ONE! WE ARE ONE!" workers responded. They were marching to the plantation manager's office with a message. "Give the Group D appointments urgently. URGENTLY! URGENTLY!" Once at the doorstep of the colonial-era building, the crowd gathered around as their leaders stepped before the cameras to convey their grievances. The employment system on which workers depended, the union leaders proclaimed, was being undermined. "Fill the vacancies in the cinchona plantations at the earliest. EARLIEST! EARLIEST!" Worse yet, the cinchona community was being overlooked for the few opportunities that the plantations did afford. "You cannot appoint outsiders inside the cinchona plantations. YOU CANNOT! YOU CANNOT!" After laying out their grievances to the press, the union activists went into the manager's chambers to put their demands in more personal terms. "Remove the director. Save the cinchonas. SAVE THE CINCHONAS! SAVE THE CINCHONAS!"[9]

The day before, many of these same union activists had flooded into the directorate's headquarters at Mungpoo with a twofold demand. First, they wanted the growing number of Group D employment vacancies on the plantations to be filled. Second, they demanded that the recent hire of two data entry operators from outside the plantations be immediately revoked. Insisting on the cinchona community's rights to these jobs, nearly a hundred union members crammed into the headquarters' boardroom, effectively cornering the director, Dr. Rai. Surrounded by angry workers, the director agreed to call his superiors in Kolkata on speakerphone. He dialed the number of the Department of Food Processing Industries and Horticulture. The room went quiet. The call didn't go through. He tried again. This time, the private secretary to the minister in Kolkata picked up, and the room listened with bated breath as Dr. Rai briefed him on the situation. The conversation lasted only a few minutes and yielded only the promise of a meeting in two weeks to further discuss the matter.

But workers were tired of talk. For years, they had watched the government steadily erode their rights to employment and benefits. And now they were mobilizing to force a solution. From the first march at Rongo on April 29, the Group D agitations spread quickly. Within days, hundreds were ensconced for sit-ins (*dharnas*) outside the headquarters at Mungpoo, with smaller *dharnas* gathered outside

the offices at Munsong, Latpanchar, and Rongo. With union leaders and workers commencing a tireless chant for justice, the Group D agitations escalated into the most significant cinchona-specific political disturbance in decades.[10]

The protests focused on the growing number of Group D vacancies appearing throughout the plantations' workforce. As government entities, the plantations' workforce is stratified by scheduled "Groups," each bearing its own kinds of posts, benefits, and status. The following is a sketch of this hierarchy.

Officers

- Group A—director, managers, assistant managers, quinologists, etc.
- Group B—divisional officers, horticulture assistants, assistant quinologists, etc.

Staff

- Group C—head clerks, upper and lower division clerks, foremen, etc.
- Group D—gangmen, munshis, chaprasis, dafadars, paniwallas, drivers, etc.

Laborers

- Permanent—the majority of the plantation's workforce (roughly 5,000)
- Seasonal—casual laborers (numbers fluctuate)

Where rank-and-file permanent laborers earned daily wages (271 INR/day, or roughly US$3.40, at the time of the protests), workers promoted to Group D and C status were salaried "staff" who received higher pay, pensions, better benefits, and greater standing in the community. Traditionally, this hierarchy has lent the *badli kam* system structure and mobility, affording the plantations the power structures it needs to run and workers the ability to move up through the ranks. But recent years have seen a steady erosion of this vital system. To mitigate the plantations' financial losses, the West Bengal government has stopped filling vacant posts.[11] (An estimated 681 lay vacant at the time the Group D agitations began in 2022.) Rather than promote laborers into these vacancies (as the *badli kam* system dictates), the directorate has utilized temporary "helpers"—that is, *laborers*—to do the work of *chaprasis, dafadars*, and other Group D staff but *without* the salaries and benefits that Group D status affords. "Helpers," in this way, are cheaper because they are only paid as laborers. Moreover, as long as a laborer is serving as a temporary "helper," no new laborers are being appointed to replace them. The plantations are therefore able to operate with one less employee.

For cinchona workers, the effects are multiple and none of them are good. First and most critically, the vacancies are undermining the *badli kam* system that is the backbone of life and work on the plantations. Second, the vacancies are eliminating mobility within the plantation, thus robbing workers of motivation. "Without promotions," a union leader at the fore of the Group D agitations explained to me, "there's consequently no energy or interest in working." What is more, with

laborers serving in overseer roles like *chaprasis* and *dafadars*, "we have laborers supervising laborers"—an awkward situation that further tears at the social fabric.

Trade union leaders and workers I spoke with during the agitations framed the Group D vacancies as part and parcel of the plantations' broader crumbling—a falling apart years in the making but now reaching a breaking point. Though workers remain generally aware of the global histories that precipitated quinine's fall, they lay blame for the current abandonment squarely on the shoulders of West Bengal and the directorate. From the workers' vantage point (and my own), it sure looks like a strategy of attrition—a way of letting a "sick" industry die one vacancy at a time.[12] By 2022, cinchona workers had seen enough. So when the directorate advertised for two data entry operator positions and proceeded to hire two outsiders without interviewing a single candidate from the plantation, the frustrations boiled over. And the Group D agitations began.

Coming toward the end of my research, the Group D agitations tied together many of the threads I had been investigating. They were part of the cinchona community's broader struggle to maintain their place in the world—in other words, a politics of remaining. They were likewise a collective project to attain security, justice, and rights—another kind of agitation in the remains. In subtler ways, they were also a project of becoming. These themes became especially clear on the veranda of the directorate's headquarters in Mungpoo, where the Group D agitations took their most dramatic form. There hundreds of workers gathered in protest, seated for *dharna* beneath the bust of Thomas Anderson, the British botanist who founded the cinchona plantations in the 1860s. For more than a month, workers waved their flags, chanted their chants, and spoke their truths through a PA system cranked loud enough to rattle the windows and mind of the director working in the office next door.

One by one, union leaders and workers took to the mic, sharing their grievances and demanding Group D vacancies be filled. With local GTA elections only weeks away and plenty of press on site, the protests soon drew Gorkha politicians from the region. Binoy Tamang, former head of the GTA (now campaigning with the Trinamool Congress Party), gave a particularly rousing speech on May 19, 2022.[13] Speaking in crescendos of ire and waving his extraordinarily long finger, Tamang spoke directly to workers' fears of losing their place in the world. As he told it, this went well beyond the current matter of the Group D vacancies. "I'm warning you," Tamang told the workers seated across the veranda. "You have to be cautious. The land mafia has gotten into the cinchonas. And it's not only about the issue of Group D. There is a conspiracy [*sadiyantra*] to sell cinchona land on the sly. If you are not careful today, one day you will become refugees here."

The well-informed Tamang went on: "There's been talk of privatization here. We have to protest against this. The Bengali government machinery needs to understand that cinchona is our heritage. . . . A few days ago, there were people here measuring land [an apparent allusion to the Dex-Deft consultants who had

recently been spotted surveying the plantations]. Soon, you will not even be able to extend your chicken coops!"

This was all part of the "conspiracy," Tamang suggested, to end these places—or at least sell them off and sell them out little by little. Tamang next turned his anger to the plantations' director, Dr. Samuel Rai, whose office was within earshot of the screaming PA system. "You've become like the owner of a tea garden!" he quipped, playing the communal card. "What? Has the government given you this land on lease? Like cinchona workers, you are an employee of the government! The only difference is that your chair is high and ours is low."

Workers began nodding and clapping in agreement. Tamang continued, "I went home last night and thought, 'We ought to get a DNA test done on this director.' He is Samuel Rai [of the Gorkha-Rai community], but could it be Roy [a Bengali surname]? Not R-A-I, but R-O-Y!" The audience erupted in laughter at Tamang's zinger. Emboldened, he carried on in his address to Dr. Rai: "You are a Gorkha, and all of us sitting for this dharna are Gorkhas too. If injustice is done to our people, I don't know about you, but *I* am going to make a personal decision. *I* am going to fight for my community!"

The crowd was now cheering. Having whipped up their fervor, the firebrand politician issued his closing ultimatum. "Don't take this lightly," he warned Rai, wagging his long finger ever more violently, "If you want to stay on as director, then you have to get this done. Either you remain and those of us sitting for this dharna will not or *we* remain and *you* are out!"

Tamang's flourish was telling. The Group D agitations were indeed a matter of remaining: a way of fending off the attrition and "conspiracies" at hand. Yet, as other facets of the protests made clear, there was more to the agitations than simply maintaining (or restoring) the status quo. The agitations also concerned forging lives beyond the plantation's toil. In these regards, they were also about becoming. Consider the catalyst. It is not coincidental that it was the directorate's hiring of two data entry operators from outside the plantations that sparked the protests. These were high-tech positions that would afford local youth meaningful careers on the plantations. Residents were furious that they had been overlooked for these promising jobs. Union leaders harped on this point from the first days of the agitations. They told management, journalists, and workers alike how insulting it was to be passed over for these positions, how easy it would be to train plantation youth for this work, and what these kinds of jobs would mean for a community desperate to find a way forward.

Here's how one union leader framed it to workers on the morning of April 29, 2022.[14] Smartly dressed in a blue Izod shirt and matching baseball cap, the local union leader began by outlining the agitation's primary demands. "Before the director appoints a data operator from outside," he told workers at the Rongo plantation, "all vacant posts need to be filled. All 'helpers' need to be absorbed as 'staff.' Then, increase our daily wages. Then, give us replacement lines (*badlis*)."

He then framed the matter in especially poignant, generational terms. "The data operators who can operate computers, they are in fact right here," he declared. "Our own children, right here! They are the ones whom the parents have educated with their limited means—sometimes with enough to eat, sometimes not."

Now speaking to the cinchona directorate, the well-spoken union organizer went on, "So interview *those* sons and daughters. Appoint *them* as data operators. Only then can our fathers and mothers hold their head high, claiming, 'I worked as a laborer and managed to educate my children, and today they are sitting in a chair at a table with computers and earning their living.' Parents will be proud. Children will realize that if we are qualified, it is in fact possible to get a job right here in the plantation. It will boost their confidence. Not outside, but inside. Right here!"

At first glance, remaining and becoming may seem to be countervailing projects. But as the trade union leader helps us see, they can be intimately connected. The Group D agitations marked an overt effort to shore up the system that has allowed cinchona workers and their families to live and work on the plantations since their founding. In this regard, they were a politics of remaining. Yet their focus on the data entry positions also showed plantation workers' intent to forge different kinds of lives and livelihoods. In these regards, they were also a politics of becoming. The union leader made it plain on that May morning in 2022: the cinchona community wants to remain in the place that is their home, but they also want to become something to be proud of—something beyond the drudgeries handed down through the generations. They want it right here. They want it now.

FOR THE TIME-BEING

These stirrings from the twenty-first-century plantation refresh the premise with which this book began—that there is life in the remains—and the question with which it necessarily ends: What kind of life?

One hundred fifty years after the British brought the fever tree to Darjeeling, Gorkha cinchona workers are still there, struggling for traction on the steep, slippery slopes empire has left behind. Clerks are still sitting at their desks, watching the clock count down their days. Cinchona workers are still agitating for rights, land, and justice. Unrequited, they are still fighting for their place in this world.

What will become of the cinchona plantations and their community is hard to say. As I bring this book to a close, I will not prophesy what comes next for these lands and lives. Like the cinchona community, I don't have definitive answers to what comes *after* quinine. Like them, I've been mostly preoccupied with life in the meantime: with the daily grind, small triumphs, emergent politics, and pending projects of life in the remains. This book's original question of how empire and life were made with quinine, in these regards, has proven far easier to answer than the question of what happens now that quinine has seemingly run its course. What happens *after* quinine is still being worked out. It promises to be for some

time. Materiality will certainly play its part in determining what comes next. The chemical analyses ordered by Dex-Deft indicate as much. Perhaps those tests will identify a select group of super trees, which the advanced technologies of tissue culturing will allow to be propagated at an accelerated rate. Perhaps humanity's war on malaria or other scourges will prompt a miraculous pharmaceutical shift back to quinine. Perhaps regional and national political configurations will realign in the Gorkhas' favor, and *they* will gain the sole right to determine the cinchona plantations' fate. Perhaps something somewhere will change and these places will be reborn. Perhaps it will not. Perhaps the techno-optimisms will prove cruel. Perhaps the government will continue its slow abandonment. Perhaps the plantations and life in them will deteriorate further. Perhaps the end will come sooner than later. The current moment feels at once pivotal and critical.

My friends on the cinchona plantations know their days may be numbered. From where they stand, the future can appear grim. It does not lack options, however. Privatization, diversification, the Gorkhaland agitations, cinchona workers' creative efforts to transform the plantations into something viable: all of these are options. Just not "good" or mutually acceptable options for the various stakeholders involved. Until and unless a dignified future is attained, the cinchona community, for its part, has committed to a rearguard politics of remaining while simultaneously pursuing other kinds of viability in the remains. That so many of their efforts to forge a better life thereafter have been ignored, thwarted, and/or violently suppressed underscores the undying colonialities of their particular circumstance—and those of the contemporary world more broadly. The cinchona community's stories and struggles illustrate the difficulties of some to simply remain, let alone become, amid the inherited burdens of our imperial and industrial pasts. That this community persists, despite it all, should likewise give us inspiration as we too rise to meet the small and big challenges of our day.

In the epochal logics of our times, humanity is nearing a tipping point where we either change our ways or suffer grave, planetary consequences. Some believe this tipping point has already passed. Some see it as rapidly approaching. Others envisage a more distant horizon of demise. As on the cinchona plantations, the outlook can be grim and riddled with contradiction. We know humanity's current trajectory is unsustainable, yet too many of us seem to be stuck in the ways of old. The burdens of the past are accumulating all around us, infecting the air we breathe, the lands where we live, and our own flesh and blood. We now find ourselves increasingly confronted by remains. More are coming. What to make of these inheritances and how to do it have consequently emerged as questions of planetary urgency.

These challenges are obviously too big for any one people. Yet it's worth noting how the general form of these challenges resonates with those that cinchona workers face every day. Writ small, the question of remains—how to live with them, what to make of them—is one that quinine's colonial past has bequeathed this

community in especially acute terms. It boils with the alkaloids in the R&D lab and in the blood spilled for Gorkhaland. It reverberates through workers' calls for justice. And, as it has for generations, it sounds with the morning bell that rings through the cinchona, where workers still work, supervisors still shout, and picks and shovels still strike the earth. *Dak. Dak. Dak.*

The cinchona community has not yet vanquished the end that haunts them. Neither have they given up the hope—and will—to find a way through the impasses of the present. The end may or may not be nigh. No one is quite sure. For the time-being, cinchona workers and their families have little choice but to focus on the here and now. The After, for them, is not a threshold to be crossed. It is a time-space in which one lives and works—day in and day out. Amid otherwise dark horizons, workers and their families are doing what they *must* to remain and what they *can* to make something good of what remains—not least, lives and a world worth living. In so doing, the cinchona community offers not so much a path to the future as an ethics for the time-being: a call to the present and the tireless work thereof.

As we go forward into this world of remains, we'll need an ethics in both senses of the term. That is to say, we'll need an *ethics* to guide our actions and a work *ethic* to meet the daily challenges of building another world together. The future may be uncertain. For the time-being, there is vital work to be done. Here and now.

Finding ways forward will require time, perseverance, and nuanced appreciation of all that history has bequeathed the present and all that it has not. Beyond all else, it will take work and a shared commitment to each other. In rising to meet that challenge, we would do well to remember how unevenly the spoils and hardships of empire were distributed then and how unevenly they are embodied now.

And all the while the clock ticks. For cinchona workers and others laboring in the fields and factories that empires and industries have left behind, these are days that cannot be gotten back. Neither are they days that should be wasted. For still the bell tolls. Depending on who one is and where one stands, the hands of time may be moving fast or they may be moving slow. But they are moving, nonetheless. Lives are being lived. But not in ways they could be. Lives are being lost. Opportunities for meaningful change are passing by. For humanity and the planet, the challenges of the contemporary moment can seem foreboding. But as quinine's remains help us see, the moment contains within it seeds of hope, possibility, and an ethics. "Borrowed" or not, the time we still have can still be a time of becoming—and rebecoming—something newly viable and dignified. Through even our best efforts, we too may not vanquish the end that haunts us. But like the cinchona community, let us not be faulted for trying.

The bell, after all, does not toll only for them. It tolls for all of us.

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Portions of this book were vetted in prior publications. My 2019 essay, “Frontier 2.0,” in Michael Eilenberg and Jason Cons’s edited volume, *Frontier Assemblages*, previewed some of the project’s historical elements. My 2021 article, “Becoming-After,” in *Cultural Anthropology* signaled its ethnographic direction. My editor at *Cultural Anthropology*, Heather Paxson, was influential, as was the interview I did with Michelle Hak Hepburn for the Society of Cultural Anthropology’s website. I owe the peer reviewers and editors of these early writings, as well as the audiences at the various talks and conferences where I presented work in progress, a special thanks for shaping my thinking during those formative phases. Longer-term intellectual conversations and friendships with Fadi Bardwil, Ashley Carse, Emma Shaw Crane, Jatin Dua, Gökçe Günel, Aftab Jassal, Rijul Kochhar, George Mentore, Alex Nading, Chris Nelson, Peter Redfield, Alpa Shah, Sara Shneiderman, and Margaret Wiener have likewise been influential.

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Over the years, I've been honored to be part of a growing intellectual community in the Darjeeling-Kalimpong Hills, composed of local, national, and international scholars. My involvement in a collaborative response to the Gorkhaland agitations of 2017, as well an edited volume, *Darjeeling Reconsidered* (published shortly thereafter), overlapped with my quinine research and influenced me greatly. My many collaborators in those projects merit a note of thanks for deepening my understanding of the region's history and present circumstance. The broader intellectual community of Darjeeling-Kalimpong Studies meanwhile continues to grow, as established scholars take up important educational posts in the hills and beyond, and a promising new generation of Gorkha scholars emerges. I am lucky to be a part of this dynamic community and look forward to supporting its development in the years ahead. Among its current members, I'm particularly indebted to Nilamber Chhetri, Rajendra Prasad Dhakal, Sandip Jain, and Prem Poddar for their respective contributions to my research for this book.

From this project's start to its end, Vikash Pradhan has been everything a friend, assistant, and interlocutor could be. This project, I know, meant a great deal to him. And it bears his imprint at every turn. Though I wound up writing the book, the project itself felt like it was ours. Vikash features directly in this book's pages, as do his contributions and my appreciations. But I'll still take this opportunity to tell him once again: thank you for the friendship, comradery, and insight that made this project such a joy and honor to complete. May it not be our last.

On the home front, life got wonderfully more complicated during the writing of this book. First, I married Dr. Emily Esmaili, who has graced me (and this project) with a daily dose of love and support. Then we sprouted two children, Leela and Ash, who continue to nourish our life as only they can. These new additions came with wonderful grandparents (Drs. Haydeh and Hossain Esmaili) who swooped in to care for my family while I was away completing research. A Persian *mersi* to them—and to Dee and Rick Pietsch and all of our sisters, family, and friends—for helping us through the beautiful challenges of completing a book while also growing a family. It indeed takes a village.

Writing a book of this kind is always a collective affair, constituted through relationships that exceed its pages. This, for me, is what makes it worth doing—and what has made *Quinine's Remains* possible. To everyone who had a hand in its creation, thank you. When it's all said and done, my gratitude remains.

NOTES

INTRODUCTION: LIFE IN THE REMAINS

1. Wording intentionally resonant with John Donne's 1624 poetic "for whom the bell tolls," a meditation on death and humankind. The phrase was later popularized by Hemingway and others. Donne, Mediation XVII, *Devotions Upon Emergent Occasions*, in *The Works of John Donne*, 3:574–75; Hemingway, *For Whom the Bell Tolls*.

2. There is a significant literature on quinine's imperial implications—mostly outside of British India—which I cite extensively at various places throughout the book. For a comprehensive overview, see Deb Roy, *Malarial Subjects*.

3. Walker and Nesbit provide a visually rich history of tonic water in their delightful book, *Just the Tonic*.

4. The term "world-historical" comes from Hegelian philosophy, which I discuss in chapter 1.

5. This is a point made well in the literature on quinine in India. This literature is quantitatively small compared to that on cinchona and quinine's global history, but it is invaluable. Rohan Deb Roy's work is essential reading, particularly his 2017 book, *Malarial Subjects*. See also Deb Roy, "Nonhuman Empires" and "Quinine, Mosquitoes and Empire"; Mukherjee, "Natural Science in Colonial Context" and "Peruvian Bark Revisited"; Biswas, "Cinchona Cultivation in India"; Veale, "An Historical Geography of the Nilgiri Cinchona Plantations, 1860–1900"; Subba, "Cinchona Plantation." These studies have mostly focused on the cinchona plantations and quinine industry of the Nilgiri Hills in India's south, leaving the Bengal frontier and its plantations in the Darjeeling-Kalimpong Hills less explored.

6. Nobel Prize–winning malariologist, Ronald Ross, estimated an annual average of one million malaria deaths at the turn of the twentieth century (and upwards of two million during epidemic years), accounting for 10% to 20% of India's overall mortality. The Indian Medical Services later raised that estimate to 1.3 million annual deaths, insisting that even this figure was conservative. Concerning morbidity, they estimated that upwards of

two-thirds of Bengal's population annually fell sick with malaria. These figures and this passage are paraphrased from Klein, "Development and Death," 151.

7. There are four antimalarial alkaloids in cinchona bark—quinine, cinchonidine, quinidine, and cinchonine—with quinine emerging as the alkaloid of choice (and often a catch-all term for various mixtures of the four). As I discuss further in chapter 1, the factory at Mungpoo (Darjeeling) produced an array of medicines made from these alkaloids.

8. Quinine is also used in other (often off-label) medical applications: for instance, for leg cramps, lupus, varicose veins, and internal hemorrhoids. Ironically, Indian pharmaceutical companies remain one of the main producers of cinchona alkaloid products, but they import the majority of their bark from East Africa. As an additive, quinine can also be found in liqueurs, fortified wines, and other food products.

9. This literature is vast. Popular landmarks include Mintz, *Sweetness and Power*; Pollan, *Botany of Desire* and *Caffeine*; Ghosh, *The Nutmeg's Curse*; Mitchell, *Carbon Democracy*; Freinkel, *Plastic*; Von Hippel, *Chemical Age*.

10. Notable exceptions include Moran-Thomas, *Traveling with Sugar*; Walley, *Exit Zero*; Murphy, "Alterlife and Decolonial Chemical Relations"; Morris, "The Miner's Ear"; Jacka, *Alchemy in the Rain Forest*; Ghosh, *The Nutmeg's Curse*. Also relevant are the postplantation engagements of Sharpe, *In the Wake*; and Thomas, *Political Life in the Wake of the Plantation*.

11. Phrasing from Stoler, "Imperial Debris," 196. Benchmark studies of ruins and ruination include Benjamin, *Origins of German Tragic Drama*; Simmel, "The Ruin"; various engagements by Stoler, including *Duress* and the edited volume *Imperial Debris*; Edensor, "Ghosts of Industrial Ruins" and "Sensing the Ruin"; and DeSilvey and Edensor "Reckoning with Ruins." In the field of anthropology, several key works stand out: Hoffman's visually arresting study of postconflict architectural ruins in Liberia, *Monrovia Modern*; Tsing's influential *Mushroom at the End of the World*; Collier's *Post-Soviet Social*; and Finkelstein's *Archive of Loss* and "Landscapes of Invisibility."

12. Terminology from Tsing, "Blasted Landscapes." On postindustrial life, see Edensor, "Waste Matter"; Murphy, "Alterlife and Decolonial Chemical Relations"; Walley, *Exit Zero*; Mitman, Murphy, and Sellers et al., "Landscapes of Exposure," 1–17.

13. See Haraway and Tsing, "Reflections on the Plantationocene," 10.

14. Much of the critical scholarship on ruins (previously cited) has looked to ruins as objects to think with. Commenting on how ruins' material forms enable particular critiques of the past, Danny Hoffman notes, "Different material ruins make for different stories of ruination." Hoffman, *Monrovia Modern*, 135. As later chapters illustrate, the cinchona community has deployed this line of critique by repeatedly calling out the British, then Bengali "authorship," to use Hoffman's term, of the cinchona plantations' deteriorating state. For cinchona workers, however, the deteriorating plantations are not simply an object to think with. They are material and institutional forms to live with in the time after quinine.

15. The phrase "dustbin of history" is typically attributed to Leon Trotsky's taunt of the Mensheviks as they walked out of the All-Russian Congress of Soviets in 1917. See also Nandy, "History's Forgotten Doubles," 50.

16. An example in West Bengal is the governmental disinvestment of Metro Dairy in 2017. The 2016 liquidation of National Jute Manufactures Corporation Limited, a national Public Sector Undertaking (PSU) headquartered in Kolkata, is an example of the privatization of government textile industries across India.

17. Legend dates cinchona's "discovery" to 1630 or 1631, when the wife of the Spanish viceroy, the countess of Chinchon, was cured of fever after ingesting cinchona bark from indigenous Peruvians. However, Ortiz-Crespo's 2002 publication, *La corteza del arbol sin nombre*, documents an earlier mention of cinchona in the 1571 writings of the Spanish physician Nicolas Monardes—thus casting further doubt on the legendary encounter between the countess of Chinchon and the bark to which Spanish Jesuits gave her name. The scholarship on cinchona and quinine is extensive but mostly devoted to the European appropriation of cinchona from South America and then the Dutch cinchona plantations of Indonesia, which came to dominate the global quinine trade. See Brockway, *Science and Colonial Expansion*; Duran-Reynals, *Fever Bark Tree*; Headrick, *Tools of Empire*; Honigsbaum, *Fever Trail*; van der Hoogte and Pieters, "Science in the Service of Colonial Agro-Industrialism"; Rocco, *Miraculous Fever-Tree*; Walker and Nesbitt, *Just the Tonic*.

18. Walker and Nesbit date the first reference to quinine being added to soda water to 1835. The mixture was first termed "tonic water" in an 1858 patent, which led to the production of Pitt's Patent Tonic Water. Tonic water was one of many products containing quinine, marketed for their health benefits. The amount of quinine in tonic water is pharmaceutically insignificant for treating malaria. On the making of tonic water, see Walker and Nesbit, *Just the Tonic*, 84–87.

19. The French chemist Pierre-Joseph Pelletier first isolated the quinine alkaloid in 1820. Robert Ross and Giovanni Grassi separately identified the *Anopheles* mosquito as malaria's vector. Robert Koch, who with Lous Pasteur pioneered modern germ theory, microscopically detailed quinine's impact on the plasmodium in 1897. Quinine doesn't eliminate malaria because it only targets the human half of the plasmodium's life cycle, not the mosquito half. See chapter 1 for more on this history.

20. Figures from Packard's seminal work, *The Making of a Tropical Disease*, 9.

21. Webb, *Humanity's Burden*, 110; Brockway, *Science and Colonial Expansion*, chap. 6. "Tools" from Headrick, *Tools of Empire*.

22. Understanding plantations as more-than-human formations has become a mainstay of discussions of the Plantationocene, spearheaded by Haraway and Tsing, "Reflections on the Plantationocene." Chao's evocative *In the Shadows of the Palm* offers stunning portraits of these human-nonhuman entanglements on the oil palm plantations of West Papua.

23. Haraway develops the concept of becoming-with in *When Species Meet*, 23–27. Others who have productively taken up this concept include Govindrajan's wonderful *Animal Intimacies*, 20; Wright's "Becoming-With"; Deb Roy's *Malarial Subjects*, 12, 67, 73. I return to these conversations on becoming in chapters 1 and 4.

24. Mitchell's essay, "Can the Mosquito Speak?," in his *Rule of Experts*, 25–50, offers a compelling comparative case study of these interplays of human and nonhuman forces. In later notes, I discuss how developments in the field of more-than-human anthropology can be productively brought to bear on both quinine's global and local history. This attention to the co-makings of humanity, plants, animals, and chemicals has recently taken shape under the broader intellectual umbrella of posthumanism. Many (though certainly not all) of these posthuman interests draw from the Actor Network Theory of Latour, which offers a conceptual platform for appreciating how nonhuman actors shape worlds. Latour, *Reassembling the Social*. The flourishing discussions of New Materialism have likewise been fertile ground for this kind of engagement. Kath Weston offers an excellent overview in

Animate Planet, 25–33; see also Bennett, *Vibrant Matter*. Karen Barad's theory of agentive realism, which focuses on the "intra-action" of human and nonhuman material and discursive forces that produce objects in the world is instructive for my engagements with quinine's world-making capacities. Barad, *Meeting the Universe Halfway*. Studies that extend these posthuman attentions into the anthropology and history of medicine include Nading, *Mosquito Trails*; Moran-Thomas, *Traveling with Sugar*; Deb Roy, *Malarial Subjects*.

25. For comparisons to other "sick" industries, see chapter 1.

26. See Nomura and Shimabuku's essay on Okinawa, "Undying Colonialism."

27. The historical portions are based on research at the following collections: in Kolkata, the West Bengal State Archives and the National Library of India; in New Delhi, the National Archives of India; in London, the India Office Records and Private Papers at the British Library, London Metropolitan Archives, National Archives, and Kew Royal Botanic Gardens; in Chicago, the India Office Collections at the University of Chicago; and in Darjeeling and Kalimpong, records of the Directorate of Cinchona and various trade unions, as well as personal collections. The colonial archives meticulously detail Indian quinine from the 1850s to 1947. However, the record diminishes significantly in the 1950s, along with the industry itself. I accordingly turned to oral histories with former plantation managers, laborers, quinine factory workers, chemists, botanists, and union leaders to reconstruct the plantations' postcolonial history.

28. This book builds on nearly two decades of previous experience in the Darjeeling-Kalimpong Hills. I first began working in the region in 2004 and have returned regularly ever since. My earlier work on political culture in Darjeeling provided important foundations and networks for finding my way into the cinchona plantations. Fieldwork for this project ranged from periods of several months in 2017 to shorter multiweek and month-long trips in 2015, 2016, 2019, and 2022. I was typically based out of Kalimpong Town, traveling to the plantations at Mungpoo, Munsong, Rongo, and Sittong/Latpanchor for days and overnight trips. On the plantations, I spent time talking with workers; visiting the fields, nurseries, and factory; meeting with officers, community leaders, and union activists; conducting interviews and focus groups; and whiling away many days and evenings with local families and friends. I also conducted significant research off the plantations, particularly in Siliguri and Kalimpong Town, where many former plantation officers and residents live. Over the years I conducted more than a hundred structured and semistructured interviews, which complemented my preferred method of relationship-based conversation, observation, and participation. The years I worked on this book (2015–23) were a time of tumult in Darjeeling-Kalimpong (including the Gorkhaland agitations of 2017 and the COVID-19 pandemic). For me, they were also a time of mounting responsibility. I became an associate professor, taking on the added work that comes with tenure at an American university. At home, I became a husband and father of two during this time. Through it all, I pieced together fieldwork and archival visits into something resembling a coherent plan of study—a good example of what my colleagues Gökçe Günel, Saiba Varma, and Chika Watanabe have termed "patchwork ethnography" (see their "Manifesto for Patchwork Ethnography," https://culanth.org/fieldsights/a-manifesto-for-patchwork-ethnography). Though it took a while, returning to the plantations again and again allowed me to develop long-term relationships and a more longitudinal perspective, covering a particularly turbulent period in the cinchona plantations' existence.

29. With *after-anthropology*, I'm mainly delineating the time-space of quinine's after. But this may also be read as a nod to posthuman anthropology. For unfamiliar readers, anthropology is typically defined as the study of humanity—or as its early progenitors (most of them white European and American men) framed it, the study of Man. Of late, diverse thinkers have troubled the supposedly neat boundaries separating human beings from their nonhuman others. Feminist scholars like Donna Haraway and researchers working in fields ranging from Indigenous Studies to Science and Technology Studies have invited us to consider how human beings *become-with* animals, plants, microbes, chemicals, etc. These nonhuman things, the thinking goes, are not separate from us. We become who we are with them; they become what they are with us. In this relational point of view, the bounds of the who's and the what's—and the very figure of the human itself—dissolve into something more relational and dynamic: a co-constituted world where humankind does not stand apart or "above" the other beings and things of this earth (as the colonial conceit of the study of Man often presumed) but instead is continuously developing alongside, through, and *with* our nonhuman counterparts. Strange though it may sound to the nonacademic ear, the human sciences have taken a "posthuman" turn.

These posthuman attentions are especially useful for understanding how empire and life got made with cinchona (a plant) and quinine (a chemical) during the colonial period. I engage the respective literatures of multispecies ethnography, as well as anthropology's and other human sciences' turn to plants and chemicals in chapter 1.

30. As Hall writes, "So, postcolonial is not the end of colonisation. It is after a certain kind of colonialism, after a certain moment of high imperialism and colonial occupation—in the wake of it, in the shadow of it, inflected by it." Hall, interviewed by Julie Drew, "Cultural Consumption," in *Race, Rhetoric, and the Postcolonial*, 230. For an alternate application of these after-oriented themes of postcolonial theory, see MacPhee and Poddar's edited volume, *Empire and After*.

31. "Social projects," Elizabeth Povinelli writes, "are activities of fixing and co-substantiating phenomena, aggregating and assembling disparate elements into a common form and purpose. The word 'project' means to convey the constant nature of such building as well as the constant tinkering with plan, draft, and scheme as the building is being made, maintained, and remade out of disparate materials." Povinelli, "The Social Projects of Late Liberalism," 238.

32. The concept of horizon has grown particularly salient in decolonial studies. See, e.g., the journal *Decolonial Horizons/Horizontes Decoloniales* and the Pluto Press series, *Decolonial Options / Postcolonial Horizons*. Ideas of horizons also appear in key works such as Mignolo, "Epistemic Disobedience and the Decolonial Option," 3–23; González García, "Walter Mignolo," 38–55. See also Petryna, *Horizon Work*.

33. Readers of Black Studies may note a resonance between the after-anthropology I am proposing and the trenchant scholarship of Christina Sharpe, Sylvia Wynter, Tiffany Lethabo King, Deborah Thomas, and others who have explored life *in the wake* of slavery. Like the "wake-work" that Sharpe charts in her influential *In the Wake*, 17–22, part of my after-anthropology's aim is to develop, as Sharpe writes, "a method of encountering a past that is not past" (130). There are shared structural features between India's cinchona plantations and the postplantation contexts explored by these scholars. Yet there are also important distinctions. The context of my study is not postplantation (the cinchona plantations still exist and, moreover, many workers defend their existence). Rather, they are postquinine.

To respect the specificity of the wakes that Sharpe and others illuminate (involving the pernicious afterlives of North American plantations and slavery), I've elected not to use *wake* in any formal analytic sense here. That said, there are potentially fruitful cross-over conversations between these engagements of the After, some seeds of which can be found in an interview I did with Michelle Hak Hepburn for *Cultural Anthropology* in 2021. Sharpe, *In the Wake*; Wynter, "Unsettling the Coloniality of Being/Power/Truth/Freedom"; King, "The Labor of (Re)reading Plantation Landscapes Fungible(ly)"; Thomas, *Political Life in the Wake of the Plantation*; Hak Hepburn, "On the Politics and Ethics of What-Comes-After." *Society for Cultural Anthropology*, accessed September 19, 2022, https://culanth.org/fieldsights/on-the-politics-and-ethics-of-what-comes-after-an-interview-with-townsend-middleton. On temporal drag, see Freeman, *Time Binds*, 62.

34. The funds paid to workers have, since India's independence, come from the state government of West Bengal. Following the creation of the Gorkhaland Territorial Administration (GTA) in 2012, salaries, facilities, and other "establishment" funds were provisionally issued and administered by the GTA. In financial practice, however, it is West Bengal's Department of Home and Hill Affairs that routes—or "channelizes," as one official in Kolkata termed it to me—the money through the GTA.

35. Marx, "Economic and Philosophical Manuscripts of 1844," 66–125.

1. COLONIAL BECOMINGS: THE MAKINGS OF A WORLD-HISTORICAL SUBSTANCE

1. Official correspondence on the attempted introduction of cinchona into India from 1852 to 1863 was formally compiled in a Parliamentary Papers Blue Book, titled "East India (Chinchona Plant): Return to an Address of the House of Commons—India Office, 18 March 1863." This quote comes from No. 16, "Report by Dr. Boyle on the Introduction into India of the Quinine-Yielding Cinchonas, and of the Means Which Have Hitherto Been Adopted for the Purpose," East India House, March 1857.

2. This retelling of Markham's expedition is based on compiled accounts of the aforementioned Blue Book and King's *Manual of Cinchona Cultivation in India*, 10–21. The expedition was chronicled rather fantastically by Markham himself in his *Travels in Peru and India*, as well as in his *Peruvian Bark*. See also Cross, *Report on the Collecting of Seeds and Plants of the Cinchonas of Pitayo*.

3. No. 31, "Letter from C. R. Markham to E. D. Bourdillon," March 20, 1860, in 1852–63 Parliamentary Papers Blue Book.

4. There are roughly twenty-five subspecies of cinchona, which quinologists loosely grouped into gray, red, and yellow bark—each bearing its own alkaloid profile and suitability for quinine manufacture. In Linnaean classification, the genus *Cinchona* is in the Rubiaceae plant family, which includes other notable alkaloid-bearing plants like coffee. Walker and Nisbett, *Just the Tonic*, 15.

5. No. 34, "Letter from C. R. Markham to the Under Secretary of State for India," June 9, 1860, in 1852–63 Parliamentary Papers Blue Book.

6. King, *Manual of Cinchona Cultivation*, 12.

7. Markham's biggest mistake was that he went collecting out of seed season. Seeds might have withstood the arduous journey and taken root. Tender cinchona saplings had

little chance. No. 58. "Mr. C. Markham to the Under Secretary of State for India," October 20, 1860; and No. 59, "Markham to J. D. Sim, Acting Secretary to Government, Revenue Department," December 30, 1860; both in 1852–63 Parliamentary Papers Blue Book.

8. No. 43, "Report on Expedition to Procure Seeds and Plants of Cinchona Succirubra, or Red Bark Tree; with Specimens for the Herbarium at Kew; Mr. Richard Spruce to the Under Secretary of State for India," October 12, 1860, in 1852–63 Parliamentary Papers Blue Book.

9. Markham went on to be knighted for his adventures in cinchona. Cross continued to collect seeds for the empire over the next decade.

10. See Packard, *The Making of a Tropical Disease*.

11. Webb, *Humanity's Burden*, 128.

12. Walker and Nisbett date the first suggestions of bringing cinchona to India to 1813 (*Just the Tonic*, 45). I have found proposals dating only to 1835, when Royle suggested bringing cinchona to the subcontinent. He and others continued advocating for the transfer throughout the 1850s. This correspondence is compiled in the previously cited 1852–63 Parliamentary Papers Blue Book. This quote comes from No. 3, "Report on the Introduction into India of the Quinine-Yielding Cinchonas, or Peruvian Bark Trees, by Dr. Royle," June 27, 1852.

13. The failed 1853 experiment at Darjeeling involved seeds obtained by the French in South America, sprouted at Kew Royal Botanic Gardens in London, and shipped via Calcutta's Royal Botanical Gardens, where the garden's superintendent, Dr. Falconer, sent them on to Darjeeling. By the time they arrived, only three were alive. All soon perished in the Himalayan cold. See King, *Manual of Cinchona Cultivation*, 8; Mukherjee, "Natural Science in Colonial Context," 305. Primary materials available at Bengal, General, Proc. 40, March 1862. The early Dutch experiments in Java were more formal but also failed. Later, the Dutch would correct their errors and establish the most powerful cinchona-producing plantations in the world. On Dutch quinine, see Goss, "Building the World's Supply of Quinine"; Roersch van der Hoogte and Pieters, "Science in the Service of Colonial Agro-Industrialism."

14. No. 16, "Report by Dr. Boyle on the Introduction into India of the Quinine-Yielding Cinchonas."

15. Hegel, *Introduction to the Philosophy of History*, 32. The "world-historical" formulation was subsequently taken up by Marx in "Economic and Philosophical Manuscripts of 1844," 197; Engels, *Origins of the Family*, 56; and others.

16. Hegel offers Alexander the Great and Caesar as other examples. His reflections on Napoleon, who he saw in person, are presented in "Hegel to Niethammer, October 13, 1806," in *Hegel: The Letters*, 114.

17. A point eloquently made by Ghosh in his discussion of the trade networks that nutmeg and other spices "brought into being" and that in their historical development spanned continents and centuries. *The Nutmeg's Curse*, 9–10.

18. Quinine and other world-historical substances may be molecular—or small—at their material base, but they are characteristically big in their worldly formulations We might view their power then as *molecular power*—a concept I developed with my colleague Jocelyn Chua, who works on pharmaceuticals and US empire. We have in mind an ascending analysis of power: a critique of society's "molecular elements" not merely in the

metaphorical sense imagined by Foucault but also in the literal, material sense studied by the chemist. Foucault, *Power/Knowledge*, 99.

19. Scholarly uses of the concept "assemblage"—from Deleuze and Guattari through Ong and Collier et al. and beyond—have been extensive. Cons and Eilenberg provide a particularly useful overview in *Frontier Assemblages*, 1–18; see also Deleuze and Guattari, *A Thousand Plateaus*; Ong and Collier, *Global Assemblages*. Elsewhere, I argue that frontiers can appear as distinctively recursive assemblages, prone to boom, bust, and rebirth: Middleton, "Frontier 2.0," 195–210.

20. Deb Roy pushes this point further to theorize what he provocatively calls nonhuman empire. *Malarial Subjects*, 298–303.

21. On drugs' portability and empire, see Chua, "Pharmaceutical Creep," 41–58.

22. The collection of 90 slides is held at London's British Library: Visual Arts, Photo 397, "Lantern slides illustrating the cultivation of cinchona and the manufacture of Quinine Sulphate on the Bengal Government Cinchona Plantations, 1906–16. Photographer Unknown."

23. See Simmel, "The Ruin." In his evocative book, *The Nutmeg's Curse*, Amitav Ghosh has utilized the concept "terraforming" to trace these imperialist transformations of the natural world from his specific case study of the Dutch East India Company's devastations of Indonesia's Banda Islands into broader considerations of our current planetary circumstance.

24. Secretary of State to India, in 1875, reiterating the founding logics of the experiment. Bengal, Agriculture, PC 9, Proc. 29, April 1875.

25. The quest for cinchona-suitable land spanned nearly all of India and eventually expanded to Ceylon, Burma, Jamaica, French Mauritius, and, later, Tanzania and elsewhere. King, *Manual of Cinchona Cultivation in India*, 24–26. The Khasia Hills of India's Northeast and the Nilgiri Hills of India's South were among the top early candidates as cinchona frontiers. Burma was also continually suggested as a possible place to expand imperial cinchona production. See 1852–63 Parliamentary Papers Blue Book. I explore the Burma connection later.

26. Anderson detailed his journey to Java and Ootamacund in his 1862 "Report on the Introduction of Chinchona into India," available with related correspondence in Bengal, General, Misc., Proc. 53–54, 91–99, 146–52, March 1862; No. 88, "Anderson to Grey," December 4, 1861, in 1853–63 Parliamentary Papers Blue Book; No. 94, "Anderson to W. Gfey [*sic*], Secretary to the Government of India," February 11, 1862, in 1852–63 Parliamentary Papers Blue Book.

27. Anderson offered a not well-received critique of his colleagues, particularly Markham, causing great consternation among colonial botanical circles, which only solidified Anderson's outlier status. Correspondence available in 1852–63 Parliamentary Papers Blue Book: No. 95, "From W. G. Mclvor to J. D. Sim," May 9, 1862; No. 99, "From the Secretary of State for India to the Governor General of India in Council," May 31, 1862; No. 97, "Order of the Madras Government," October 22, 1862.

28. No. 94, "Anderson to W. Gfey [*sic*], Secretary to the Government of India."

29. Correspondence on Anderson's proposal is found in 1862, Report on the Introduction of Chinchona into India / Anderson, West Bengal Directorate of Cinchona, National Library of India (Kolkata), GP 633.88 [1] (54) AN 24; Bengal, General, Misc., Proc. 53–54, 91–99, 146–52, March 1862. Also covered well by Deb Roy, *Malarial Subjects*, 50–52.

30. King, *Manual of Cinchona Cultivation*, 18–19. The European gardener, Stubbs, soon grew ill and was replaced in Darjeeling by A.T. Jaffrey, assistant gardener of the Botanical Gardens in Calcutta.

31. King, *Manual of Cinchona Cultivation*, 18–19.

32. The staff in 1862–63 consisted of one head European gardener, one Native gardener, and fifty coolies paid 5 Rps/month each. Bengal, General, Misc., Proc. 96–101, December 1863. These numbers would change rapidly once the plantation at Rungbee/Mungpoo was operational.

33. Anderson, in King, *Manual of Cinchona Cultivation*, 18–19. Anderson chronicled the difficulties of Rungbee's establishment in the Annual Report on the Cultivation of Quiniferous Cinchona in Darjeeling, 1862–63; 1863–64, 1864–65.

34. Anderson, in King, *Manual of Cinchona Cultivation*, 18–19.

35. Bengal, General, Misc., Proc. 73–77, June 1871. These trials in cultivation are spelled out in great detail in the Annual Reports of these early years, where Anderson speaks of the "vegetable excitability" of the finicky plants. Annual Report on the Cultivation at Darjeeling, 1865–1866, Indian Office Library, L/PJ/3, 1097.

36. Anderson's successors couldn't explain the jump. Bengal, General, Misc., Proc. 19–22, December 1869; Bengal, General, Misc., Proc. 43–45, June 1870. The number would later be trimmed, signaling the perpetually blurry lines between cinchona and the Forest Department. Throughout the colonial and postcolonial periods, the lines demarcating official "Forest" and cinchona plantation land have been constantly negotiated (and often disputed). The plantations' total acreage has periodically shrunk and grown through the years.

37. See Tsing, "Natural Resources and Capitalist Frontiers," 5100.

38. The 1870s would see George King, superintendent of the Royal Botanical Gardens, Calcutta, under which the cinchona plantations were organized, petition the government to reserve this land for future cinchona expansion. Bengal, Agriculture, PC 9, B 20–24, April 1878.

39. Bengal, Revenue, Forests, Proc. 5–10, June 1865.

40. The imperious Markham was eventually knighted. The outlier Anderson likely paid the ultimate price.

41. 1874–75 Annual Report on Cinchona Cultivation in British Sikkim, India Office, RBGK, MR/20.

42. These exchanges appear periodically throughout the Annual Reports during this and later periods. The first decade is neatly summarized by King, *Manual of Cinchona Cultivation*, 19–21.

43. See Deb Roy, *Malarial Subjects*, 78–79, 98, 193.

44. Sara Shneiderman and I offer a succinct overview of Darjeeling's colonial founding in the introduction to our edited volume, *Darjeeling Reconsidered*, 1–26. Other treatments include Subba, *Dynamics of a Hill Society*, 1–5; Besky, *The Darjeeling Distinction*, 43–77; Dutt, "Migration and Development," 1053–55; Hutt, "Being Nepali without Nepal," 109–13; Hutt "Going to Mugalan," 195–214; Middleton, *The Demands of Recognition*, 27–54; Sharma, "A Space That Has Been Laboured On," 54–85, and "Producing Himalayan Darjeeling," 87–101; Shneiderman, *Rituals of Ethnicity*, 99–120; Subba, *Ethnicity, State, and Development*, 39–44; Subba and Sinha, *Nepalis in Northeast India*, 14–17; Warner, "Flighty Subjects," 8, and "Shifting States."

45. George Temple, "The Produce of Medicinal Alkaloids in the Cinchona Plantations of the Darjeeling District," Supplement to Annual Report, 1875–76, Agriculture, Proc. 69–71, October 1876. Earlier concerns about laborers' unsanctioned felling of timber and their needs of land for cultivation appear in 1872–73 Annual Report on Cinchona Cultivation in British Sikkim, Agriculture, 1–3, June 1873.

46. The makings of life with cinchona conjure the attentions of multispecies ethnography, particularly the approaches of the plant turn, advanced by anthropologists like Natasha Myers, John Hartigan, and Sophie Chao, who have asked us to reconsider the mutually formative relations between plants and people. Myers, "From the Anthropocene to the Planthroposcene," 297–301; Hartigan, *Care of the Species*; Chao, *In the Shadow of the Palms*. On multispecies ethnography, see Kirksey and Helmreich, "The Emergence of Multispecies Ethnography"; Kirksey, *The Multispecies Salon*.

47. Cinchona cultivation was an ever-evolving science on the plantations, with various techniques being trialed (and detailed in the Annual Reports) throughout their history. The techniques described here are the ones that eventually became the standard practices, as recounted to me in oral histories with former directors, managers, and other plantation officers. For more detail, see also Chatterjee, "Cinchona Cultivation in Darjeeling Hills," 222–29.

48. In memory of D. S. Lohar, a legendary leader of the cinchona community, who I had the great fortune to know before his passing in 2019.

49. This was largely in keeping with the political economy of the region writ large, where labor remained strategically unwritten. See Middleton, "Unwritten Histories," 27–52.

50. See, e.g., Annual Reports on the Government Cinchona Plantations and Factory of Bengal, 1917–18 and 1937–38.

51. Though cinchona is a tree, the quinine extracted from its bark is itself a chemical. Scholars foregrounding chemicals in the study of global history and contemporary life accordingly offer valuable antecedents to my research. Mukharji's "Parachemistries," Roberts's "Exploring Global History through the Lens of History of Chemistry," and Roberts and Werrett's *Compound Histories* sharpen consideration of how the science of chemistry structured the modern world. The engagements of "chemo-ethnography" and toxicity foster appreciation of how chemicals are embodied. See, e.g., Langston, *Toxic Bodies*; Murphy, "Alterlife"; Roberts, "What Gets Inside"; Shapiro, "Attuning to the Chemosphere"; Shapiro and Kirksey, "Chemo-Ethnography." Studies of pharmaceuticals are likewise instructive for understanding quinine's colonial career: see Dumit, *Drugs for Life*; Rose, "Molecular Biopolitics"; Sundar Rajan, *Pharmacracy*. Research on chemicals-as-commodities has situated substances like sugar and aluminum in the colonial foundations of modern capitalism; see, e.g., Cushman, *Guano and the Opening of the Pacific World*; Evenden, "Aluminum, Commodity Chains, and the Environmental History of the Second World War"; Mitchell, *Carbon Democracy*. Mitchell's *Rule of Experts* and Hecht's *Entangled Geographies* have shown chemicals to be key elements of empire's technopolitics—matters of expertise, domination, and socio-material transformation. Chua's work on psychopharmaceuticals in the US military offers a decidedly contemporary look at how chemicals continue to structure empire and human life. Chua, "Medication by Proxy" and "Fog of War."

52. Pelletier and Caventou are credited with isolating quinine and cinchonine. Louis Pasteur isolated cinchona's other two alkaloids, quinidine and cinchonidine, in 1852. For a

detailed history of quinine's early chemistry and commercialization, see Deb Roy, *Malarial Subjects*, 20–31; Slater, *War and Disease*, 17–38; Walker and Nesbitt, *Just the Tonic*, 77–87; Webb, *Humanity's Burden*, 102–10.

53. King commenting on Wood's method. King, *A Manual of Cinchona Cultivation*, 84. Wood's febrifuge was preceded by Madras's government quinologist, Broughton, who produced a similar concoction he called "Amorphous Alkaloid." But Wood's method quickly overtook Broughton's due to its efficiency. Bengal, Agriculture, PC 9, Proc. 48–51, July 1876; and Annual Reports of 1874–74, 1875–76, 1876–77.

54. The results of informal trials stirred controversy about the drug's efficacy and *who* it was appropriate for. While the drug promised to cut costs (by reducing the government's importation of quinine), British administrators had reservations about the febrifuge's suitability for Europeans—a distinction made clear in their willingness to medicate Native military personnel with the febrifuge but not European soldiers and officials. See India, Military, June 1877, 116–19. On the trials and special committee: Bengal, MD, 13, Proc. 33–36, March 1878; India, Home, Revenue and Agriculture, Medical, September 1879, Nos. 47–48; India, Home, Medical, November 1880, Nos. 111–19.

55. King to Risley, Bengal, Agriculture, PC 9, Proc. 46–47, July 1876.

56. More generally, the term "quinine" became a catchall for cinchona alkaloid-based antimalarials, effectively divorcing it from the technical chemical nomenclature of the quinine alkaloid. On the colloquial names of the febrifuge in Bengal, see Bengal, Medical, 365, 25–27, December 1876.

57. King, *Manual of Cinchona Cultivation*, 55.

58. Bengal, 1876, Agriculture, PC 9, Proc. 48–51, July 1876.

59. King detailed this logic extensively. Bengal, Agriculture, PC 9, Proc. 46–47, July 1876.

60. On *Ledgeriana*'s origins, see Deb Roy, *Malarial Subjects*, 194.

61. See Roersch van der Hoogte and Pieters, "Science in the Service of Colonial Agro-Industrialism," 16–17.

62. These botanical and chemical advances are covered steadily in the Annual Reports of the late 1870s and 1880s.

63. Through the years, the factory continued to produce small amounts of cinchona febrifuge and continued to experiment with manufacturing drugs made from cinchona's other alkaloids.

64. The pice-packet system is chronicled extensively in the Annual Reports. This quote is from 1892–93. Other files include Bengal, MD, 2m/4, Proc. 11–25, September 1892; Bengal, MD, 2m/4, Proc. 6–26, December 1892; Bengal, MD, 2m/3, Proc. 6–18, January 1893.

65. Deb Roy, *Malarial Subjects*, 227–31, offers an excellent analysis of the pice-packet system, much of which I sample here.

66. Packard, *The Making of a Tropical Disease*, 122–23; Webb, *Humanity's Burden*, 195.

67. Madras's government quinine factory shared some of the burden of supplying pice-packet quinine to Burma, the United and Central Provinces, and Bombay. As Deb Roy, *Malarial Subjects*, 228–30, notes, the system changed as it spread, working with varying cultural, material, and logistical circumstances on the ground.

68. Some private planters (mostly committed to tea) in Darjeeling-Kalimpong dabbled in cinchona but never attained a durable presence. By the late 1860s, the Darjeeling Cinchona Plantation Association, for example, had several hundred acres under cultivation.

These experiments in private cinchona cultivation were eventually incorporated into the government plantations and/or converted to more profitable cash crops. Mention of these private endeavors appear sporadically throughout the Annual Reports of 1862–63, 1867–68, 1881–82, and 1895–96.

69. Mungpoo's exhaustion was somewhat offset by its expansion into the adjacent area of Sittong in the early 1880s. By the time Sittong cinchona was of producing age, however, Mungpoo's exhaustion was overwhelming, leading to extended efforts to rest and rehabilitate the plantation. As late as 1910, Mungpoo was still considered a "melancholy site." Annual Report, 1909–10.

70. These figures come from tests conducted when Munsong was just beginning to produce in substantial quantities (Annual Report, 1911–12). The total dry bark quantities mentioned in the next sentence come from the 1916–17 Annual Report—one 16-year life cycle since Munsong's founding.

71. Quote from Annual Report of 1937–38.

72. Annual Reports, 1917–19.

73. The factory's capacity outpaced the plantations. Much of the bark it processed during this period was imported from Dutch Java. I discuss this dependency on the Dutch momentarily.

74. Brockway, *Science and Colonial Expansion*, chap. 6; Webb, *Humanity's Burden*, 124–26.

75. Headrick, *The Tools of Empire*.

76. See Roersch van der Hoogte and Pieters, "Science in the Service of Colonial Agro-Industrialism"; Goss, "Building the World's Supply of Quinine."

77. Roersch van der Hoogte and Pieters, "Science in the Service of Colonial Agro-Industrialism"; Goss, "Building the World's Supply of Quinine."

78. India, Revenue and Agriculture, Economic Products, Proc. 5–9, August 1897.

79. Veale, "An Historical Geography of the Nilgiri Cinchona Plantations," 182.

80. The relatively small tracts these planters committed to experimental cinchona cultivation were later reconverted to tea or subsumed by the government cinchona plantations. A good example of the latter was the Nimbong plantation, which the government bought from the Bhutan Cinchona Plantation in 1893. This, along with experiments at Rungjung in the mid-1880s (Annual Report, 1885–86), marked the earliest forays into cinchona cultivation east of the Teesta (in what is now Kalimpong), predating the establishment of Munsong. However, by the turn of the century both Nimbong and Rungjung had been fully harvested and abandoned. Factory records show the government buying small amounts of raw bark from private planters like the Darjeeling Cinchona and Tea Association & Pashok Tea Company during this time. Annual Reports 1893–94, 1894–95, 1896–97, 1898–99.

81. Bengal, Agriculture, PC 9, 3, Proc. 55–56, June 1881.

82. On the Howard family and its business, see Deb Roy, *Malarial Subjects*, 26–29; Walker, "Biocultural Collections and Networks of Knowledge Exchange in the 19th Century." On price pegging, see Annual Report, 1891–92; and Bengal, Financial, Misc., M1q/1, Proc. 1–9, August 1898.

83. At roughly the same time (and to considerable controversy), Giovanni Grassi of Italy also discovered—and confirmed—Ross's theory of the *Anopheles* mosquito as malaria's vector. The discovery of malaria's vector is a saga of epic proportions, pitting the scientists

of the British, Italian, and German empires against one another in a seemingly endless controversy over who proved what and when.

84. Though the science remains somewhat murky, today quinine is believed to render hemoglobin toxic to the malaria plasmodium while malaria is trying to reproduce in red blood cells. By rendering plasmodium unable to process hemoglobin, quinine works to chemically poison malaria. Walker and Nesbitt, *Just the Tonic*, 33.

85. Phrasing from Goss, "Building the World's Supply of Quinine," 8. The rise of the Kina Cartel and its effects on the British quinine supply were a source of considerable official concern. From 1913 on, the cartel (often referred to as the "Quinine Ring") appeared frequently in the Annual Reports. Other important files include Bengal, LSD-MD, Q-7, B185–8, June 1913; India, Revenue and Agriculture, Agriculture, Proc. 38–41, July 1917. For the Dutch perspective, see Goss, "Building the World's Supply of Quinine"; Roersch van der Hoogte and Pieters, "Science in the Service of Colonial Agro-Industrialism."

86. India, Revenue and Agriculture, Agriculture, Proc. 38–41, July 1917. The dependency and deal making with the Dutch Kina Cartel continued after the war. India, Education, Agriculture, May 1923, B.

87. India, Revenue and Agriculture, Agriculture, Proc. 8–33, March 1917.

88. The interest in Burma dates to cinchona's arrival in India, with periodic expeditions to survey the land and experiments to test its viability. India, Home, Public, July 1868, Progs. Nos. 57–63; Bengal, Agriculture, PC 9–12, B95–6, November 1880; Revenue, Cinchona, Compiled Proceedings, 1921 (April–December); Revenue, Cinchona, Proc. B46–51, 53–58, 59–65, July 1927; India, Education, Agriculture, Proc. B381–82, March 1932; India, DGIMS, Store, File 39/44/41S, 1941. Many of the laborers sent to Burma from Darjeeling-Kalimpong and their descendants returned during the Second World War, particularly to Kalimpong's Rongo cinchona plantation, where their legacy is strong.

89. Bengal, Medical, MS. 2,1, Proc. 5–6, February 1882; Bengal, Medical, Q/1 28–29, July 1905; India, Education, Agriculture, May 1923, B; India, DGIMS, Public Health Section (Health), 1936, File No. 579. Deb Roy refers to these efforts to protect the government brand as "policing purity" in *Malarial Subjects*, 232–36.

90. India, Home, Medical, September 1907, Progs. Nos. 105–6, September 1907; India, Commerce and Industry, Customs, 8–14, January 1908; India, Home, Medical, February 1908, Prog. Nos. 48–53, February 1908.

91. The government went so far as to appoint a committee to popularize quinine. Bengal, LSD-MDQ-4, Proc. 1–9, 10–33, August 1909. Deb Roy's coverage of these vernacular efforts is insightful: *Malarial Subjects*, 229–32.

92. Estimates vary widely on the percentage of India's overall consumption supplied by the government cinchona plantations and quinine factory: from 12% cited by Deb Roy, *Malarial Subjects*, 224, and India, Revenue and Agriculture, Agriculture, March 1912, 22B, to Gage's estimate of 33% (one-third) in 1917 (mentioned earlier). India, Revenue and Agriculture, Agriculture, Proc. 8–33, March 1917. To put this in perspective, British India accounted for one-sixth of global quinine consumption, so its dependency on imported quinine was tremendous.

93. India, DGIMS, Store, Proc., File 45/24/42-SI(II), 1942.

94. For more on malaria and the Second World War, see Slater, *War and Disease*, 84–110; Webb, *Humanity's Burden*, 156–59.

95. India, DGIMS, Store, File 32/28/39-S, 1939; India, DGIMS, Store, File 45/33/42-SI(II), 1942; India, DGIMS, Store, 1942, Prog. No. 45/24/42-SI(II).

96. India, DGIMS, Store, File 32/28/39-S, 1939; India, DGIMS, Store, File 45/33/42-SI(II), 1942; India, DGIMS, Store, 1942, Prog. No. 45/24/42-SI(II).

97. The rise of synthetics dates to the war machines of the First World War and the development of chemical weapons. The interwar years would see those wartime chemical industries repurposed to produce a burgeoning range of synthetic compounds, including pesticides and yet more chemical weapons. Von Hippel, *The Chemical Age*, 133–240, offers stunning coverage of these chemical developments and the haunting crossovers between civilian, military, and genocidal use.

98. Atabrine was first synthesized in 1930. Its regimen, however, didn't take shape until the Second World War. Von Hippel, *The Chemical Age*, 188; Packard, *The Making of a Tropical Disease*, 140; Webb, *Humanity's Burden*, 157.

99. Chloroquine's original synthesis happened in 1924 in Germany, with its recognition as an antimalarial coming nearly two decades later when the US Antimalarial Program (operating out of Johns Hopkins University) identified it as an effective antimalarial in 1943. Slater, *War and Disease*, 156–76; Packard, *The Making of a Tropical Disease*, 140; Webb, *Humanity's Burden*, 158.

100. DDT was first synthesized in 1873–74 by the Austrian chemist Othmar Zeidler. Its insecticidal capabilities were discovered in 1939 by the Swiss chemist and future Nobel Prize winner, Paul Muller. The US military adopted DDT in 1943, and by 1944 the Allies were using it in multiple theaters of the war. Von Hippel's *The Chemical Age*, 184–214, offers a succinct history of DDT during and after the Second World War. Kinkela offers a longer treatment in *DDT and the American Century*. DDT's toxicity was made infamous by Rachel Carson's groundbreaking 1962 book, *Silent Spring*. See also Packard, *The Making of a Tropical Disease*, 140–49; Webb, *Humanity's Burden*, 160–75.

101. US Army Surgeon General, Maj. Gen. Norman T. Kirk, quoted in Von Hippel, *The Chemical Age*, 198.

102. More recent treatments for malaria have focused on artemisinin, an alkaloid derived from Chinese wormwood. Expensive artemisinin-based combination therapies (ACTs) are now the preferred first-line treatment, for those who can afford it, across the world. Roosth explores the cutting-edge science of artemisinin synthesis in *Synthetic: How Life Got Made*.

103. Phrasing from Von Hippel's *The Chemical Age*. On the Malaria Eradication Programme and the emergence of malaria as a *global* health concern, see Packard, *The Making of a Tropical Disease*; Webb, *Humanity's Burden*, 127–60. Resistance has been a constant problem for the antimalarials and insecticides that have followed. Remarkably, quinine has not engendered the same levels of malaria resistance as has its synthetic counterparts. Still, it is seldom used as a first-line treatment.

104. Kumari et al., "Transition of Malaria Control to Malaria Elimination in India," 124–40. The success, however, quickly tapered off. Malaria resurged in India in the 1970s, as mosquitoes and the malaria plasmodium developed resistance to DDT and synthetic antimalarials, respectively, while WHO funds for malaria eradication in India (and beyond) began to dry up. The diminishing funds were largely a casualty of Cold War politics, as the United States punished India for its relationship with Russia.

105. Information in this and the preceding sentence is paraphrased from Nair, *Tree Crops*, 141–42.

106. The accompanying ad (see fig. 17) ran in the *Himalayan Times*, a newspaper published in the Darjeeling-Kalimpong Hills between 1947 and 1963. Its archive is available online through Heidelberg University Libraries: https://doi.org/10.11588/diglit.22460#0566. This image reproduced with the kind permission of Dr. Sandip Jain, curator of the *Himalayan Times* archive.

107. On being "out of time," see Finkelstein, *Archive of Loss*, 15.

108. On April 17, 1958, the West Bengal labor minister visited the plantations and told workers that demands were declining, that financial losses of roughly 12 lakh/year were accruing, and that the government was therefore "studying the introduction of subsidiary industries to absorb surplus labor." *Himalayan Times*, April 20, 1958. Archived online: https://digi.ub.uni-heidelberg.de/diglit/himalayan_times1958/0151/image,info.

109. A local author, "Moosha," wrote of the agony of leaving the cinchona plantations under these circumstances. "No more the morning gong summoning me to my duty," he penned in his piece, "Bitter Interlude," for *Himalayan Times*, February 26, 1961. "I do not have to tolerate any more the abuses and insults of a spiteful *chaprassi* or *daffadar*. . . . And yet at times I feel terribly homesick for the plantations. I visualize those orderly rows of cinchona plant under the protective umbrellas of *Utis* trees and the zigzagging patterns of inspection roads. I seem to hear once more the wooden mallets beating off bark and the lilting songs of mazdoors [laborers] returning from work. I recall once again the familiar odour of perspiring co-workers." Yet Moosha also understood the broader circumstance that led to the labor curtailments. Like indigo, he noted, quinine was now being replaced by synthetic alternatives. "The cinchona industry began to face a dilemma," he wrote. "To continue cultivation and manufacture to the same extent as before, of a product whose demand for which kept dropping, was economically absurd. Yet, unlike the Indigo Age, workers now could not be so easily shelved. Thus began a period of frenzied planning and counter moves to cut down the cost of production. . . . So when the Authorities offered the lump sum compensations in lieu of further service on condition that the grantees left the plantation area, I accepted." Yet, as he shares in the paean's final lines, this was a painful goodbye: "Thus, with a taste in my mouth as bitter as that of the product which had sustained my family for generations, and with a feeling in my heart as depressing and as final as a thud of earth clods on a coffin, with uncontrollable yet unashamed tears, I bade adieu to the abode where lay the bones of my father and his father before him." Moosha's paean is archived online at https://doi.org/10.11588/diglit.22470#0063.

110. Not coincidentally, this is when cinchona's trade unions, which would feature prominently in the decades (and chapters) ahead, arose to protect workers from the perils of a dying industry.

111. The plantations had grown ipecac since the British period, but the slump of cinchona prompted renewed emphasis on the antipoison medicine. The forays into rubber came later but have remained small (totaling 397 acres in 2021—not enough to make the plantations financially solvent).

112. Nair, *Tree Crops*, 141–42.

113. These were the 2022 elections for the Gorkhaland Territorial Administration (GTA), the semiautonomous regional governing body established in 2012 in the wake of the second Gorkhaland agitations (see chap. 3).

114. More specifically, *bubu* is the term for "elder brother" in the Lohorung linguistic Rai subgroup.

115. The Gorkha community is a conglomeration of roughly two dozen Nepali-speaking Himalayan ethnic groups. This composite community of Nepali speakers in Darjeeling-Kalimpong (and India more generally) gradually took shape throughout the twentieth century, as constituent communities like the Rais, Tamangs, Sherpas, and Gurungs increasingly blended socially and organized politically. Through generations of ethnogenesis in colonial India, they gradually took on the ethnonym *Gorkha* (which should not be confused with the famed *Gurkha* Nepali soldiers of the British Indian army). In today's ethnic landscape, groups like the Rai, Tamang, and Gurung are nested under the Gorkha identity. As I elaborated at length in my earlier book, *The Demands of Recognition*, these differences within the Gorkha conglomerate still matter, politically and socially. But in the particular instance I'm describing here, it was clear that these call-outs were done in fun.

116. See Povinelli, *Economies of Abandonment*.

117. A comparative perspective illustrates the varying ways in which different colonial assemblages in India have fallen apart. Take, for instance, indigo or jute as counterpoints to quinine. Like quinine, India's colonial indigo plantations grew significantly in the nineteenth century, but the blue dye was surpassed and largely replaced by synthetic alternatives toward the end of that century. Where the indigo plantations of Bengal are largely gone, grown over or visible only in occasionally standing ruins disintegrating into the ground around them, the cinchona plantations remain largely intact (if deteriorating). Another counterpoint is jute. The natural fiber furnished a thriving colonial industry in nineteenth- and early twentieth-century Bengal, driven by small farmers, mills, and merchants who brought Bengal's jute to a robust global market. But as the jute assemblage succumbed to myriad factors (Partition, the aging machinery of the mills that the British jute barons left at independence, the emergence of cheap synthetic alternatives, etc.), the jute market and its profits shrank considerably. The small farmers who cultivated jute turned to other crops. Their prosperity waned. Mills closed. Other mills were nationalized (both in India and in Bangladesh). And while one can still find "sick" jute mills on the banks of the Hooghly River (in West Bengal) and scattered about Dhaka (in Bangladesh) and while some peasants still grow the once-coveted fiber, the circumstances of life with this world-historical substance are markedly different from what they once were. The biographies of indigo, jute, and quinine may have certain similarities, but these assemblages have crumbled in very different ways. Life and politics within their respective remains have unfolded in similarly divergent suit. Datta's journalistic writing offers helpful glimpses of indigo's remains in West Bengal. Saptak Datta, "Tracing the Dark Side of the Indigo Story," *Zenger News*, November 22, 2020, https://www.zenger.news/2020/11/22/tracing-the-dark-side-of-the-indigo-story/ (accessed June 10, 2023). On jute's rise (and fall) in colonial Bengal, see Ali's exquisite *A Local History of Global Capital* and Chakrabarty's classic, *Rethinking Working-Class History*.

118. To quote Stoler on ruins at length: "The political issue is only in part what is left, the state it is in, and why it is left and not something else (suggesting, of course, that little is ever just 'left'; it is 'left' to be cared for). But equally and more important with respect 'to ruin' is not what is 'left' but what people are 'left *with*': what remains that blocks livelihoods and health; the aftershocks of imperial assault; the social afterlife of degraded infrastructures; distressed sensibilities; and the things by which one is assailed and assaulted by their

very presence." Figured through this lens of ruination, quinine's unwanted inheritances are necessarily part of the story of all that comes after. But, as the cinchona community insists, only part. Stoler, *Duress*, 348.

119. Like the cinchona community's politics, my after-anthropology seeks to move beyond a logics of ruination and the inherent dualisms that posit such a neat separation between the who's and what's of the After. Many of the gravest threats to the cinchona community's livelihoods, as we'll see in the next chapter, traffic precisely in these dualisms that so easily ferret out the things versus the people of quinine's remains. For private developers, declaring the plantations dead and ruined has become an opening salvo in arguments for the plantations' capitalist overhaul. For the people who live on these plantations, that logic will not stand.

2. AFTER QUININE: A POLITICS OF REMAINING

1. The list of titles employing this theme is long. Examples are Musgrave and Musgrave's *An Empire of Plants: People and Plants That Changed the World*, Hobhouse's *Seeds of Change: Six Plants That Transformed Mankind*; and Kinkel's *DDT and the American Century: Global Health, Environmental Politics, and the Pesticide That Changed the World*.

2. Remaining, in other words, doesn't reduce to a protection of "bare life" in the sense popularized by Giorgio Agamben in *Homo Sacer*. To invoke the Aristotelian distinction between *zoê* (bare life) and *bios* (more elaborated forms of human life), remaining on the cinchona plantations concerns the preservation of lifeways developed over generations of working and dwelling in these places. Entailing the elaborated stuff of culture, belonging, etc., remaining is thus not a matter of *zoê* but rather *bios*. Peter Redfield writes of this distinction and "minimal biopolitics" insightfully in his essay, "Doctors, Borders, and Life in Crisis," 330, 340. See also Arendt, *The Human Condition*, 97.

3. That quinine's remains are teeming with life throws them into ethnographic distinction from, say, the largely uninhabitable modernist ruins of postwar Liberia captured so brilliantly by Danny Hoffman in *Monrovia Modern*. That vital fact engenders other kinds of temporalities, struggles, possibilities, and ethnographic engagement.

4. These encounters between cinchona workers' *lived time* and other forms of temporality and power (e.g., those framing the plantations as anachronistic relics) lend themselves to the approach of power chronography charted in Sharma's *In the Meantime*, 9.

5. A nod to Marx's oft-quoted, "Men make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past." "The Eighteenth Brumaire of Lous Bonaparte," 103.

6. Readers of German philosophy may here note resonance with Heidegger's notion of the "clearing" (*lichtung*), the metaphorical opening in the forest through which Being manifests, making itself available to human understanding. For Heidegger, Being-in-the-world is disclosed via the clearing. He writes, "To say that it is 'illuminated' [*erleuchtet*] means that as Being-in-the-world it is cleared [*gelichtet*] in itself, not through any other entity, but in *such a way* that it is itself the clearing." Heidegger, *Being and Time*, HN 133; emphasis in original. Later in his career, Heidegger offered a curiously more relational take on the clearing, writing, "Only this clearing grants and guarantees to us humans a passage

to those beings that we ourselves are not, and access to the being that we ourselves are." Heidegger, "The Principle of Identity," 53. Heidegger's clearing and its more-than-human innuendoes are provocative. In comparison, the clearing I write about ethnographically in this passage is a more grounded space of being and becoming—the quite literal opening in the forest, where new (if old) possibilities for the plantation, its plants, and its people can come to light.

7. Leading the resistance was the cinchona-specific Darjeeling Kulain Bagan Majdoor Shramik Sangh (DKBMS) trade union. The Hill Employees Association (Cinchona Zonal Plantation Committee) and a conglomeration of other trade unions (most of them connected to regional and national political parties) also were involved in the resistance to privatization.

8. An MLA is a Member of the (state) Legislative Assembly in Kolkata. The "Iron Lady," Subba, who was associated with the All India Gorkha League party, filled one of three seats for the hills out of the assembly's 294 seats.

9. In the mid-1990s, L. M. Sharma was leading the DKBMS. In 1999, Sharma and his protégé, Pravin Gurung, founded the United Forum trade union.

10. This preceded the Left Front's adoption of more neoliberal sensibilities in the 2000s, when it began to more actively court private industry. See subsequent notes in this chapter.

11. The CPI(M) has long had a presence in the Darjeeling-Kalimpong Hills, though it has waxed and waned, often in concert with the Gorkhaland agitations and the movement's formative antagonisms with West Bengal. The dominant CPI(M) trade union in the area has been the Centre of Indian Trade Unions (CITU).

12. Emphasis added. The materials from this paragraph are taken from "Minutes of the Meeting Held at Writer's Building, Calcutta 15/10/92 at 1:00pm for Discussing the Activities of the Directorate of Cinchona and Other Medicinal Plants, West Bengal." Government of West Bengal, Commerce and Industries Department, Group "C," No. 972(12)/OI/C/1E-20/92. Hereafter "Minutes."

13. Dr. D. Sakar, secretary, Commerce and Industries Department, "Minutes."

14. The spectrum of trade unions on the cinchona plantations has been historically diverse. Some of the more prominent ones up to this time were the DKBMS, affiliated with the All India Gorkha League; the Hill Employees Association (Cinchona Zonal Plantation Committee); the Himalayan Plantation Workers Union (HPWU), affiliated with the GNLF; the National Union of Plantation Workers (NUPW), affiliated with the Indian National Congress; and the CITU, affiliated with the Communist Party of India.

15. The directorate maintains small plantings of *Taxus buccata* as part of its "other medicinal plants" portfolio.

16. Chhetri, who was a worker at the plantations' diosgenin factory, passed away in August 2020. He was a celebrated leader, an MLA, an activist, and an author. Throughout fieldwork, I learned a great deal from him and his grassroots scholarship. Diosgenin is an antioxidant steroid manufactured from dioscorea yams, thought to be of use for treating neurological diseases. Established in 1984, the diosgenin factory (and dioscorea cultivation) was part of the plantations' diversification efforts.

17. The land allotments to laborers fell steadily through the twentieth century. Sizes of workers' fields today vary by family history.

18. Middleton, "Frontier 2.0," 208.

19. The notion of "waste lands" awaiting the civilizing hand of European capitalists dates at least to Adam Smith's *Wealth of Nations* (1776). It became law in India via the Waste Lands (Claims) Act of 1863.

20. Berlant, "Cruel Optimism," 33; emphasis in original.

21. Heading off catastrophe and staying open to alternatives here entails its own form of what Adriana Petryna calls "horizoning work," wherein (in this case) unions and workers orient their current action to *possible* futures and therein "secure enough time to act while avoiding a norm of horizon *deprivation*." Petryna, "Wildfires at the Edge of Science," 518; emphasis in original.

22. Here I'm suggesting a somewhat different temporal outlook from that posed by Tim Edensor in his work on the industrial ruins of Britain. For Edensor, industrial aftermaths invite future-oriented thinking about what can be made of these things (Edensor, "Waste Matter," 330)—a point cogently elaborated by Hoffman in *Monrovia Modern*, 129. While quinine's remains certainly *invite* future-oriented speculation for cinchona workers, private developers, and governments alike, for cinchona workers specifically, the crumbling cinchona plantations also *demand* primary attention to—and defense of—the present: what I'm calling a politics of the meantime. On the meantime, see Sharma's wide-ranging study of temporality and power, *In the Meantime*.

23. Finkelstein, *Archive of Loss*, 13.

24. Coevalness is the inhabitance of a shared present. Fabian's work on allachrony (the denial of coevalness) and anthropology is essential reading. Fabian, *Time and the Other*.

25. There has been some drug resistance to quinine but relatively less and much slower than that which has arisen in evolutionary response to chloroquine, hydroxychloroquine, and other synthetic antimalarials.

26. Totals, as of 2022. Figures from Dex-Deft, "Report on Strengthening."

27. Besky, *The Darjeeling Distinction*; Sen, *Everyday Sustainability. Tasting Qualities*, Besky's more recent engagement with starvation on the Dooars' tea plantations (just below the Darjeeling Hills), offers chilling portrayals of these deprivations of land and life.

28. Haraway and Tsing have gone so far as to call the current epoch the Plantationocene. Cinchona workers defense of the plantations can be hard to locate in the theoretical landscape of the Plantationocene. Here it's worth remembering that workers *live* on plantations. They *become-with* the land, plants, machines, and all the rest—and not all, or only, as slaves or bonded labor. Haraway and Tsing's theorization of the Plantationocene seems to assume the worst: namely, that plantation workers are enslaved or bonded laborers (a point raised by Mitman in conversation with Haraway and Tsing in "Reflections on the Plantationocene," 6). Most present-day plantations, however, are populated by wage laborers (which is not to say that they are earning a fair wage or that they somehow are not subject to the plantation's exploitations). Excellent illustrations are Sophie Chao's *In the Shadow of the Palms* and Li and Semedi's *Plantation Life*. The ethnographic takeaway here is that not all plantations are the same. Sweeping theorizations of the Plantationocene, in this regard, can miss something important. Because the Plantationocene presumes a ruined and blasted landscape—the detritus of capital's world-making—it risks eliding a more vital reality: the politics of those who continue to make (meaningful) life within actual plantations. Indeed, cinchona's communities are not alone in defending the twenty-first-century plantation. Besky's seminal research on the nearby private tea estates

of Darjeeling and the Dooars similarly illustrates the solidarities between workers, plants, and land that define plantations as living spaces (see *The Darjeeling Distinction* and *Tasting Qualities*, as well the article "Fixity.") Willford's study of Tamils defending their place in Malaysia's defunct rubber plantations shows how plantations can be anchors of identity and belonging in a rapidly changing world. Willford, *Tamils and the Haunting of Justice*. See also Li, "The Price of Un/Freedom." Though not on plantations, Ives illustrates related entanglements of plants, belonging, and politics in *Steeped in Heritage*.

29. That plantations are sites of exploitation and home is a common refrain of their anthropology. In South Asia, this theme runs through the India-based ethnographic work of Besky (e.g., *The Darjeeling Distinction*), Sen (*Everyday Solidarity*), and Chatterjee (*A Time for Tea*) and through the Sri Lanka–based work of Jegathesan (*Tea and Solidarity*). As Jegathesan elsewhere notes, this theme is also well established in Black feminist engagements with plantations in the Americas; see Jegathesan, "Black Feminists Plots before the Plantationocene."

30. The vacancies that Pemba alludes to in the upper echelons of the plantation hierarchy became a growing concern among the workforce. In 2022, three years after this conversation, they prompted the largest political protests on the plantations in decades (outside of the Gorkhaland movement, which is a region-wide struggle). See the conclusion for coverage of the 2022 agitations concerning these vacancies.

31. My use of *occlusion* to describe the horizons of life after quinine is different from Stoler's use of the term. Her formulations of *occlusion* and occluded histories are primarily an intellectual concern having to do with how one might study histories that imperial formations block, render obscure, close off, etc. Stoler, *Duress*, 10.

32. This section's title pays tribute to Millar's poignant essay, "The Precarious Present."

33. In 1947 the Indian National Congress Party appointed an Agrarian Reforms Committee, whose published report of 1949 proposed limiting the acreage any one holder could own. West Bengal would become one of the first states to implement such land ceilings, imposing, in the 1950s, ceilings of 25 acres on *khas* agricultural land and 20 acres on nonagricultural lands. Sethi, "Land Reform in India," 75; Bhagat-Ganguly, *Land Rights in India*, 1; Basu and Bhattacharyya, *Land Reforms in West Bengal*.

34. The 1950s land reforms were riddled with loopholes that allowed zamindars and other rural elites to circumvent many of the redistributive measures. Land reform went through several phases in West Bengal with amendments to the WBLRA in 1957, 1960, 1962, 1965, 1966, 1969, 1970, 1971, 1974, and 1976. As Bandyopadhyay (2003) explains, the impetus was renewed in the late 1960s under the first non–Congress United Front (UF) government. With the previous acts failing to break the stranglehold of big landowners, agrarian frustrations boiled over in places like Naxalbari, where Marxian and Maoist-inspired activists sought to violently resolve the land question. During its short-lived tenure, the UF government oversaw a series of quasi-judicial efforts at land reform that resulted in roughly a million acres seized—or "vested"—by the state for redistribution to the peasantry. The return of the Congress Party from 1972 to 1977 undid some of that progress and restoked agrarian frustrations—thus setting the stage for the Left Front's electoral victory in 1977. Inspired by the peasant uprisings in Naxalbari and elsewhere, the Left Front enacted increasingly radical efforts to dismantle the still-feudal structures of agrarian life in the Bengal countryside. The most notable of these was Operation Barga, a grassroots campaign to root out the

landlords who had evaded the earlier reforms, identify the sharecroppers (*bargadars*) working on the land, and ultimately return these holdings to the sharecroppers themselves. Operation Barga prompted the transfer of half a million titles to sharecroppers across the state, totaling roughly a million acres of land "vested" and redistributed to peasants. These efforts were followed by significant growth in agricultural production throughout the 1980s. On land reform in West Bengal, see Bandyopadhyay, "Land Reforms and Agriculture," 879–84; Bardhan and Mookherjee, "Determinants of Redistributive Politics"; Basu and Bhattacharyya, *Land Reforms in West Bengal*; Dasgupta, "Land Reform in Kerala and West Bengal"; Ghosh and Nagaraj, "Land Reforms in West Bengal."

35. Phrasing from Nayak, *Land Reforms to Land Titling*; and Mishra and Nayak, *Land and Livelihoods in Neoliberal India*.

36. Particularly in Kalimpong these difficulties have been exacerbated by the colonial agricultural extension efforts to transform Kalimpong into a breadbasket for the region's broader plantation economy. As Besky, "The Plantation's Outsides," explores, the British doled out smallholdings—again on a rolling lease basis—to local farmers who subsequently settled and worked the land. These agricultural extensions took shape through a variety of experimental initiatives, including the Darjeeling Improvement (DI) fund, the missionary-backed Saint Andrew's Colonial Homes (Dr. Graham's Homes) Demonstration Farms, and others.

37. Insofar as these are government properties, there would ostensibly be no need for the state of West Bengal to reclaim these tracts from private holders in order to redistribute the lands to the people that lived and worked on them. Historically, the Left Front, in theory, could have made the cinchona plantations a lodestar of land reform, but this did not happen. The status of the government cinchona plantations instead has been not unlike that of Darjeeling's private tea estates: exempt.

38. The Trinamool Congress's (TMC) defeat of the Left Front 2011 ushered in a new wave of neoliberal governance in West Bengal. Truth be told, the Left Front had already proven susceptible to the logics of neoliberal reform. As much of the rest of India plunged into economic liberalization in the 1990s and 2000s, West Bengal gradually began to court private industry. In glaring contradiction to its earlier commitments to land reform and peasant rights, the Left Front government appropriated massive tracts of land at Singur in 2006 (for a Tata automotive plant) and at Nandigram in 2007 for a Special Economic Zone (SEZ) (for a private chemical manufacturing company). The hypocritical land grabs and concomitant violence sparked formidable protests, in turn galvanizing the Left Front's fall from power in the 2011 West Bengal elections.

39. Fulfilling campaign promises, Banerjee began banking land for industrialists shortly after her 2011 electoral victory. All India Trinamool Congress website, "Land Bank Becomes a Reality in West Bengal," March 4, 2014, https://aitcofficial.org/aitc/land-bank-becomes-a-reality-in-west-bengal/ (accessed May 8, 2023); "Bengal to Set up Industrial Park on Lands of Closed PSUs," *Statesman*, February 24, 2023. The land banked is held by the West Bengal Industrial Development Corporation (WBIDC).

40. A more generous (but also provocative) interpretation of Banerjee's comment might focus on how *parja patta* would alter labor relations on the cinchona plantations. By the rule of *badli kam*, workers' ability to live in their homes and tend their fields has always been pegged to their labor on the plantation. Indeed, one of the main reasons workers

show up for work each morning is to maintain their government-provided homesteads. Becoming actual owners of their homes and fields would change that compulsion and, in practical effect, undermine the twinned disciplining of land and labor on which the plantations depend. Still, even this generous reading leaves open the question of what kind of "business" Banerjee was referring to. The cinchona plantations, after all, aren't doing much in the way of business these days. If, on a more sinister note, Banerjee was alluding to an imminent privatization of the cinchona plantations, it stood to reason that the devolution of government property (which the granting of *parja patta* would entail) promised to diminish the assets at hand (and profit to be made) were West Bengal to decide to sell off the cinchona plantations.

41. In response to rising demands for *parja patta*, West Bengal, in August 2023, issued a notification to assign titles for five decimals of land for tea plantation workers. The paltry allotment of only .05 acre met opposition from various parties in the hills, on the grounds that it did not cover tea workers' already minuscule holdings. After significant protests and interparty consternation, the move was subsequently shelved. The gesture, notably, did not include the cinchona plantations.

42. Involving several years of data gathering and implementation, Assam's 2019 NRC was technically an "update" of the first NRC conducted in 1951. It marked a convenient marriage of Assamese and BJP xenophobias, which tacitly targeted Muslims, who, it was claimed, had illegally migrated from neighboring Bangladesh. Other groups, like Assam's Gorkhas, found themselves excluded as well. Accompanying the controversial NRC was a network of reported camps meant to contain those deemed noncitizens.

43. Dinesh Sharma, "NRC Issue: The Indian Gorkha Perspective," *EastMojo Online*, November 16, 2019; "Backlash Grows as Nearly Two Million Excluded from India's Controversial Citizen List," *SBS News Online*, September 2, 2019.

44. Hutt, *Unbecoming Citizens*, 193–94.

45. As I have charted elsewhere, in "Anxious Belongings," 612–14, the Gorkhas have harbored fears of extradition to Nepal, Bhutan, and Sikkim since the 1850s, when they began filling the ranks of Darjeeling's colonial plantations. No surprise, then, that those anxieties reappear here.

46. "Matter out of place" comes from the canonical anthropology of Mary Douglas, *Purity and Danger*, 36; it is also applied productively to ethnicity by Malkki, *Purity and Exile*, 8.

47. Scott, *Weapons of the Weak*. I use *tactical* here in Michel de Certeau's sense of the everyday ways people work with and leverage the forms created by society's dominant institutions in order to counter the power of those institutions and therein empower themselves. Certeau, *The Practice of Everyday Life*, xix–xx, 36–38.

48. As I elaborate in the concluding passages of this book, "An Ethics for the Time-Being," one might think of these as, first, an *ethic* in the Weberian sense of a duty or work ethic and, second, as an *ethics* in the Kantian sense of how one acts unto others in the world. Weber, *The Protestant Ethic and the Spirit of Capitalism*; Kant, *Lectures on Ethics*.

3. UNTIL GORKHALAND: AGITATION IN THE REMAINS

1. Accusations of internal colonialism (variously construed) are articulated up and down the sociological spectrum of the Gorkha community. The Gorkha scholar Mahendra P. Lama has called the Bengal administration "the finest practitioner and ace

custodian of internal colonialism." Lama, "High Economics in Our Statehood Demand," *My Gorkhaland*, August 2008, https://mygorkhaland.wordpress.com/tag/economic-viability-of-gorkhaland/, accessed December 18, 2018. Lama has been a chief proponent of this argument, which dates at least to a public lecture delivered in 1996 titled, "Economic Viability of Gorkhaland." More recent articulations include Mona Chettri and Arijit Sen, "Colonial Trouble in India's Northeast," *Al Jazeera*, July 23, 2017, https://www.aljazeera.com/indepth/opinion/2017/07/india-manufacturing-picture-postcard-darjeeling-170719073904596.html, accessed June 29, 2018; Darjeeling Collective, "What's Brewing in Darjeeling," *The Hindu*, July 25, 2017, https://www.thehindu.com/opinion/op-ed/whats-brewing-in-darjeeling/article19346738, accessed June 29, 2018; Bomjan, *Darjeeling-Dooars*; Moore, "Reading Tea Leaves," 21. Subba offers a compelling case study of these conditions and their formative influence on the Gorkhaland movement in *Ethnicity, State, and Development*.

2. For an extended analysis, see Middleton, "Provincialising Bengal." Stoler's work on colonial recursions is also instructive for assessing how these pasts "fold back" into the present. Stoler, *Duress*, 26.

3. See Nomura and Shimabuku, "Undying Colonialism." This phrasing plays on Fanon's 1959 work, *A Dying Colonialism*.

4. Haraway and Tsing, "Conversations on the Plantationocene," 5. As Tsing elsewhere discusses, this bringing together involved considerable violence to native populations of humans and plants. This violence, in turn, facilitated the scalability of the plantation system itself—principally by denuding local lands and lives and replacing them with imported labor and species. Tsing, *Mushroom at the End of the World*, 39

5. Ghosh extends this line of thought in *The Nutmeg's Curse*, 31–71, by spelling out how this evisceration was not accidental but rather strategic. By exterminating local populations and severing their ties to the land, the Dutch and other empires cleared the slate for their plantation systems' radical terraforming and repopulation of newly gotten territories.

6. A territory-oriented play here on Lepselter's concept of vernacular theories of power. Lepselter, "The Resonance of Captivity," 85.

7. Here we might usefully distinguish between *territory* (which academics like Stuart Elden have seen as the product of particular technologies for claiming and controlling space) and *terrain* (which military strategists and geographers like Gaston Gordillo have understood as the material topography of conflict, e.g., hills, lakes, deserts, and rocks. Elden, "Land, Terrain, Territory" and *The Birth of Territory*; Gordillo, "Terrain as Insurgent Weapon." The Gorkhaland movement then was a subnationalist struggle for ethnic *territory* that unfolded on the vertiginous *terrain* of the Darjeeling Hills. The movement's founder, Subash Ghisingh, knew the region's terrain would work to the Gorkhas' advantage. "We grew up in these hills. We have tumbled and explored them all our lives from the time we could walk. It is our native land," Ghisingh explained. "The forces of the state and central government were no match for . . . the boys and the knowledge they had of the hills. [We] beat them at guerilla warfare every time." Ghisingh interviewed by Ruchira Gupta, *Sunday Observer*, December 18, 1988, in Lama, *Gorkhaland Movement*, 280. I have reordered some of these sentences for the sake of narrativity.

8. Written from the cinchona plantations, this account of the Gorkhaland agitations complements Besky's work on the movement from Darjeeling's private/corporate tea plantations, which she covers ably throughout much of *The Darjeeling Distinction*.

9. Scholarly distinctions between *territory, terrain, land*, and *property* can be helpful in sorting through these matters, yet none of these concepts fully captures how the cinchona plantations have figured through the Gorkhaland agitations. Concerning land and property, the anthropologist Tanya Li highlights the processes of inscription (e.g., mapping, enclosure, titling) through which material land is made into *property* to be invested in, bought, sold, developed, etc. Li, "What Is Land?," 589–602.

10. In her essay, "The Land in Gorkhaland," Besky arrives at similar interpretations. Stressing land's political, material, and affective dimensions, she argues that Darjeeling must be understood as a "homeplace" (a concept she borrows from Plumwood). By extension, "to assert belonging in Darjeeling, Nepalis [Gorkhas] have had to creatively situate themselves among the ruins of empire" (20–21). Plumwood, "Shadow Places and the Politics of Dwelling," 140. See also my earlier analysis of anxious belonging as a primary driver of the Gorkhaland movement. Middleton, "Anxious Belongings." On the double entendre of *belonging*, see Cons, "Histories of Belonging(s)."

11. See Malkki on mythical narrative, in *Purity and Exile*, 55.

12. See Warner's PhD dissertation, "Shifting States."

13. To this day, people from Darjeeling have been apprehensive about buying land in Kalimpong (east of the Teesta River) on the belief that its legal standing is shaky, due to these contested histories of territory between the British Empire and Bhutan. People continue to express concerns that these histories could one day return to render land purchase deeds issued by Registrars of India invalid.

14. On the "secret" of the state, see Abrams's influential essay, "Notes on the Difficulty of Studying the State," 62, 77.

15. This genealogy includes the Treaties of Sugauli (1815), Titalia (1817), and Sinchula (1865), along with the controversial Deed of Grant (1835) through which the East India Company acquired from Sikkim the original tract on which the British founded the hill station of Darjeeling. Ghisingh linked the problems of these imperial treaties to later treaties like the agreement signed by the British government and Nepal in 1923 and the Indo-Nepali Treaty of 1950, clause 7 of which, Ghisingh claimed, gravely confused the national identity of India's Gorkhas. See "The Fate of the Indian Gorkhas is Burning!" and Ghisingh's Memorandum to the King of Nepal, December 23, 1983, available in Lama, *Gorkhaland Movement*, 16–20.

16. Ghisingh, interviewed by Tapash Ganguly, *The Week*, Kattayam, November 9–15, 1986, in Lama, *Gorkhaland Movement*, 94.

17. "Letter of GNLF President Sri Subash Ghising [*sic*] to Sri Rajiv Gandhi, Prime Minister of India," in Lama, *Gorkhaland Movement*, 157.

18. Middleton, "Anxious Belongings." Others who have framed the Gorkhas' quest as one of belonging are Chhetri, "Quest to Belong and Become"; Thapa, "Being and Belonging"; Dhakal, "Urge to Belong"; Booth, "'These People Deprived of This Country.'"

19. Hutt, *Unbecoming Citizens*, 193–94. Concerning the Gorkhaland movement's relationship to the subnationalist struggles of India's Northeast, these movements certainly share common causes and conditions (ethnic and racial exclusion from "mainland" India, histories of extraction, etc.) And while it is true that that Gorkhas sometimes compare their struggle to movements in the Northeast, the comparisons have their limits. As part of West Bengal, the Darjeeling-Kalimpong Hills are typically not considered part of the

Northeast and have not been shaped by the very specific politics of insurgency and indigeneity that have unfolded within the Northeast. The literature on India's Northeast and its ethno-nationalist insurgencies is vast. But for the distinctions mentioned above, here I choose to engage the Gorkhaland movement on its own terms.

20. *Illustrated Weekly of India*, October 2, 1988, in Lama, *Gorkhaland Movement*, 260.

21. Translated from photographs in Lama, *Gorkhaland Movement*, 69, 77, 52. The last tag raises the important issue of land. Land has always been central to the Gorkhaland Movement. But what the land in Gorkhaland entails is a question with many answers. Besky, "The Land in Gorkhaland," 21, has argued that it involves as much a struggle *for* land as a struggle *with* land. Her point holds in the vertiginous terrain of the cinchona plantations, where landslides, earthquakes, extreme weather, blight, and exhausted soils have perennially upended life. Bringing this land to heel—or at least finding ways to work with it—was integral to its colonial settlement. Now, many lifetimes later, the unstable hillsides where the fever tree took root have morphed into a *territory* for which the battle is fought and the *terrain* on which it is waged.

22. "APDR Demands Judicial Enquiry." Originally published in *Frontier* 19, no. 2 (August 30, 1986); reprinted in Lama, *Gorkhaland Movement*, 66.

23. *Macpa* is the local Nepali acronym used to describe affiliates of the Marxist (*ma*) Communist (*c*) Party (*pa*)—specifically, the Community Party of India (Marxist), CPI(M), which dominated the West Bengal Left Front during this era. Before the agitations, there was a significant Marxist presence on the plantations, but due to its affiliation with West Bengal's ruling party, those affiliations became problematic (and at times deadly) during the agitations. The Marxist presence survived the 1980s and continues to occupy a minority position in the plantations' politics, as well as those of the Darjeeling-Kalimpong Hills more generally.

24. The number of deaths range from the scholar Amiya Samanta's estimate of 297 to the widely held popular estimate of more than 1,200. Samanta, *Gorkhaland Movement*, 54.

25. The MoS also promised a government notification to clarify the citizenship of the Gorkhas. Notification No. 26011/6/88-IC-1.

26. For more on rowdies, see Chettri's vivid essay, "Rowdies of Darjeeling."

27. West Bengal Legislative Assembly, Standing Committee on Commerce and Industries and Industrial Reconstruction, "The Present State of Affairs of Cinchona Production in West Bengal: Seventh Report, Presented at the Assembly 20th December, 2004."

28. My interview with a high-ranking official in the Department of Food Processing Industries and Horticulture corroborates this logic of the transfer. And indeed, since receiving the cinchona plantations in its portfolio, the department has taken active measures to diversify the plantations while still investing its time, resources, and botanical expertise in trying to revive cinchona itself.

29. For an extended narrative of these events, see Middleton, "Anxious Belongings," 616–18.

30. "Gorkhaland Demand Resurfaces," *Telegraph*, October 4, 2007.

31. The investigation took years to unfold, leading to the former director's arrest in January 2018 for alleged irregularities totaling more than 17 crore/INR.

32. The wording is ambiguous. Point 26:xiii of the Gorkhaland Territorial Administration Act, 2011, lists as a "Matter to Be Under the Control of the GTA," "Cinchona plantation

and settlement of land in possession of the plantation inhabitants; management of lease of cinchona lands etc. under it." Note that this entails only the settlement of issues related to land already in the possession of or leased to inhabitants (which was very little). It does not lay out the transfer of any ownership of land to inhabitants or the GTA. Regarding the administration of the plantations, later years would clarify that the Department of Food Processing Industries and Horticulture controlled all *schemes* for developing the plantations, while the GTA would manage the day-to-day "establishment" concerns of salaries and benefits. As of 2023, salaries continued to be "channelized," as one state official put it, through the GTA by West Bengal's Department of Home and Hill Affairs.

33. The Morcha was then aligned with the national BJP party, which appeared more open to the possibility of Gorkhaland than the West Bengal–based parties. The Ramdev ashram, in this regard, was a "gift" to the Hindu nationalist BJP. The cinchona plantation land here appeared as another kind of capital, *political capital*. West Bengal conveniently disallowed the transaction.

34. The Gorkhaland movement flared briefly again in 2013, when Telangana was declared a new state in India's South. Gorkhas had often likened their cause to Telangana's, so the Morcha felt compelled to call out the double standard. Whether the summer flare-up constituted a third Gorkhaland agitation or just an ember of the second was academic. I do not count the 2013 uprising as a full-fledged agitation.

35. Many local histories attribute the first calls for autonomy and greater representation for the region's Nepali-speaking majority to as early as 1907. The first archival evidence I have personally found comes from 1917, when the Hillmen's Association—an ethnically heterogeneous organization comprising Nepali, Lepcha, and Bhutia—formalized these claims with a memorandum to the Government of Bengal calling for native self-rule in the hills. The call for ethnic autonomy was taken up by numerous organizations in subsequent decades. I cover this history in "A Searching Politics," in my 2015 book, *The Demands of Recognition*. The composite "Gorkha" identity took shape and increasingly dominated the ethnopolitical landscape throughout the twentieth century, but there was also a rich history of its constituent communities organizing during the colonial and postcolonial eras. Nilamber Chhetri's and Sara Shneiderman's writings on the history of ethnic associations helps illustrate the multiple historical threads that formed today's tapestry of ethnic identity in the hills. See Chhetri, "Quest to Belong and Become"; and Shneiderman, *Rituals of Ethnicity*.

36. West Bengal later rescinded the statewide Bengali mandate.

37. Gurung remained in exile until October 2020. His return was allowed by Mamata Banerjee's TMC, with which he initially began working closely on his return. Gurung's postexile popularity has, to date, never approached its pre-2017 agitation levels.

38. Stoler, *Duress*, 216.

39. Nomura and Shimabuku, "Undying Colonialism."

40. There are certainly those within these movements who base their demands on claims of the Gorkhas' regional autochthony, even if these historical revisions often fly in the face of many Gorkhas' family histories. My ethnography suggests something more radical at play in the hills: an understanding of territory where territory is historically fluid and shot through with questions, contestations, and contingency. (Indeed, if one were looking for autochthony in Munsong, one need only look up to the Lepcha fort of Damsang [est. 1690], the ruins of which cast long shadows over the plantation.) As the work of Catherine

Warner helps illustrate, this is a region where territory has always been fluid and contested. The more one digs, the more questions one finds. When it comes to getting to the bottom of territory in this corner of the Himalayas, it's "turtles"—or contestations—all the way down. See Warner, "Shifting States" and "Flighty Subjects," 8.

4. BEYOND RUIN: THE ARTS OF BECOMING-AFTER

1. In keeping with my research protocol, Anit is a pseudonym.

2. This was the same focus group that I described in chapter 2. Much of the workers' earlier testimony is recounted there.

3. As was discussed in the introduction and chapter 1, the concept *becoming with* was principally developed by Haraway in *When Species Meet*, 23–27, and has been frequently used by anthropologists and other scholars interested in multispecies relations. Deleuze and Guattari offered an antecedent with their discussion of *becoming-animal* in *A Thousand Plateaus*, 237. Useful landmarks in these discussions of more-than-human becoming—and becoming, more generally—include Govindrajan, *Animal Intimacies*; Dave, "Witness"; Wright, "Becoming-With"; Biehl and Locke, *Unfinished*; and Deb Roy, *Malarial Subjects*, 12, 67, 271.

4. I first developed this concept in a 2021 essay for *Cultural Anthropology*, "Becoming-After," where I entered into more sustained dialogue with the conversations of posthumanism. As I argued there, to think with *becoming-after* is to explore not only the makings and unmakings of more-than-human worlds but also their remakings.

5. A nod here to Tsing's beautiful writing on the "arts of noticing" in *Mushroom at the End of the World*, 11–26.

6. Estimates based on West Bengal Legislative Assembly (WBLA) Secretariat, "The Present State of Affairs of Cinchona Production in West Bengal: Seventh Report," Kolkata, 4; and Dex-Deft, "Report on Strengthening," 17.

7. The terms "quinine content" and "alkaloid content" are often used interchangeably on India's plantations. But while related, they are technically not the same—namely, because quinine constitutes part of cinchona bark's total alkaloid content (along with other alkaloids like quinidine, cinchonine, and cinchonidine). Each species and plant contain different proportions of these alkaloids in their bark. The transposition of the terms and changing methods by which quinine and alkaloid content have been measured causes confusion and makes comparisons often difficult across contexts and historical periods. For example, a report by the West Bengal government in 2004 puts the "quinine produced" from Darjeeling barks at 2.25% and "quinine obtained" from Congolese barks at 8% to 9%. WBLA Secretariat, "The Present State of Affairs of Cinchona Production in West Bengal: Seventh Report," Kolkata, 4. However, the latter figure (at least) is likely a mistaken transposition of "quinine content" and overall "alkaloid content." Chemical analyses by Schaepmeester (*Trees against Malaria*, 47) found the mean *quinine* concentration of Congolese bark samples to be 4.3%, with some samples reaching as high as 8.9%. My sources within the Congo quinine industry, in 2023, estimated an average quinine content around 4.5% but noted that those averages have recently fallen due to mismanagement. Dex-Deft Research and Consultancy, in 2022, estimated the DRC's alkaloid content to be 6.3%. Dex-Deft, "Report on Strengthening," 17.

8. This was not the first attempt to revitalize pharmaceutical manufacturing. In the 1980s, the government built a towering "modern factory" adjacent to Mungpoo's colonial-era quinine factory. The "modern factory" was an instant technological failure, however, due to the combustibility of its new methods of chemical extraction. Deemed a fire hazard, the factory never produced anything. Its carcass now sits corroding in the shadows of its colonial predecessor.

9. As Biehl and Locke write in their edited volume, *Unfinished*, 6, "Becoming is characterized by the indeterminacies that keep history open, and it allows us to see what happens in the meantimes of human struggle and daily life."

10. Much of the intellectual conversation about *becoming* traces its origins to the work of Gilles Deleuze and Félix Guattari and their insistence on the openness of forms—human and otherwise. Deleuze and Guattari, *A Thousand Plateaus*, 257–72.

11. Tsing offers a more hopeful reading of uncertainty by finding "patches" of indeterminacy and possibility in otherwise ruined landscapes. Tsing, *Mushroom at the End of the World*, 1–6. As compared to, say, the material intransigence of the heating pipes that run through Stephen Collier's *Post-Soviet Social*, cinchona and the soils in which it grows pose a decidedly biological, material intransigence—one that both limits and gives rise to new possibilities of becoming.

12. Kristina Lyons's work, *Vital Decomposition*, here comes to mind for the ways it holds in simultaneous view the histories of ruination that soils carry in them and the biological (and social) dynamics of regeneration, repair, and recomposition. Tsing also writes of the "resurgent" life of forests—that is, their ability to regenerate after environmental damage (Tsing, *Mushroom at the End of the World*, 149–66). The optimisms of Natasha Myers's "Planthroposcene," in these regards, are analytically important (even if, admittedly, cinchona introduces an ambivalent case study into this conversation). Myers, "From the Anthropocene to the Planthroposcene." Another example of biological materiality cutting both ways is Lauren Nareau's research on the haunting and hopeful dimensions of Cuba's invasive species turned possible savior, marabú. Nareau, "Thriving in Ruins."

13. Gupta, "The Future in Ruins.".

14. The PMAY (Pradhan Mantri Awas Yojana) is a scheme run by the Ministry of Housing and Urban Affairs to subsidize house construction for underserved groups.

15. Anit Thapa, one of the primary leaders of the then-ruling Gorkha Janmukti Morcha and GTA, appeared in Mungpoo to protest the demolition. This statement comes from him, as quoted by the journalist Vivek Chhetri in "'Illegal' Tag on Cinchona House Fuels Concern," *Kalimpong News*, June 29, 2019, https://kalimpongonlinenews.blogspot.com/2019/06/illegal-tag-on-cinchona-house-fuels.html; accessed October 19, 2023. In 2021, Thapa founded his own party, the Bharatiya Gorkha Prajatantrik Morcha (BGPM). After the BGPM's success in the 2022 elections, he became chief executive of the GTA.

16. On "sensitivity' as an idiom of state power in South Asia, see Cons, *Sensitive Space*.

17. I return to these patterns of attrition in the conclusion.

18. This piecemeal commodification of land resembles the individuated enclosures of land in Sulawesi charted by Tania Li in her book *Land's End*. Only here we are not dealing with the primitive accumulation on an indigenous frontier but rather a recapitalization of a medical frontier originally made long ago. I discuss these recursive processes of frontier (re)making in my essay, "Frontier 2.0."

19. On this distinction between illegal and illicit, see Van Schendel, *Illicit Flows and Criminal Things*, 3.

20. Clifford Geertz famously offered the wink as his working example of what he called anthropology's project of "thick description." To decipher between the wink (a communicative gesture) and a twitch (an unintentional biological occurrence), Geertz argued that the anthropologist needed to understand the deeper web of meaning—the culture, if you will—that gives the wink its meaning and thereby shapes the communicative intention of the friend sending a message to his friend (via the wink) versus the intentionless, meaningless action of the twitch. Thick description, in this regard, is not merely a matter of description but also, and crucially, *explanation* of what and how things come to mean and work in a given society. Geertz, *Interpretation of Cultures*, 3–30.

21. Shortly after writing this passage, I read Sophie Chao's discussion of how her indigenous interlocutors in West Papua understand the advent of the oil palm plantations as a time-space of gray—what they term *abu-abu*. Though in a very different circumstance, I was struck by how the uncertainties and ethical ambiguities that oil palm has introduced to West Papua resonate with the gray spaces of quinine's after—again, two very different contexts but provocatively resonant. Chao, *In the Shadow of the Palms*, 13–14.

22. The interview with Mingma quoted throughout this section was conducted by Vikash just as India was emerging from the pandemic. I connected with Mingma in 2022, though none of that interaction appears here.

23. Homestay owners' inventive engagement with this governmental scheme is a good example of what Partha Chatterjee calls "the politics of the governed." Chatterjee, *The Politics of the Governed*. Many have viewed the Development and Cultural Boards with skepticism, seeing in this schema an effort by Mamata Banerjee and the West Bengal government to divide and rule the Gorkha conglomerate by encouraging ethnic differences within the pluralistic Gorkha community—a reading that Chatterjee's model certainly allows. For more on the counterinsurgent undertones of these boards, see Middleton, "Provincialising Bengal," 45–46.

24. Making the cinchona plantations a tourist destination was not a new idea. The directorate has repeatedly explored tourism as a possible source of revenue. Recent years, for example, have seen the directorate transform several of the plantations' bungalows into government guesthouses: rather sterile, dilapidated accommodations, as compared to the vibrant homestays created by workers. The directorate has also begun charging for admission to Munsong's Jalsa Bungalow, which it has transformed into a park, replete with benches, gazebos, and treehouses. Dating further back, a museum in Mungpoo is dedicated to the Bengali literary icon, Rabindranath Tagore. West Bengal has restored the colonial bungalow to which Tagore occasionally absconded for retreats. At Rabindra Bhavan, as the restored home/museum has been named, one can see the bed where Tagore slept, touch the desk where he wrote, and walk in the Bengali bard's poetic footsteps. The homage to Tagore does little, however, to impart the history or presence of the cinchona plantations. Indeed, the overwhelmingly Bengali crowds that flock to the museum often fail to notice the shuttered quinine factory standing just meters away from the bungalow. As I have argued in my essay, "Provincialising Bengal," the history of cinchona and quinine—and the presence of the Gorkha people who made it—all too often remain beyond the gaze of the Bengali imagination. In this way, Rabindra Bhavan largely perpetuates the forms of colonial

domination that have structured life on the plantations (and the Darjeeling Hills, more generally) since their founding. The homestays created by people like Mingma stand in stark contrast to the top-down tourism initiatives of the directorate and Rabindra Bhavan. Imagined and realized by plantation workers, they mark a more grassroots way of bringing the plantations to the world and vice versa. This is not to say that homestay owners are not willing to also trade on the Bengali imagination. When Vikash asked, "So how do you explain to tourists about the history?," this is how one homestay owner in Munsong explained it: "Here, mainly it is about the cinchonas. So they [the guests] would want to learn more about the cinchonas because they would have heard that cinchona is the cure for malaria. They are Bengalis and they know this much. So we point out the cinchona plants to the tourists and we have one old bungalow here, the Jalsa Bungalow. And we tell them that Rabindrath Tagore wrote a poem there. That is bullshit. It was in Mungpoo. It's all about bullshitting (jotnu)! [Laughing.] There's a nice flat stone outside the bungalow, so we tell them this is where Tagore sat and wrote his poems. Then these tourists will go back and then tell this to so many others [still laughing]."

25. The Kulain Gau Homestay Association (a pseudonym) situated itself under the umbrella organization Kalimpong II Integrated Tourism Awareness Society (KITAS), itself composed of some four hundred homestays spread across Block II of the Kalimpong district. Other cinchona-specific homestay associations formed elsewhere, for example, in Mungpoo.

26. As one of the original homestayers, Mingma was one of the lucky few who had NOCs. But he still lacked land titles and other bona fides needed to attain loans and access to government schemes to assist his small business.

27. On the Chinese experiments and other scientific interests in chloroquine and hydroxychloroquine in 2020, see Ho et al., "Chloroquine and Hydroxychloroquine."

28. By mid-2020, there were globally more than two hundred clinical trials testing the efficacy of HCQ against COVID-19. ClinicalTrials.gov, cited by Cohen, "Hydroxychloroquine for the Prevention of Covid-19," 585–86.

29. The journalist Adam Rogers presents a well-researched overview of this saga in "The Strange and Twisted Tale of Hydroxychloroquine."

30. As Rogers explains, the credentials of the originators of the Google Doc were specious. Rigano claimed to be on leave from a master's program in bioinformatics at Johns Hopkins; in truth, he had only taken one class there. Broker worked not as a Stanford biochemist but as a virologist at the University of Alabama, where he investigated a different family of coronaviruses. This note adapted from Rogers, "The Strange and Twisted Tale of Hydroxychloroquine."

31. "Trump Says His Belief in One Potential Coronavirus Drug Is 'Just a Feeling,'" *STAT*, March 20, 2020, https://www.statnews.com/2020/03/20/trump-coronavirus-drug-just-a-feeling/. Roughly one month later, Trump suggested injecting bleach to combat COVID-19.

32. "Novartis, Mylan and Teva to Supply Tens of Millions of Chloroquine Tablets to Fight COVID-19," 2020, FiercePharma.com, https://www.fiercepharma.com/pharma/new-commitments-mylan-and-teva-move-to-supply-tens-millions-hydroxychloroquine-tablets-to; accessed October 16, 2023.

33. Anteneh Belayneh, "Off-Label Use of Chloroquine and Hydroxychloroquine for COVID-19 Treatment in Africa against WHO Recommendation," *Research and Reports*

in Tropical Medicine 11 (2020): 61. Available at National Institues of Health, National Library of Medicine, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7505701/; accessed 10.01.2022. The Beirut black market was conveyed anecdotally to me by the anthropologist Fadi Bardwil. See also "Cyber Underground Criminals Exploit Corona Crisis Selling Chloroquine, COVID-19 Test Kits, Respirators and Surgical Masks at Sky High Prices," Armor, Inc., report published online March, 30, 2020, https://res.armor.com/resources/report/the-coronavirus-report/; accessed October 1, 2022.

34. Press coverage included the following: "For This 160-Year-Old Darjeeling Plantation, Trump's Push for HCQ Is a Boon," *The Print*, April 21, 2020, https://theprint.in/india/for-this-160-year-old-darjeeling-plantation-trumps-push-for-hcq-is-a-boon/402630/; "Coronavirus: After Donald Trump's Hydroxychloroquine Clamor West Bengal Planters Hope for Surge in Quinine Demand," *Deccan Herald*, April 10, 2020, https://www.deccanherald.com/national/east-and-northeast/coronavirus-after-donald-trumps-hydroxychloroquine-clamour-west-bengal-planters-hope-for-surge-in-quinine-demand-823693.html; "Why Is Quinine Being Discussed in COVID-19 Times?," *The Hindu*, April 27, 2020.

35. First quote from https://www.thehindu.com/sci-tech/health/why-is-quinine-being-discussed-in-covid-19-times/article31429882.ece; "Trump's Covid 'Gamechanger' Hydroxychloroquine Turns Life-Changer for an Obscure Indian Plantation," *Economic Times of India*, April 16, 2020, https://economictimes.indiatimes.com/news/economy/agriculture/trumps-covid-gamechanger-hydroxychloroquine-turns-life-changer-for-an-obscure-indianplantation/articleshow/75174169.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst. The second quote comes from the erroneously titled, "Covid-19 Leads to India's Only Quinine Factory Being Revived," Rediff.com, April 17, 2020, https://www.rediff.com/news/special/covid-19-indias-only-quinine-factory-being-revived/20200416.htm. The West Bengal government also fell sway to the intoxicating logic. The state government went so far as to request the Confederation of Indian Industry (CII) to study reopening Mungpoo's quinine factory to produce hydroxychloroquine—an impossibility insofar as the synthetic hydroxychloroquine is produced through completely different chemical processes than quinine. "Covid-19: West Bengal Looks to Ramp up Production of Hydroxychloroquine," *Hindustan Times*, April 10, 2020, https://www.hindustantimes.com/india-news/covid-19-west-bengal-looks-to-ramp-up-production-of-hydroxychloroquine/story-GWgQ2rs4DCwxoDc92q6fBL.html.

36. See Berlant, "Cruel Optimism."

37. Boulware et al., "A Randomized Trial of Hydroxychloroquine as Postexposure Prophylaxis for Covid-19." Subsequent studies backed up this finding, e.g., Reis et al., "Effect of Early Treatment."

38. WHO, April 23, 2020, https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-(covid-19)-hydroxychloroquine.

39. Grosse et al., "Evidence That Quinine Exhibits Antiviral Activity against SARS-CoV-2 Infection In Vitro."

40. Latarissa et al., "Potential of Quinine Sulfate for COVID-19 Treatment and Its Safety Profile."

41. Phrasing from Stoler, *Duress*, 26.

42. Anit's resignation as party spokesman was strategic in other ways. Ridding himself of formal political affiliation would enable him to deal more fairly with the trade unions,

which he would necessarily contend with as a *gangman* tasked with managing laborers. To bring party affiliation to his new position would be to court "allegations," as he termed it, of all kinds.

43. See Walley, *Exit Zero*; Collier, *Post-Soviet Social*.

44. See Mintz, *Sweetness and Power*; Moran-Thomas, *Traveling with Sugar*; Thomas, *Political Life in the Wake of the Plantation*; Sharpe, *In the Wake*.

45. Deleuze and Guattari, *A Thousand Plateaus*, 9–21, 55, 204–29.

IN LIEU OF CONCLUSION: AN ETHICS FOR THE TIME-BEING

1. The quinologist served in the rank of assistant quinologist. However, due to vacancies in the plantation hierarchy, the then-ranking quinologist was serving as acting manager in Gairabas—thus leaving the lab in charge of the assistant quinologist. I discuss the "vacancies" in the plantation hierarchy shortly.

2. Dex-Deft, "Report on Strengthening," 17.

3. In the global market for pharmaceutical quinine, the minimum alkaloid content at which raw bark sells is 5% to 7%. Nair, *Tree Crops*, 140. Interestingly, my sources within the DRC-based quinine industry suggest that Congolese barks have been declining of late due to poor management and cavalier cultivation techniques.

4. I use *planetary* in the sense proposed in Dipesh Chakrabarty's writings on climate change. In contradistinction to the human-centric connotations of *global*, Chakrabarty posits *the planetary* as a means to decenter the human and thereby rescale the scope and stakes of climate change. See Chakrabarty's introduction, "Intimations of the Planetary," to *The Climate of History in a Planetary Age*, 1–22.

5. See, e.g., Kant's *Lectures on Ethics* and Weber's *Protestant Ethic and the Spirit of Capitalism*, respectively.

6. This was only the first phase of a multiday extraction sequence. As the quinologist explained it: Eight hours of extraction in the Soxhlet apparatus produces a bronze-colored mixture of toluene and alkaloids. This will then undergo another round of extraction, using hydrochloric acid to separate the toluene from the alkaloids themselves. The resulting acid extract will be neutralized with sodium hydroxide to produce a mixed quinine tartrate, which will be filtered and dried to produce "quinine salts" that will finally be weighed against the original sample to determine the bark's overall content.

7. In this temporal orientation, the cinchona community may have found an ally in an unlikely place: West Bengal's Department of Food Processing Industries and Horticulture. In May 2023, I had a wide-ranging conversation with the department's additional chief secretary about the various measures the department was taking to diversify the plantations and revive cinchona itself (e.g., the aforementioned scientific identification of high-quinine content trees, the development of tissue-culture protocols). When I asked if the department was feeling any pressure from the state and whether he felt "the clock was ticking on the cinchona plantations," the additional chief secretary's response was heartening. "We aren't feeling any overt pressure from anywhere," he replied, "but the fact is that the economics *will* become important at some point. So, in what we are doing [referring to the ongoing efforts to diversify and revive], we are not waiting for the day when we will be confronted by an existential situation." In this proactive work of "not waiting" and not accepting the

inevitability of the plantations' "existential" doom, the department's temporal orientation is not unlike stakeholders on the plantations who believe there is time to find another way forward—and who are willing to work for it.

8. The protests were spearheaded by the trade union of the ruling TMC party. This created the awkward situation of workers protesting the government controlled by the TMC—a situation many referred to by the Nepali proverb, "afai boksi; afai dhami," which translates as "I myself am the witch and the [healing] shaman." TMC activists recognized the conundrum and took pains to clarify that they were calling out only those government officials in West Bengal, the GTA, and the cinchona directorate who were not doing their duty—and subsequently not fulfilling workers' rights to employment. Though started by the TMC trade union, the protests garnered participation from workers across diverse parties.

9. The Group D agitations began shortly before I returned to the plantations for fieldwork in 2022, after a hiatus forced by the COVID-19 pandemic. My accounts are accordingly written based on the fieldwork I conducted in May and June 2022, as well as on videos posted by workers, activists, and journalists to social media. I have cited those videos where appropriate, beginning here with the opening march at Rongo, which was shot and publicly posted by station JTV Jaldakha on April 29, 2022: https://www.facebook.com/watch/?v=418184246304799.

10. The Gorkhaland agitations are a regionwide movement and thus not specific to the cinchona plantations (even if they take particularly acute form on them, as chronicled in chapter 3).

11. As noted in chapter 4, the vacancies were also to be found at the higher officer-level positions of Groups A and B, where only 10 of the 58 officer-level positions were filled during my fieldwork. In this regard the vacancies—and Group D agitations—applied to all levels of the hierarchy, even if, in name, they focused on Group D.

12. Attrition figures here as neither what Foucault would call *biopower* (the power of making live and letting die) nor *necropolitics* (the "subjugation of life to the power of death," as Achille Mbembé has theorized it). Attrition—and abandonment more generally (see Povinelli, *Economies of Abandonment*)—represents instead an active failure to replenish subjects' basic needs of life while allowing them to die as they may. Foucault, "Birth of Biopolitics," 139; Mbembé, "Necropolitics," 39.

13. Speech posted publicly on Facebook by Mungpoo News on May 19, 2022: https://www.facebook.com/MungpooNews/videos/572907277492445/.

14. Speech posted to Facebook by station JTV Jaldhaka on April 29, 2022: https://www.facebook.com/jtvjaldhaka/videos/1941950492658959/.

BIBLIOGRAPHY

Abrams, Philip. "Notes on the Difficulty of Studying the State (1977)." *Journal of Historical Sociology* 1, no. 1 (1988): 58–89.

Agamben, Giorgio. *Homo Sacer: Sovereign Power and Bare Life*. Palo Alto, CA: Stanford University Press, 1998.

Ali, Tariq Omar. *A Local History of Global Capital: Jute and Peasant Life in the Bengal Delta*. Princeton, NJ: Princeton University Press, 2018.

Arendt, Hannah. *The Human Condition*. Chicago: University of Chicago Press, 1958.

Barad, Karen. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, NC: Duke University Press, 2007.

Bandyopadhyay, D. "Land Reforms and Agriculture: The West Bengal Experience." *Economic and Political Weekly* 38, no. 9 (2003): 879–84.

Bardhan, Pranab, and Dilip Mookherjee. "Determinants of Redistributive Politics: An Empirical Analysis of Land Reforms in West Bengal, India." *American Economic Review* 100 (September 2010): 1572–1600.

Basu, Saroj Kuman, and S. K. Bhattacharyya. *Land Reforms in West Bengal: A Study of Implementation*. New Delhi: Oxford Book Company, 1963.

Benjamin, Walter. *The Origin of German Tragic Drama*. Introduction by George Steiner. Translated by John Osborne. New York: Verso Books, 1998.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham, NC: Duke University Press, 2010.

Berlant, Lauren. "Cruel Optimism: On Marx, Loss and the Senses." *New Formations*, no. 63 (2007): 33–51.

Besky, Sarah. *The Darjeeling Distinction: Labor and Justice on Fair-Trade Tea Plantations in India*. Berkeley: University of California Press, 2014.

———. "Fixity: On the Inheritance and Maintenance of Tea Plantation Houses in Darjeeling, India." *American Ethnologist* 44, no. 4 (2017): 617–31.

———. "The Land in Gorkhaland: On the Edges of Belonging in Darjeeling, India." *Environmental Humanities* 9, no. 1 (2017): 18–39.

———. "The Plantation's Outsides: The Work of Settlement in Kalimpong, India." *Comparative Studies in Society and History* 63, no. 2 (2021): 433–63.

———. *Tasting Qualities: The Past and Future of Tea*. Oakland: University of California Press, 2020.

Bhagat-Ganguly, Varsha. *Land Rights in India: Policies, Movements, and Challenges*. New Delhi: Routledge, 2016.

Biehl, João, and Peter Locke. *Unfinished: The Anthropology of Becoming*. Durham, NC: Duke University Press, 2017.

Biswas, Kalipada. "Cinchona Cultivation in India—Its Past, Present, and Future." *Journal of the Asiatic Society* 8 (1961): 63–80.

Bomjan, D. S. *Darjeeling-Dooars: People and Place under Bengal's Neo-Colonial Rule*. Darjeeling: Bikash Jana Sahitya Kendra, 2008.

Booth, Chelsea. "These People Deprived of This Country: Language and the Politics of Belonging among Indians of Nepali Descent." PhD dissertation, Rutgers University, 2010.

Boulware, David R., Matthew F. Pullen, Ananta S. Bangdiwala, Katelyn A. Pastick, Sarah M. Lofgren, Elizabeth C. Okafor, and Caleb P. Skipper et al. "A Randomized Trial of Hydroxychloroquine as Postexposure Prophylaxis for Covid-19." *New England Journal of Medicine* 383, no. 6 (2020): 517–25.

Brockway, Lucile. *Science and Colonial Expansion: The Role of the British Royal Botanic Gardens*. New York: Academic Press, 1979.

Carson, Rachel. *Silent Spring* (1962). New Haven, CT: Yale University Press, 2017.

Certeau, Michel de. *The Practice of Everyday Life*. Berkeley: University of California Press, 1984.

Chakrabarty, Dipesh. *The Climate of History in a Planetary Age*. Chicago: University of Chicago Press, 2021.

———. *Rethinking Working-Class History: Bengal 1890–1940*. Princeton, NJ: Princeton University Press, 1989.

Chao, Sophie. *In the Shadow of the Palms: More-Than-Human Becomings in West Papua*. Durham, NC: Duke University Press, 2022.

Chatterjee, Partha. *The Politics of the Governed*. New York: Columbia University Press, 2004.

Chatterjee, S. K. "Cultivation of Cinchona in Darjeeling Hills, West Bengal." In *Cultivation and Utilization of Medicinal Plants*, edited by C. K. Atal and B. M. Kapur, 222–29. Jammu: Regional Research Laboratory, 1982.

Chettri, Mona. "The Rowdies of Darjeeling." In *Darjeeling Reconsidered: Histories, Politics, Environments*, edited by Townsend Middleton and Sara Shneiderman, 135–53. New Delhi: Oxford University Press, 2018.

Chhetri, Nilamber. "The Quest to Belong and Become: Ethnic Associations and Changing Trajectories of Ethnopolitics in Darjeeling." In *Darjeeling Reconsidered: Histories, Politics, Environments*, edited by Townsend Middleton and Sara Shneiderman, 154–76. New Delhi: Oxford University Press, 2018.

Chua, Jocelyn. "Fog of War: Psychopharmaceutical 'Side Effects' and the United States Military." *Medical Anthropology* 37, no. 1 (2018): 17–31.

———. "Medication by Proxy: The Devolution of Psychiatric Power and Shared Accountability to Psychopharmaceutical Use among Soldiers in America's Post-9/11 Wars." *Culture, Medicine, and Psychiatry* 44, no. 4 (2020): 565–85.

———. "Pharmaceutical Creep: US Military Power and the Global and Transnational Mobility of Psychopharmaceuticals." *Medical Anthropology Quarterly* 34, no. 1 (2020): 41–58.

Cohen, Myron S. "Hydroxychloroquine for the Prevention of Covid-19—Searching for Evidence." *New England Journal of Medicine* 383, no. 6 (2020): 585–86.

Collier, Stephen. *Post-Soviet Social: Neoliberalism, Social Modernity, Biopolitics*. Princeton, NJ: Princeton University Press, 2011.

Cons, Jason. "Histories of Belonging(s): Narrating Territory, Possession, and Dispossession at the India-Bangladesh Border." *Modern Asian Studies* 46, no. 3 (2012): 527–58.

———. *Sensitive Space: Fragmented Territory at the India-Bangladesh Border*. Seattle: University of Washington Press, 2016.

Cons, Jason, and Michael Eilenberg, eds. *Frontier Assemblages: The Emergent Politics of Resource Frontiers in Asia*. Hoboken, NJ: John Wiley & Sons, 2019.

Cross, Robert. *Report on the Collecting of Seeds and Plants of the Cinchonas of Pitayo, 1871*. Reprint Charleston, SC: Nabu Press, 2012.

Cushman, Gregory. *Guano and the Opening of the Pacific World: A Global Ecological History*. Cambridge: Cambridge University Press, 2013.

Dasgupta, Anirban. "Land Reform in Kerala and West Bengal: Two Stories of Left Reformism and Development." In *The Land Question in India: State, Dispossession, and Capitalist Transition*, edited by Anthony P. D'Costa and Achin Chakraborty, 242–64. Oxford: Oxford University Press, 2017.

Dave, Naisargi. "Witness: Humans, Animals, and the Politics of Becoming." *Cultural Anthropology* 29, no. 3 (2014): 433–56.

Deb Roy, Rohan. *Malarial Subjects: Empire, Medicine and Nonhumans in British India, 1820–1909*. Cambridge: Cambridge University Press, 2017.

———. "Nonhuman Empires." *Comparative Studies of South Asia, Africa and the Middle East* 35, no. 1 (2015): 66–75.

———. "Quinine, Mosquitoes and Empire: Reassembling Malaria in British India, 1890–1910." *South Asian History and Culture* 4, no. 1 (2013): 65–86.

Deleuze, Gilles, and Félix Guattari. *A Thousand Plateaus*. Minneapolis: University of Minnesota Press, 1987.

DeSilvey, Caitlin, and Tim Edensor. "Reckoning with Ruins." *Progress in Human Geography* 37, no. 4 (2013): 465–85.

Dex-Deft Research and Consulting. "Report on Strengthening the Value Chain Based on Cinchona and Other Medicinal Plants." New Delhi, 2022. Available at https://wbfpih.gov.in.

Dhakal, Rajendra P. "The Urge to Belong: An Identity in Waiting." In *Indian Nepalis: New Perspectives*, edited by D. R. Nepal, G. S. Nepal, A. C. Sinha, and T. B. Subba, 148–67. New Delhi: Concept Publishing House, 2009.

Donne, John. *The Works of John Donne*. Vol. 3. Edited by Henry Alford. London: John W. Parker, 1839.

Douglas, Mary. *Purity and Danger*. New York: Routledge, 1966.

Drew, Julie. "Cultural Consumption: Stuart Hall on Ethnicity and the Discursive Turn." In *Race, Rhetoric, and the Postcolonial*, edited by Gary A. Olson and Lynn Worsham. Albany: State University of New York Press, 1999.

Dumit, Joseph. *Drugs for Life: How Pharmaceutical Companies Define Our Health*. Durham, NC: Duke University Press, 2012.

Duran-Reynals, Marie Louise de Ayala. *The Fever Bark Tree: The Pageant of Quinine*. London: W. H. Allen, 1947.

Dutt, Srikant. "Migration and Development: The Nepalese in Northeast." *Economic and Political Weekly* 16, no. 24 (1981): 1053–55.

Edensor, Tim. "The Ghosts of Industrial Ruins: Ordering and Disordering Memory in Excessive Space." *Environment and Planning D: Society and Space* 23, no. 6 (2005): 829–49.

———. "Sensing the Ruin." *The Senses and Society* 2, no. 2 (2007): 217–32.

———. "Waste Matter—the Debris of Industrial Ruins and the Disordering of the Material World." *Journal of Material Culture* 10, no. 3 (2005): 311–32.

Elden, Stuart. *The Birth of Territory*. Chicago: University of Chicago Press, 2013.

———. "Land, Terrain, Territory." *Progress in Human Geography* 34, no. 6 (2010): 799–817.

Engels, Friedrich. *The Origin of the Family, Private Property and the State* (1884). London: Penguin Classics, 2010.

Evenden, Matthew. "Aluminum, Commodity Chains, and the Environmental History of the Second World War." *Environmental History* 16, no. 1 (2011): 69–93.

Fabian, Johannes. *Time and the Other: How Anthropology Makes Its Object*. New York: Columbia University Press, 1983.

Fanon, Frantz. *A Dying Colonialism*. New York: Grove/Atlantic, 1994.

Finkelstein, Maura. *The Archive of Loss: Lively Ruination in Mill Land Mumbai*. Durham, NC: Duke University Press, 2019.

———. "Landscapes of Invisibility: Anachronistic Subjects and Allochronous Spaces in Mill Land Mumbai." *City & Society* 27, no. 3 (2015): 250–71.

Foucault, Michel. *The Birth of Biopolitics: Lectures at the Collège de France 1978–9*. New York: Palgrave, 2008.

———. *Power/Knowledge*. New York: Pantheon Books, 1980.

Freeman, Elizabeth. *Time Binds: Queer Temporalities, Queer Histories*. Durham, NC: Duke University Press, 2010.

Freinkel, Susan. *Plastic: A Toxic Love Story*. Boston: Houghton Mifflin Harcourt, 2011.

Geertz, Clifford. *The Interpretation of Cultures*. New York: Basic Books, 1973.

Ghosh, Amitav. *The Nutmeg's Curse: Parables for a Planet in Crisis*. Chicago: University of Chicago Press, 2021.

Ghosh, Ratan, and K. Nagaraj. 1978. "Land Reforms in West Bengal." *Social Scientist* 6, no. 6–7 (1978): 50–67.

González García, Mónica. "Walter Mignolo: Towards a Decolonial Horizon of Pluriversality: A Dialogue with Walter Mignolo on and around the Idea of Latin America." *Lucero* 17, no. 1 (2006): 38–55.

Gordillo, Gastón. "Terrain as Insurgent Weapon: An Affective Geometry of Warfare in the Mountains of Afghanistan." *Political Geography* 64 (2018): 53–62.

Goss, Andrew. "Building the World's Supply of Quinine: Dutch Colonialism and the Origins of a Global Pharmaceutical Industry." *Endeavour* 38, no. 1 (2014): 8–18.

Govindrajan, Radhika. *Animal Intimacies: Interspecies Relatedness in India's Central Himalayas*. Chicago: University of Chicago Press, 2018.

Grosse, Maximillian, Natlia Ruetalo, Ramona Businger, Sascha Rheber, Christian Setz, Pia Rauch, Janina Auth, Ekkehard Brysch, Michael. Schindler, and Ulrich Schubert, "Evidence That Quinine Exhibits Antiviral Activity against SARS-CoV-2 Infection In Vitro." 2020. https://www.preprints.org/manuscript/202007.0102/v1.

Günel, Gökçe, Saiba Varma, and Chika Watanabe. "A Manifesto for Patchwork Ethnography." *Society for Cultural Anthropology, Fieldsights* (2020). https://culanth.org/fieldsights/a-manifesto-for-patchwork-ethnography. Accessed October 6, 2022.

Gupta, Akhil. "The Future in Ruins: Thoughts on the Temporality of Infrastructure." In *The Promise of Infrastructure*, edited by Nikhil Anand, Akhil Gupta, and Hannah Appel, 62–79. Durham, NC: Duke University Press, 2018.

Haraway, Donna J. *When Species Meet*. Minneapolis: University of Minnesota Press, 2007.

Haraway, Donna J., and Anna L. Tsing. "Reflections on the Plantationocene: A Conversation with Donna Haraway and Anna Tsing." Interview by Gregg Mitman, The Plantationocene Series, Edge Effects, April 18, 2019. https://edgeeffects.net/haraway-tsing-plantationocene/.

Hartigan, John. *Care of the Species: Races of Corn and the Science of Plant Biodiversity*. Minneapolis: University of Minnesota Press, 2017.

Headrick, Daniel. *The Tools of Empire: Technology and European Imperialism in the 19th Century*. Oxford: Oxford University Press, 1981.

Hecht, Gabrielle. *Entangled Geographies: Empire and Technopolitics in the Global Cold War*. Cambridge, MA: MIT Press, 2011.

Hegel, Georg Wilhelm Friedrich. *Hegel: The Letters*. Translated by Clark Butler and Christiane Seiler. Bloomington: Indiana University Press, 1984.

———. *Introduction to the Philosophy of History*. Translated by Leo Rauch. Indianapolis: Hackett, 1988.

Heidegger, Martin. *Being and Time*. Translated by John Macquarrie. New York: Harper, 1962.

———. *Identity and Difference*. Translated by Joan Stambaugh. New York: Harper, 1974.

Hemingway, Ernest. *For Whom the Bell Tolls*. New York: Charles Scribner's Sons, 1940.

Hepburn, Michelle Hak. "On the Politics and Ethics of What-Comes-After: An Interview with Townsend Middleton." *Society for Cultural Anthropology*. https://culanth.org/fieldsights/on-the-politics-and-ethics-of-what-comes-after-an-interview-with-townsend-middleton. Accessed September 19, 2022.

Ho, Tzu-Chuan, Yung-Hsuan Wang, Yi-Ling Chen, Wan-Chi Tsai, Che-Hsin Lee, Kuo-Pin Chuang, Yi-Ming Arthur Chen, et al. "Chloroquine and Hydroxychloroquine: Efficacy in the Treatment of the COVID-19." *Pathogens* 10, no. 2 (2021): 217.

Hobhouse, Henry. *Seeds of Change: Six Plants That Transformed Mankind*. New York: Macmillan, 1999.

Hoffman, Danny. *Monrovia Modern: Urban Form and Political Imagination in Liberia*. Durham, NC: Duke University Press, 2017.

Honigsbaum, Mark. *The Fever Trail: In Search of the Cure for Malaria*. New York: Farrar, Straus & Giroux, 2001.

Hutt, Michael. "Being Nepali without Nepal: Reflection on a South Asian Diaspora." In *Nationalism and Ethnicity in a Hindu Kingdom*, edited by Joanna Pfaff-Czarnecka,

David N. Gellner, and John Whelpton, 101–44. Amsterdam: Harwood Academic Publishers, 1997.
———. “Going To Mugalan: Nepali Literary Representations of Migration to India and Bhutan.” *South Asia Research* 18, no. 2 (1998): 1022–39.
———. *Unbecoming Citizens: Culture, Nationhood, and the Flight of Refugees from Bhutan*. Oxford: Oxford University Press, 2005.
Ives, Sarah Fleming. *Steeped in Heritage: The Racial Politics of South African Rooibos Tea*. Durham, NC: Duke University Press, 2017.
Jacka, Jerry. *Alchemy in the Rain Forest: Politics, Ecology, and Resilience in a New Guinea Mining Area*. Durham, NC: Duke University Press, 2015.
Jegathesan, Mythri. “Black Feminist Plots before the Plantationocene and Anthropology’s ‘Regional Closets.’” *Feminist Anthropology* 2, no. 1 (2021): 78–93.
———. *Tea and Solidarity: Tamil Women and Work in Postwar Sri Lanka*. Seattle: University of Washington Press, 2019.
Kant, Immanuel. *Lectures on Ethics*. Edited by Peter Heath and J. W. Schneewind. Translated by Peter Heath. Cambridge: Cambridge University Press, 1997.
King, George. *A Manual of Cinchona Cultivation in India*. Calcutta: Office of the Superintendent of Government Printing, 1876.
King, Tiffany Lethabo. “The Labor of (Re)reading Plantation Landscapes Fungible(ly).” *Antipode* 48, no. 4 (2016): 1022–39.
Kinkela, David. *DDT and the American Century: Global Health, Environmental Politics, and the Pesticide That Changed the World*. Chapel Hill: University of North Carolina Press, 2011.
Kirksey, Eben. *The Multispecies Salon*. Durham, NC: Duke University Press, 2014.
Kirksey, Eben, and Stefan Helmreich. “The Emergence of Multispecies Ethnography.” *Cultural Anthropology* 25, no. 4 (2010): 545–76.
Klein, Ira. “Development and Death: Reinterpreting Malaria, Economics and Ecology in British India.” *Indian Economic and Social History Review* 38, no. 2 (2001): 147–79.
Kumari, R., A. Kumar, N. Dhingra, and S. N. Sharma. “Transition of Malaria Control to Malaria Elimination in India.” *Journal of Communicable Diseases* 54, no. 1 (2022): 124–40.
Lama, Mahendra P. *Gorkhaland Movement: Quest for an Identity*. Darjeeling: Department of Information and Cultural Affairs, Darjeeling Gorkha Hill Council, 1996.
Langston, Nancy. *Toxic Bodies: Hormone Disruptors and the Legacy of DES*. New Haven, CT: Yale University Press, 2010.
Latarissa, Irma Rahayu, Melisa Intan Barliana, Anna Meiliana, and Keri Lestari. “Potential of Quinine Sulfate for COVID-19 Treatment and Its Safety Profile.” *Clinical Pharmacology: Advances and Applications* 13 (2021): 225–34.
Latour, Bruno. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press, 2005.
Lepselter, Susan. “The Resonance of Captivity: Aliens and Conquest.” *HAU: Journal of Ethnographic Theory* 2, no. 2 (2012): 84–104.
Li, Tania Murray. *Land’s End: Capitalist Relations on an Indigenous Frontier*. Durham, NC: Duke University Press, 2014.
———. “The Price of Un/Freedom: Indonesia’s Colonial and Contemporary Plantation Labor Regimes.” *Comparative Studies in Society and History* 59, no. 2 (2017): 245–76.

———. "What Is Land? Assembling a Resource for Global Investment." *Transactions of the Institute of British Geographers* 39, no. 4 (2014): 589–602.

Li, Tania Murray, and Pujo Semedi. *Plantation Life: Corporate Occupation in Indonesia's Oil Palm Zone*. Durham, NC: Duke University Press, 2021.

Lyons, Kristina M. *Vital Decomposition: Soil Practitioners and Life Politics*. Durham, NC: Duke University Press, 2020.

MacPhee, Graham, and Prem Poddar. *Empire and After: Englishness in Postcolonial Perspective*. Oxford: Berghahn Books, 2007.

Malkki, Liisa. *Purity and Exile: Violence, Memory, and National Cosmology among Hutu Refugees in Tanzania*. Chicago: University of Chicago Press, 1995.

Markham, Clements. *Peruvian Bark: A Popular Account of the Introduction of Chinchona Cultivation into British India*. London: John Murray, 1880.

———. *Travels in Peru and India; While Superintending the Collection of Chinchona Plants and Seeds in South America, and Their Introduction into India*. London: John Murray, 1862.

Marx, Karl. "Economic and Philosophical Manuscripts of 1844." In *The Marx-Engels Reader*, edited by Robert Tucker, 66–125. New York: Norton, 1978.

———. "The Eighteenth Brumaire of Louis Bonaparte." In Karl Marx and Friedrich Engels, *Collected Works*, vol. 11: *Marx and Engels 1851–1853*. Moscow: Progress Publishers, 1979.

Mbembé, Achille. "Necropolitics." *Public Culture* 15, no. 1 (2003): 11–40.

Middleton, Townsend. "Anxious Belongings: Anxiety and the Politics of Belonging in Subnationalist Darjeeling." *American Anthropologist* 115, no. 4 (2013): 608–21.

———. "Becoming-After: The Lives and Politics of Quinine's Remains." *Cultural Anthropology* 36, no. 2 (2021): 282–311.

———. *The Demands of Recognition: State Anthropology and Ethnopolitics in Darjeeling*. Stanford, CA: Stanford University Press, 2015.

———. "Frontier 2.0: The Recursive Lives and Death of Cinchona in Darjeeling." In *Frontier Assemblages: The Emergent Politics of Resource Frontiers in Asia*, edited by Jason Cons and Michael Eilenberg, 195–212. Hoboken, NJ: John Wiley & Sons, 2019.

———. "Provincialising Bengal: The View from Darjeeling." *South Asia: Journal of South Asian Studies* 43, no. 1 (2020): 32–51.

———. "Unwritten Histories: Difference, Capital, and the Darjeeling Exception." In *Darjeeling Reconsidered: Histories, Politics, Environments*, edited by Townsend Middleton and Sara Shneiderman, 27–52. New Delhi: Oxford University Books, 2018.

Middleton, Townsend, and Sara Shneiderman, eds. *Darjeeling Reconsidered: Histories, Politics, Environments*. Oxford: Oxford University Press, 2018.

Mignolo, Walter D. "Epistemic Disobedience and the Decolonial Option: A Manifesto." *Transmodernity* 1, no. 2 (2011): 3–23.

Millar, Kathleen. "The Precarious Present: Wageless Labor and Disrupted Life in Rio de Janeiro, Brazil." *Cultural Anthropology* 29, no. 1 (February 3, 2014): 32–53.

Mintz, Sidney W. *Sweetness and Power: The Place of Sugar in Modern History*. New York: Penguin, 1986.

Mishra, Deepa, and Pradeep Nayak, eds. *Land and Livelihoods in Neoliberal India*. Singapore: Palgrave Macmillan/Spring Nature, 2020.

Mitchell, Timothy. *Carbon Democracy: Political Power in the Age of Oil*. New York: Verso Books, 2011.

———. *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: University of California Press, 2002.

Mitman, Gregg, Michelle Murphy, and Christopher Sellers, et al. "Landscapes of Exposure: Knowledge and Illness in Modern Environments." *Osiris* 19, no. 1 (2004): 1–17.

Moore, L. B. "Reading Tea Leaves: The Impact of Mainstreaming Fair Trade." *Working Papers Series*, no. 10: 106. Development Studies Institute, London School of Economics, 2010.

Moran-Thomas, Amy. *Traveling with Sugar: Chronicles of a Global Epidemic*. Berkeley: University of California Press, 2019.

Morris, Rosalind C. "The Miner's Ear." *Transition*, no. 98 (2008): 96–115.

Mukharji, Projit Bihari. "Parachemistries: Colonial Chemopolitics in a Zone of Contest." *History of Science* 54, no. 4 (2016): 362–82.

Mukherjee, Abhijit. "Natural Science in Colonial Context: The Calcutta Botanic Garden and the Agri-Horticultural Society of India, 1787–1870." PhD dissertation, Jadavpur University, 1996.

———. "The Peruvian Bark Revisited: A Critique of British Cinchona Policy in Colonial India." *Bengal Past and Present 117* (1998): 81–102.

Murphy, Michelle. "Alterlife and Decolonial Chemical Relations." *Cultural Anthropology* 32, no. 4 (2017): 494–503.

Musgrave, Toby, and Will Musgrave. *An Empire of Plants: People and Plants That Changed the World*. London: Sterling Publishers, 2000.

Myers, Natasha. "From the Anthropocene to the Planthroposcene: Designing Gardens for Plant/People Involution." *History and Anthropology* 28, no. 3 (2017): 297–301.

Nading, Alex. *Mosquito Trails: Ecology, Health, and the Politics of Entanglement*. Berkeley: University of California Press, 2014.

Nair, Kodoth Prabhakaran. *Tree Crops: Harvesting Cash from the World's Important Cash Crops*. Cham, Switzerland: Springer, 2021.

Nandy, Ashis. "History's Forgotten Doubles." *History and Theory* 34, no. 2 (1995): 44–66.

Nareau, Lauren. "Thriving in Ruins: Marabú and Its Entanglement with Cuba's Colonial Past." PhD dissertation, University of North Carolina at Chapel Hill, 2020.

Nayak, Pradeep. *Land Reforms to Land Titling: Emerging Paradigms of Land Governance in India*. New Delhi: Sage, 2021.

Nomura, Kōya, and Annmaria Shimabuku. "Undying Colonialism: A Case Study of the Japanese Colonizer." *CR: The New Centennial Review* 12, no. 1 (2012): 93–116.

Ong, Aihwa, and Stephen J. Collier. *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Malden, MA: Blackwell, 2005.

Ortiz-Crespo, Fernando Ignacio. *La corteza del arbol sin nombre*. Quito: Fundación Fernando Ortiz-Crespo, 2002.

Packard, Randall. *The Making of a Tropical Disease: A Short History of Malaria*. Baltimore: Johns Hopkins University Press, 2007.

Petryna, Adriana. *Horizon Work: At the Edges of Knowledge in an Age of Runaway Climate Change*. Princeton, NJ: Princeton University Press, 2022.

———. "Wildfires at the Edge of Science: Horizoning Work amid Runaway Change." *Cultural Anthropology* 33, no. 4 (2018): 570–95.

Plumwood, Val. "Shadow Places and the Politics of Dwelling." *Australian Humanities Review* 44, no. 2 (2008): 139–50.

Pollan, Michael. *The Botany of Desire: A Plant's-Eye View of the World*. New York: Random House, 2001.

———. *Caffeine: How Caffeine Created the Modern World*. Audible Originals, 2020.

https://www.audible.com/pd/CaffeineAudiobook/B083MVZ91Y?source_code=ORGGB156122118002U. Accessed October 6, 2022.

Povinelli, Elizabeth. *Economies of Abandonment: Social Belonging and Endurance in Late Liberalism*. Durham, NC: Duke University Press, 2011.

———. "The Social Projects of Late Liberalism." *Dialogues in Human Geography* 3, no. 2 (2013): 236–39.

Redfield, Peter. "Doctors, Borders, and Life in Crisis." *Cultural Anthropology* 20, no. 3 (2005): 328–61.

Reis, Gilmar, Eduardo Augusto dos Santos Moreira Silva, Daniela Carla Medeiros Silva, Lehana Thabane, Gurmit Singh, Jay J. H. Park, and Jamie I. Forrest et al. "Effect of Early Treatment with Hydroxychloroquine or Lopinavir and Ritonavir on Risk of Hospitalization among Patients with COVID-19." *JAMA Network Open* 4, no. 4 (2021): e216468–e216468.

Roberts, Elizabeth. "What Gets Inside: Violent Entanglements and Toxic Boundaries in Mexico City." *Cultural Anthropology* 32, no. 4 (2017): 592–619.

Roberts, Lissa. "Exploring Global History through the Lens of History of Chemistry: Materials, Identities and Governance." *History of Science* 54, no. 4 (2016): 335–61.

Roberts, Lissa, and Simon Werrett. *Compound Histories: Materials, Governance and Production, 1760–1840*. Amsterdam: Brill, 2017.

Rocco, Fiammetta. *The Miraculous Fever-Tree: Malaria, Medicine and the Cure That Changed the World*. London: HarperCollins, 2004.

Roersch van der Hoogte, Arjo, and Toine Pieters. "Science in the Service of Colonial Agro-Industrialism: The Case of Cinchona Cultivation in the Dutch and British East Indies, 1852–1900." *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 47 (September 1, 2014): 12–22.

Rogers, Adam. "The Strange and Twisted Tale of Hydroxychloroquine." *Wired*, November 11, 2020. https://www.wired.com/story/hydroxychloroquine-covid-19-strange-twisted-tale/. Accessed October 1, 2022.

Roosth, Sophia. *Synthetic: How Life Got Made*. Chicago: University of Chicago Press, 2017.

Rose, Nikolas. "Molecular Biopolitics, Somatic Ethics and the Spirit of Biocapital." *Social Theory & Health* 5, no. 1 (2007): 3–29.

Samanta, Amiya. *Gorkhaland Movement: A Study in Ethnic Separatism*. New Delhi: A. P. H. Publishing Corporation, 2000.

Schaepmeester, Hannelore De. "Trees against Malaria: Alkaloid Concentrations and Management of Cinchona Trees in Peru and the DR Congo." Master's thesis, Ghent University, 2021.

Scott, James. *Weapons of the Weak: Everyday Forms of Peasant Resistance*. New Haven, CT: Yale University Press, 1985.

Sen, Debarati. *Everyday Sustainability: Gender Justice and Fair Trade Tea in Darjeeling*. Albany: State University of New York Press, 2017.

Sethi, Manpreet. "Land Reform in India: Issues and Challenges." In *Promised Land: Competing Visions of Agrarian Reform*, edited by Peter Rosset, Raj Patel, and Michael Courville, 73–94. Oakland, CA: First Read Books, 2006.

Shapiro, Nicholas. “Attuning to the Chemosphere: Domestic Formaldehyde, Bodily Reasoning, and the Chemical Sublime.” *Cultural Anthropology* 30, no. 3 (2015): 368–93.

Shapiro, Nicholas, and Eben Kirksey. “Chemo-Ethnography: An Introduction.” *Cultural Anthropology* 32, no. 4 (2017): 481–93.

Sharma, Jayeeta. “Producing Himalayan Darjeeling: Mobile People and Mountain Encounters.” *HIMALAYA: Journal of the Association for Nepal and Himalayan Studies* 35, no. 2 (2016): 87–101.

———. “A Space That Has Been Laboured On: Mobile Lives and Transcultural Circulation around Darjeeling and the Eastern Himalayas.” *Journal of Transcultural Studies* 7, no. 1 (2016): 54–85.

Sharma, Sarah. *In the Meantime: Temporality and Cultural Politics*. Durham, NC: Duke University Press, 2014.

Sharpe, Christina. *In the Wake: On Blackness and Being*. Durham, NC: Duke University Press, 2016.

Shneiderman, Sara. *Rituals of Ethnicity: Thangmi Identities between Nepal and India*. Philadelphia: University of Pennsylvania Press, 2015.

Shneiderman, Sara, and Townsend Middleton. “Reconsidering Darjeeling.” In *Darjeeling Reconsidered: Histories, Politics, Environments*, edited by Townsend Middleton and Sara Shneiderman, 1–26. New Delhi: Oxford University Books, 2018.

Simmel, Georg. “The Ruin.” *Hudson Review* 11, no. 3 (1958): 79–85.

Slater, Leo Barney. *War and Disease: Biomedical Research on Malaria in the Twentieth Century*. New Brunswick, NJ: Rutgers University Press, 2009.

Smith, Adam. *The Wealth of Nations* (1776). Hampshire: Harriman House, 2007.

Stoler, Ann Laura. *Duress: Imperial Durabilities in Our Times*. Durham, NC: Duke University Press, 2016.

———, ed. *Imperial Debris: On Ruins and Ruination*. Durham: Duke University Press, 2013.

———. “Imperial Debris: Reflections on Ruin and Ruination.” *Cultural Anthropology* 23, no. 2 (2008): 191–219.

Subba, G. C. “Cinchona Plantation—Its Contribution to Hill Economy.” In *Discursive Hills: Studies in History, Polity, and Economy*, edited by P. J. Victor, Prabhat Pradhan, Devika Lama, and Aniruddha Das, 242–46. Darjeeling: St. Joseph’s College, 2007.

Subba, Tanka. *Dynamics of a Hill Society: The Nepalis in Darjeeling and Sikkim Himalayas*. Delhi: Mittal Publishers, 1989.

———. *Ethnicity, State, and Development: A Case Study of the Gorkhaland Movement in Darjeeling*. New Delhi: Vikas Publishing House, 1992.

———. “The Last Word So Far . . . ” In *Indian Nepalis: Issues and Perspectives*, edited by D. R. Nepal, G. S. Nepal, A. C. Sinha, and T. B. Subba, 283–93. New Delhi: Concept Publishing, 2009.

Subba, Tanka, and A. C. Sinha, eds. *The Nepalis in Northeast India*. New Delhi: Indus, 2003.

Sundar Rajan, Kaushik. *Pharmacracy: Value, Politics, and Knowledge in Global Biomedicine*. Durham, NC: Duke University Press, 2017.

Thapa, Tapasya. “Being and Belonging: A Study of Indian Nepalis.” In *Indian Nepalis: New Perspectives*, edited by D. R. Nepal, G. S. Nepal, A. C. Sinha, and T. B. Subba, 95–108. New Delhi: Concept Publishing House, 2009.

Thomas, Deborah. *Political Life in the Wake of the Plantation: Sovereignty, Witnessing, Repair*. Durham, NC: Duke University Press, 2019.

Tsing, Anna Lowenhaupt. "Blasted Landscapes (and the Gentle Arts of Mushroom Picking)." In *The Multispecies Salon*, 87–110. Durham, NC: Duke University Press, 2014.

———. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton, NJ: Princeton University Press, 2015.

———. "Natural Resources and Capitalist Frontiers." *Economic and Political Weekly* 38, no. 48 (2003): 5100–5106.

Van Schendel, Willem. *Illicit Flows and Criminal Things: States, Borders, and the Other Side of Globalization*. Bloomington: Indiana University Press, 2006.

Veale, Lucy. "An Historical Geography of the Nilgiri Cinchona Plantations, 1860–1900." PhD dissertation, University of Nottingham, 2010.

Von Hippel, Frank. *The Chemical Age: How Chemists Fought Famine and Disease, Killed Millions, and Changed Our Relationship with the Earth*. Chicago: University of Chicago Press, 2020.

Walker, Kim, and Mark Nesbitt. *Just the Tonic: A Natural History of Tonic Water*. London: Royal Botanic Gardens, Kew, 2020.

Walley, Christine. *Exit Zero: Family and Class in Postindustrial Chicago*. Chicago: University of Chicago Press, 2013.

Warner, Catherine. "Flighty Subjects: Sovereignty, Shifting Cultivators, and the State in Darjeeling, 1830–1856." *Journal of the Association for Nepal and Himalayan Studies* 34, no. 1 (2014): 8.

———. "Shifting States: Mobile Subjects, Markets, and Sovereignty in the India-Nepal Borderland, 1780–1930." PhD dissertation, University of Washington, 2014.

Webb, James. *Humanity's Burden: A Global History of Malaria*. Cambridge: Cambridge University Press, 2009.

Weber, Max. *The Protestant Ethic and the Spirit of Capitalism*. Translated by Talcott Parsons. London: Routledge, 1930.

Weston, Kath. *Animate Planet: Making Visceral Sense of Living in a High-Tech Ecologically Damaged World*. Durham, NC: Duke University Press, 2017.

Willford, Andrew. *Tamils and the Haunting of Justice: History and Recognition in Malaysia's Plantations*. Honolulu: University of Hawaii Press, 2014.

Wright, Kate. "Becoming-With." *Environmental Humanities* 5, no. 1 (2014): 277–81.

Wynter, Sylvia. "Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, after Man, Its Overrepresentation—An Argument." *CR: The New Centennial Review* 3, no. 3 (2003): 257–337.

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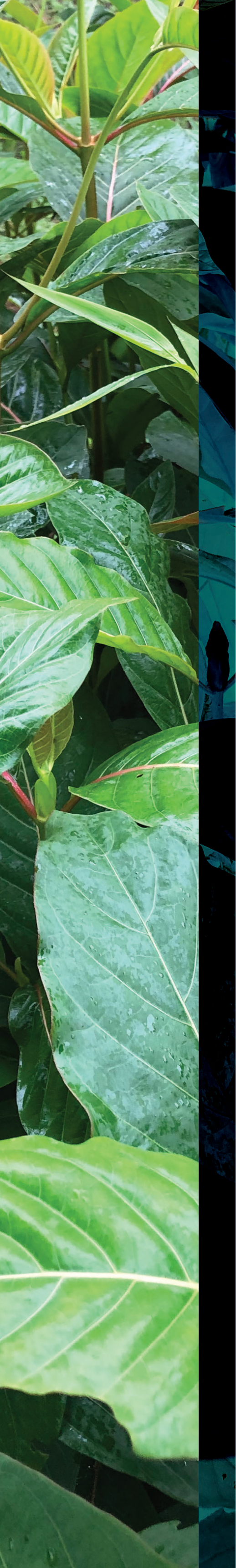

What happens after colonial industries have run their course—after the factory closes and the fields go fallow? Set in the cinchona plantations of India's Darjeeling Hills, *Quinine's Remains* chronicles the history and aftermaths of quinine. Harvested from cinchona bark, quinine was malaria's only remedy until the twentieth-century advent of synthetic drugs, and it was vital to the British Empire. Today, the cinchona plantations—and the roughly fifty thousand people who call them home—remain. Their futures, however, are unclear. The Indian government has threatened to privatize or shut down this seemingly obsolete and crumbling industry, but the plantation community, led by strident trade unions, has successfully resisted. Overgrown cinchona fields and shuttered quinine factories may appear the stuff of postcolonial and postindustrial ruination, but quinine's remains are not dead. Rather, they have become the site of urgent efforts to redefine land and life for the twenty-first century. *Quinine's Remains* offers a vivid historical and ethnographic portrait of what it means to forge life after empire.

"Written in a deeply engaging and accessible style, this path-breaking book explores the world of plantation laborers, whose voices are either hidden or silenced in scholarly literature on economic botany."—ROHAN DEB ROY, author of *Malarial Subjects*

"Accounts of science and empire describe the centrality of cinchona to the colonial project in India, but we know little about what came after. *Quinine's Remains* is an ethnographically rich and thoroughly readable story of what it means to live in the wake of medical innovation on contemporary cinchona plantations."—SARAH BESKY, author of *Tasting Qualities*

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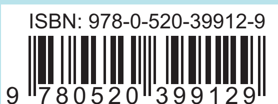

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