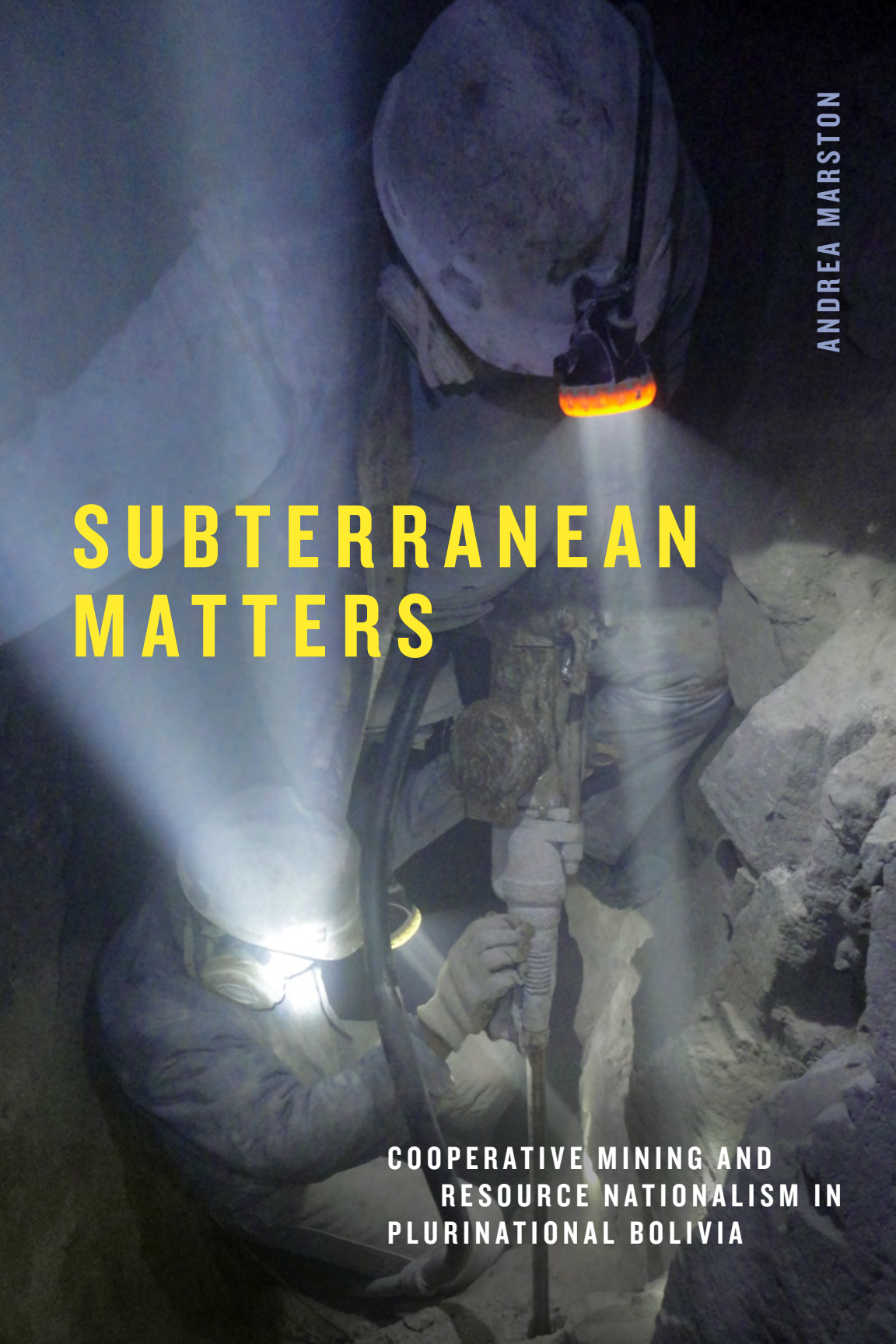

SUBTERRANEAN MATTERS

COOPERATIVE MINING AND RESOURCE NATIONALISM IN PLURINATIONAL BOLIVIA

ANDREA MARSTON

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Stacy Alaimo and Nicole Starosielski

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Cover art: Cooperative miners working underground. Llallagua, Bolivia, 2017. Photo by the author.

For all my families

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Abbreviation	Spanish	English
CEDLA	Centro de Estudios para el Desarrollo Laboral y Agrario	Research Center for Labor and Agrarian Development
CIDOB	Confederación de Pueblos Indígenas de Bolivia	Confederation of Indigenous Peoples of Bolivia
COB	Central Obrera Boliviana	Bolivian Workers' Central
COMIBOL	Corporación Minera de Bolivia	Mining Corporation of Bolivia
CONAMAQ	Consejo Nacional de Ayllus y Markas del Qullasuyu	National Council of Ayllus and Markas of Qullasuyu
CPE	Constitución Política del Estado	Political Constitution of the State
CSUTCB	Confederación Sindical Única de Trabajadores Campesinos de Bolivia	Unified Syndical Confederation of Peasant Workers of Bolivia
DENAGEO	Departamento Nacional de Geología	National Department of Geology
DS	Decreto Supremo	Supreme Decree
FENCOMIN	Federación Nacional de Cooperativas Mineras de Bolivia	National Federation of Mining Cooperatives of Bolivia
FERECOMINORPO	Federación Regional de Cooperativas Mineras del Norte de Potosí	Regional Federation of Mining Cooperatives of Northern Potosí
FONDIOC	Fondo de Desarrollo para los Pueblos Indígenas Originarios y Comunidades Campesinas	Fund for the Development of Original Indigenous Peoples and Peasant Communities

Abbreviation	Spanish	English
FPS	Formación Política Sindical	Political Syndicalist Formation
FSTMB	Federación Sindical de Trabajadores Mineros de Bolivia	Syndical Federation of Mine Workers of Bolivia
GEOBOL	Servicio Geológico de Bolivia	Geological Service of Bolivia
IDH	Impuesto Directo a los Hidrocarburos	Direct Tax on Hydrocarbons
ISI		import substitution industrialization
ITC		International Tin Committee
MAS	Movimiento al Socialismo	Movement toward Socialism
MNR	Movimiento Nacional Revolucionario	National Revolutionary Movement
NGO		nongovernmental organization
SERGEOMIN	Servicio Nacional de Geología y Minería	National Geology and Mining Service
THOA	Taller de Historia Oral Andina	Andean Oral History Workshop
TIPNIS	Territorio Indígena y Parque Nacional Isiboro Sécure	Isiboro Secure Indigenous Territory and National Park
UNSXX	Universidad Nacional Siglo XX	National University "Siglo XX" (Twentieth Century)

In March 2016 I rested on a park bench in Sopocachi, a trendy neighborhood of La Paz known for its upscale cafés, bars, and urban activists. I opened a book I had just purchased: the first of five volumes of *Historia del movimiento obrero boliviano 1933–1952* (History of the Bolivian workers' movement, 1933–1952; 1980), by Guillermo Lora, a Trotskyist historian who came of age in the Bolivian tin belt in the 1940s. Several academic acquaintances had made it clear that his books were required reading for anyone hoping to study mining in Bolivia, and I was pleased to have finally found the whole series tucked away in an alley of book vendors.

I had read less than two pages, however, before the man on the bench next to me grew curious about why a gringa was reading Bolivian labor history. One of the older middle-class *paceños* (people from La Paz) who visit the park every afternoon to warm themselves in the high-altitude sun, this man had a distinctly grandfatherly presence. He leaned forward as he spoke, eager to tell me that his father had been an engineer in the tin mines and that he himself had been radicalized listening to union leaders' speeches as a young man. He asked me if I, too, was learning from the miners' unions. I smiled as I shook my head, explaining that although I was interested in the workers' movement, the focus of my research was the *cooperativas mineras* (mining cooperatives). These collectives of small-scale, independent miners not only incorporated far more members than the miners' unions but also seemed to have an outsized impact on Bolivia's political landscape. I wanted to understand how mining cooperatives had acquired this power, as well as their broader role within Bolivia's extractive economy.

As I spoke, the change on the man's face was dramatic. He leaned away, the edges of his mustache bristling. "Why would you want to study those *cabrones* [assholes]?" he hissed. "They're not really cooperatives, you know. They're thieves—they take what belongs to everyone. They are

thieves of *patria* [nation]." He rotated his whole body away, suddenly very interested in the flocking pigeons, and refused to engage me further.

Although the vehemence of this exchange was unusual, interactions of this variety happened to me all the time. By and large, Bolivians are not very fond of cooperative miners. The reasons for this are mixed, but the themes of greed and theft are recurrent. Despite the collectivism implied by their name, cooperative miners have a reputation for extreme individualism. This notoriety derives in part from how they operate internally. Although mining cooperatives have collective mining contracts, they labor alone or in small groups, rarely sharing profits or supplies across the whole cooperative. But their reputation also derives from their relationship to the nation-state, as mediated by the subterranean. The mineralized resources that mining cooperatives exploit are technically the property of all Bolivians, held in trust by the state. Not only do *cooperativistas* (cooperative miners) wrangle personal wealth from the earth, but, because they are legally considered not-for-profit organizations, they are exempt from paying income tax. Finally, the general sense that cooperative miners are quietly skimming from a shared inheritance is exacerbated by accounts of their historical origins, in which mining cooperatives are framed as reactionary groups that emerged in the 1980s from the neoliberalized ashes of the country's once famously progressive miners' unions. From the perspective of most left-leaning Bolivians, mining cooperatives were created by neoliberal policies and remain the purest expression of neoliberal capitalism: selfish, unregulated, and insatiable.

This framing, however, does not align neatly with cooperative miners' actions on the national political stage. Despite being figured as politically reactionary, mining cooperatives were in many ways central to the rise of the left-leaning president Evo Morales, as they are quick to remind anyone who asks. Evo, as he is fondly known by most Bolivians, held power from 2006 to 2019. Not only was he the country's first Indigenous-identifying president, but he is also credited with ushering in a new era of leftist nationalism in Bolivia. With the introduction of a landmark constitution in 2009, the Republic of Bolivia was transformed into the Plurinational State of Bolivia, a seemingly nominal change that nevertheless shook the liberal equation of one (singular) state with one (singular) nation. Although the demand for plurinationalism arose within Indigenous nations and federations, and although Evo's election was hailed internationally as a victory for Indigenous peoples, coopera-

tive miners and other less clearly progressive segments of society also actively participated in both his electoral campaign and the constitutional assembly that he subsequently organized. Because of their contributions, mining cooperatives are now constitutionally recognized as "productive actors" in the mining sector, alongside state-owned and private mining companies. Cooperative miners joined Evo's party, the MAS (Movimiento al Socialismo; Movement toward Socialism), in droves, and over the next thirteen years, they elected dozens of cooperative miners to serve as parliamentary deputies or senators on MAS tickets. From these vantage points, cooperative miners participated in drafting (and blocking) legislation that affects not only the mining sector but all aspects of society. At the time that I was reading Guillermo Lora in Sopocachi, cooperative miners remained among Evo's most ardent supporters.

What were these supposed "thieves of *patria*" doing in the heart of a leftist nation-building project? How did subterranean resources become such a defining feature of Bolivian nationhood, and how did the activity of mining become both nationalist and antinationalist? How were thieves of the subterranean imperative to the rise of Bolivia's leftist government, when they seemed to contradict the administration's insistence on economic redistribution and environmentally sustainable development? These questions had already been circling my brain for several years, but they seemed to congeal after this conversation on the park bench. They continued to guide my fieldwork for the subsequent year and a half, and they remain the overarching concerns of this book.

These questions are no less salient today than they were in 2016, despite the dramatic political changes that have since occurred in Bolivia and across Latin America. At that time, Latin America was at the height of what analysts frequently described as a "pink tide" or "new left" political shift. Since the early 2000s, Latin American countries had been electing administrations that embraced different sets of left-wing policies, often while retaining some elements of neoliberal "good governance" such as fiscal conservativism (hence a pink rather than red tide). In the spirit of critical encouragement, progressive scholars within and beyond Latin America set to work documenting continuities and ruptures between these new administrations and their broadly neoliberal predecessors, often pointing to Evo's Bolivia as the quintessential example of a new left government. This was the conversation I imagined myself joining when I conceived this project in 2012. As other scholars had observed, one of the primary challenges facing Latin America's leftist ad-

ministrations was how to unite the old left, which had been dominated by trade unionists prior to neoliberalization, and the multiple faces of the new left, such as Indigenous federations, urban social movements, and student associations. This dilemma seemed to manifest *within* the mining cooperatives, for whom both trade unionism and Indigenous political organizing—not to mention the adverse effects of neoliberal economics—figured large in collective memory and daily life. I expected that the specificities of their story would resonate with the challenges facing the Latin American left more broadly.

Since then, the political map of Latin America seems to have flipped twice. Although right-wing governments gained a brief regional hegemony, the pink tide appears newly emergent: in 2018 left-leaning Andrés Manuel López Obrador ended a long series of right-wing Mexican presidents; in 2021 former teacher and union leader Pedro Castillo became president of Peru; and in the watershed year 2022, former student leader Gabriel Boric took over the Chilean presidency, Gustavo Petro became Colombia's first left-wing president ever, and trade unionist Luiz Inácio Lula da Silva was reelected in Brazil, replacing notoriously reactionary Jair Bolsonaro. While the remarkable Evo Morales was ousted from office in 2019 and replaced by ultraright interim president Jeanine Áñez, his party returned to power in 2020, now under the leadership of President Luis Arce. In this context the challenges that faced the Latin American left in the early 2000s are once again at the forefront of much political debate. Moreover, the narrow margin of many leftist victories—not to mention the rapid rate of presidential turnover, with some countries flipping between reactionary and progressive poles with each successive election—underscores the need to attend to the continuities that stitch together apparently divergent political programs. How was the new left built on top of the sedimentary remains of previous eras, and what major fault lines appeared through this process?

Subterranean Matters suggests that a shared feature of left-wing and right-wing politics in Bolivia is a persistent commitment to nation and nationalism. A populist sentiment, nationalism is as readily articulated with progressive as reactionary politics, but it always involves drawing lines on a map and lines within a body politic. Such nationalist lines are conspicuous in right-wing policies such as scaled-back minority rights, tightened immigration policies, and infrastructure such as prisons and border walls, but they are equally at work in many leftist appeals to *pueblo* (people) and *patria* (nation). Nationalism is key to the story I tell

about Bolivia: a nationalism whose racial and gendered dimensions were folded into old left projects of the mid-twentieth century, a nationalism that went on to become the substratum on which new left formations developed in the early twenty-first century. As a bedrock, however, nationalism was never as stable as it appeared, and new movements erupted along old fissures. As exemplified by Bolivian mining cooperatives, the past can resurface in the present in ways that are neither identical to nor comprehensible apart from its historical conditions of possibility.

As the metaphors in the preceding paragraph suggest, the nation that I explore in this book is about more than people and land. I conceptualize the nation in three dimensions, extending deep into the geological layers beneath the soil, and I am attentive to the matters of which nationhood is composed. In addition to imagining the nation in three dimensions, this approach is driven by an attention to the interplay between nation and nature. While critical approaches to the study of nature and nation have tended to focus on living natures—flora and fauna—the nonliving subterranean has been an important site of sociocultural and political economic production in Bolivia. Silver, tin, and natural gas have been the literal and metaphorical bedrock of the nation for the past five hundred years, with promises of lithium mining now figuring large on the horizon. Each of these materials has emerged from the subsoil already entangled with distinct nation-building projects, each shaping and shaped by a new constellation of social inclusions and exclusions, typically drawn along raced and gendered lines. As historian Kevin Young (2017) has compellingly argued, modern Bolivian nationalism has always been a form of resource nationalism. Resources, I would add, are always socially marked; they are raced and gendered before they ever see the light of day.

My focus is on tin, a commodity extracted from metalliferous veins laced throughout the mountains between the city of Oruro and the northernmost provinces of Potosí. Although the history of the tin industry is often told in strictly economic terms, its emergence was concomitant with a new vision of nationhood, most often associated with the National Revolution of 1952. This revolution was led by unions of male mestizo miners, and the nation they imagined is not just remembered; it has also left material traces across the Bolivian landscape. In the tin mines, cooperative miners labor in the same hallowed/hollowed shafts that were once excavated by unionized tin miners. They contend daily with slag heaps, rusted machinery, and abandoned company build-

ings. As cooperative miners extract the remnants of a twentieth-century metal, their bodies, social organizations, and political desires are shaped by both the material qualities of the ore and the values instilled within.

The material history of nature is thus integral to a story of nationalism in Bolivia that, I argue, helps to explain the tensions embedded in the new left. Subterranean materials, some sparkly and some grimy, are ultimately as constitutive of plurinational Bolivia as its citizenry and administrative processes. In this book cooperative miners are guides to the subterranean and its connections to both national political economy and national cultural politics. From the underground encounter of worker and rock, the place where a miner can push a pick into a slim black line of tin ore, spirals a set of relations and memories that fundamentally shape the meaning of nation in Bolivia today. *Subterranean Matters* follows this spiral.

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If I retrace my steps, I believe the kernel of an idea for this book formed in conversation with Tom Perreault in 2011 in a café in Cochabamba, where I was working on an earlier research project. Thank you, Tom, for pointing me in this direction and for later introducing me to mining on the altiplano—a world unto itself! I owe similar thanks to Karen Bakker for the push that sent me to Bolivia in the first place. I learned of Karen's sudden passing while reviewing the final proofs of this manuscript, and was reminded that I owe a great deal to her tough but consistently supportive mentorship style. Her influence remains even as she is missed.

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The news hit like an electric shock, tearing through regularly scheduled programming across the media spectrum. In La Paz, a city accustomed to arranging its daily movements around parades, marches, and roadblocks, it is hard to generate a scandal worthy of more than a groan. But this was different. In August 2016 groups of small-scale miners known as *cooperativas mineras* (mining cooperatives) had erected a roadblock in Panduro, a town along a well-traveled highway between the cities of La Paz and Oruro. Several days into the roadblock, the situation had become violent. Everyone was glued to TV screens as grisly photos and videos began to surface on Twitter and Facebook, the images grainy and the voices barely audible.

The deputy minister of the interior, Rodolfo Illanes, was dead. Murdered. He had gone to the roadblock to negotiate its end, and his body was discovered in the wee hours of the morning of August 26, wrapped in a sheet and dumped on the side of the road. The cameras zoomed in on his face, bloody and swollen. A video filmed before his death showed him talking on a cell phone at the center of a dense ring of angry miners. He appeared to be begging the person on the other end of the line for help. Near the videographer, someone yelled, "A ver un palo, yo le voy a hacer gritar" (Get me a stick, I'm going to make him scream).[1] Later, the coroner announced that Illanes had indeed been tortured for six to seven hours before he was beaten to death, with the final blow delivered by a rock to the back of the head. Rumor had it that part of the torture had involved exploding dynamite near his ears. The picture of Illanes's car that appeared on Twitter revealed that it had similarly been burned with explosives, the tires completely melted off and the hood curled upward from the heat. Dynamite, the signature tool of the miners, was also their signature weapon.

The events that had provoked this protest were complicated. Most news outlets, however, focused on just one facet of the story: cooperative

miners were angry about a proposed modification to the Ley General de Cooperativas (General Law of Cooperatives; Law 356, originally passed in 2013), which was slated to recognize the right to unionization for workers employed by all "cooperative societies." Mining cooperatives had a reputation for compensating their workers poorly, and journalists concluded that the miners were trying to defend their system of exploitation against the threat of unionization.

But this explanation raised more questions. Legally categorized as "productive cooperatives," the miners had never been allowed to hire third-party workers (except for administrative and technical support); it was the service cooperatives, which mostly provided water and phone connections, whose hiring practices were under scrutiny with the revised law. Despite not being targeted, however, cooperative miners had adopted the struggle as their own. They used it as a platform to release a ten-point *pliego* (list of demands), only one of which was related to the General Law of Cooperatives. The other demands included relaxed environmental standards, the extension of electrical lines to all mining cooperatives, and a modification to the Ley de Minería y Metalurgia (Law of Mining and Metallurgy; Law 535) that would allow mining cooperatives to partner with transnational mining corporations.[2]

Only with the release of this *pliego* did most Bolivians get an inkling of the depth of discontent that was brewing between mining cooperatives and the state under the leadership of leftist President Evo Morales, the country's first Indigenous-identifying president. By most accounts, Evo was wildly popular, and cooperative miners had long been among his most loyal constituents. What were supporters of Evo's celebrated "process of change" (*proceso de cambio*) doing murdering a member of his cabinet? Why did so many small-scale miners care about Evo's process of change to begin with?

GOING UNDERGROUND IN PLURINATIONAL BOLIVIA

The events just described took place while I was conducting research for this book, and they capture some of the political ambiguities that made the work so challenging. Although I had a lot of questions at the outset of my research, I was confident that I knew, at least, what mining cooperatives *were*. In preliminary conversations with Bolivian researchers and activists that began in 2011, mining cooperatives had been described to me as collectives of small-scale miners that were "cooperative

in name only," a phrase that my interlocutors used to emphasize how *cooperativistas* (cooperative miners) individualized both the risks and the profits of mining. While this kind of individualization is common among artisanal and small-scale miners worldwide—for instance, among the *galamseys* of Ghana and the *garimpeiros* of Brazil—the word *cooperative* typically suggests some kind of economic redistribution that, my interviewees assured me, could not be found within mining cooperatives.[3] From these conversations, I also learned that mining cooperatives at the time had a total estimated membership of around 122,000 nationwide, a figure that would likely quadruple if one included ancillary employees and dependent family members (Mamani 2018).[4] Finally, I understood the basic contours of their historical emergence. The number of cooperative miners had exploded in the 1980s and grown steadily thereafter, a pattern that aligned with the global spread of small-scale mining in the wake of both economic liberalization and technological changes that decreased demand for "unskilled" mining labor.[5] In Bolivia specifically, the rise of mining cooperatives was typically dated to 1985, when a suite of neoliberal policies resulted in the closure of the country's nationalized tin mines. Suddenly bereft of employers, cooperative miners seemed to embody the neoliberal ethos: they plundered their own mountains and gambled their own lives in the hopes of striking it lucky.

But the longer I worked with cooperative miners, the harder it became for me to clearly locate them in the political, economic, and historical landscape described in these early interviews. In fact, I was eventually convinced that *the* defining feature of cooperative miners is that they are difficult to categorize, at least in the categories typically used to understand Latin American politics. Many *cooperativistas* are descendants of unionized miners, but they do not ascribe to union organizing or the traditional left. Although many of them maintain strong ties with Indigenous communities, only some identify as Indigenous. They often spend part of their year doing agricultural work on family land and sometimes participate in campesino (peasant) unions, but they are far from subsistence farmers since mining necessitates participation in the market. They are sometimes classified as petit bourgeois entrepreneurs, but in practice most of them treat their underground mining sites as family plots rather than capital investments. Although they are often characterized as the personification of "savage neoliberalism," they align themselves with the anti-neoliberal social movements that culminated in Evo's election in 2005. At a general level, since they overlap with and influence col-

lectives that do not have any official ties to small-scale mining, it seemed increasingly untenable to me that they should be bracketed apart from the larger fields of Bolivian political and economic organizations. It is hard to understand mining cooperatives without understanding these other institutions—and vice versa.

From my outsider's perspective, cooperative miners' support for Evo seemed particularly counterintuitive. Evo, an Aymara speaker with a global reputation for environmental advocacy who enacted laws to protect Pachamama (Earth Mother) and who made radical speeches about climate change while wearing patterned knit sweaters, is far from an obvious presidential choice for a group of people economically dependent on nonrenewable resource extraction. Yet *cooperativistas* supported his administration for most of his time in office (January 2006–November 2019)—a fact that has been obscured within most existing accounts of Evo's presidency, which tend to emphasize the involvement of Indigenous and campesino federations, trade unionists, and urban informal (popular) workers. While they were never exactly the face of Evo's electorate, mining cooperatives nevertheless made up its raggedy extremities, the places where the rallying call for *el pueblo* (the people) was stretched the thinnest. Given the imperfect fit between cooperative miners' aspirations and Evo's political program, the conflict that resulted in Illanes's death becomes slightly clearer. The question of why cooperative miners supported Evo to begin with, however, remains murky.

In this book I contend that cooperative miners are emblematic of the tensions that characterized Evo's Bolivia and the Latin American left more generally. Evo's administration was the centerpiece of Latin America's "new left," a rising tide of left-leaning governments that ascended democratically to power across Latin America in the early 2000s. Evo epitomized the apparent novelty of the new left, as he appeared to embody a synthesis of working-class and Indigenous politics. This synthesis, however, was never free of contradiction, neither in Bolivia nor in other politically aligned countries (which included, in the late 2000s, Argentina, Brazil, Chile, Ecuador, Paraguay, Uruguay, and Venezuela). These contradictions often manifested within the mining cooperatives themselves, which were fickle allies of workers' unions, Indigenous federations, and urban guilds (*gremiales*). For this reason, I wager that the paths traced by cooperative miners can offer fresh insights into the constitution not only of the Bolivian left but also of the Latin American left more generally.

With cooperative miners as guides, *Subterranean Matters* argues that the tensions between the old left and the new left can be more adequately understood as a tension between competing senses of nationalism, all of which are entangled with the meanings and matters of the subterranean.[6] The word *patria* is important for understanding this entanglement. *Patria*, which can be literally translated as "fatherland," is used more frequently in Bolivia than its synonyms *país* (country) and *nación* (nation). Derived from the Latin word *pater* (father), *patria* suggests a claim of belonging, or congruence between national citizen and national land, which is inherited through patrilineal succession. A gendered vision of biological descent is thus equated to a territorialized collective identity. *Pater* is also the root word of *patrimonio* (patrimony), which in Bolivia is frequently used to discuss natural resources that supposedly belong to all citizens, constitutionally and discursively. If *patria* is the claim to territorial belonging, *patrimonio* is the territory's inherited wealth. The etymological entanglement of *patria* and *patrimonio* speaks to the conceptual entanglement of nation and nature, threaded together by traditions of masculine and racial inheritance as much as political machinations. The question of who belongs to *patria* is inextricable from the question of who has a right to make decisions about or benefit from its natural resources.

The natural resources that matter most in Bolivia, and in this book, are buried deep underground. Indeed, the subterranean is the main protagonist of this book, despite the many cooperative miners that fill its pages. In its simplest form, my central contention is that the meanings and matters of the subterranean are fundamentally constitutive of the nation and senses of nationalism in Bolivia. Although most theories of nationhood play out along the horizontal plane of land—often conjuring a primordial, rooted connection between people and soil—I insist that the rocky, infertile depths of the earth have subtended this national imaginary in multiple ways. The literal bedrock of the nation has been variously constructed as the sovereign realm of the state, as a shared inheritance, and as a collection of natural resources awaiting extraction. In these forms the subterranean has permitted the nation's political, economic, and sociocultural unity, even while remaining invisible to most Bolivians.

Questions of nation and subterranean nature were central topics of debate throughout Evo's time in office. When he first came to power, his administration seemed to reject not only neoliberal economics but also many aspects of liberal political theory, including assumptions about

the unity of the nation. In 2009 Evo ushered in a groundbreaking new constitution (the CPE: Constitución Política del Estado; Political Constitution of the State) that transformed the Republic of Bolivia into the Plurinational State of Bolivia. This change signaled a fundamentally reorganized relationship between the state and the many Indigenous, intercultural, and Afro-Bolivian communities whose traditional territories are crossed by Westphalian lines (CPE 2009, especially Articles 3 and 5; García Linera 2014).[7] A reorganized vision of nation was accompanied by a new approach to nature: Indigenous values, such as harmony and reciprocity, featured prominently in the constitution, and Indigenous conceptions of Pachamama formed a new centerpiece of environmental law. In international media outlets and many academic discussions, the consensus was that Evo's administration was enacting an Indigenous environmentalism that would be salutary not only for the country but also for the planet. While a few decades before anthropologist Orin Starn (1991) could critique Andean scholars for "missing the revolution" in Peru because they were too focused on cultural stasis, in the early 2000s Andeanists began flocking to Bolivia precisely to witness Indigenous revolutionary struggle.

As with most of the other new left administrations, however, Evo's ability to implement the social programming that Bolivia so desperately needed—universal health care, rural electrification, and social grants, among others—depended on resource rents. Evo's rise to power coincided with a commodity boom that was already triggering rapid growth in the country's mining and natural gas sectors. One of his first acts on being sworn in was to nationalize the natural gas sector. Although the extent to which this was a "true" nationalization can be debated, it enabled Evo's administration to harvest enough gas rents to lift millions of Bolivians out of poverty.[8] Between 2005 and 2012, Bolivia's extreme poverty rate dropped from 38.2 percent to 21.6 percent, a success that was acknowledged by even the world's most neoliberal institutions (International Monetary Fund 2014, 77).[9] Bolivia was not alone in this strategy: to greater and lesser extents, resource rents were used to finance pro-poor programs in Ecuador, Venezuela, Brazil, and Chile, among others. As Uruguayan sociologist Eduardo Gudynas (2009) influentially described it, the new Latin American left developed an economy based on "neo-extractivism," understood as state-led extraction used to benefit "the people" in ways that legitimated both the administrations and the extractive economy itself.[10]

But the steady expansion of extractive sectors, including not only natural gas but also minerals and industrial agricultural products like soybeans, raised the ire of more than a few of Evo's initial supporters, especially Indigenous federations and environmental advocates. In 2011 a massive conflict emerged after Evo announced plans to build a highway from the tropics of Cochabamba to the Brazilian border, slated to pass directly through lowland Indigenous territories and a national park called TIPNIS (Territorio Indígena y Parque Nacional Isiboro Sécure; Isiboro Secure Indigenous Territory and National Park).[11] After that, Bolivia's two major Indigenous federations—CONAMAQ from the highlands (Consejo Nacional de Ayllus y Markas del Qullasuyu; National Council of Ayllus and Markas of Qullasuyu) and CIDOB from the lowlands (Confederación de Pueblos Indígenas de Bolivia; Confederation of Indigenous Peoples of Bolivia)—publicly denounced the gap between Evo's discourse and action. The TIPNIS conflict was not an isolated incident, although it was an important flash point. Business had been booming for hydrocarbons, minerals, and agricultural products, encouraged by high prices and a supportive government. Indeed, the president who was supposed to represent the indigenization of the state became, in his later years in office, ironically popular among agribusiness owners in lowland Santa Cruz.[12]

These environmental conflicts presaged Evo's eventual downfall. In October 2019 Evo's fourth consecutive presidential victory was challenged by multiple groups citing voting irregularities and constitutional term limits. Protests turned violent, and leaders from across the political spectrum—including workers' unions, Indigenous federations, far-right coalitions, and the army—demanded that Evo resign. He complied, but so did the next four people in line for power. In the political vacuum that emerged, the little-known politician Jeanine Áñez, second vice president of the Senate and fifth in line for the presidency, assumed the presidency. Áñez belonged to an obscure right-wing party from the lowland department of Beni, and one of her first actions on gaining power was to "return" an enormous Bible to the presidential palace. With the support of Bolivia's traditional elites, particularly in the lowlands, Áñez stayed in office for just shy of one year (November 12, 2019–November 8, 2020). Although the elections of 2020 installed a former member of Evo's cabinet, Luis ("Lucho") Arce, an economist who promised to restart the "process of change" that Evo had set in motion, the Áñez administration had already dealt a serious blow to the Bolivian left.

The reactionary forces that seized power in 2019 did not manifest out of thin air. Instead, they articulated a particular vision of nation and nationalism that was—although by all accounts dormant during the Evo administration—always active just below the surface. I mean this metaphorically but also quite literally. Competing senses of nationalism in Bolivia, I argue, are spatialized along the vertical axis. Indeed, as I elaborate in chapter 1, the contemporary tension between Indigenous plurinationalism and nationalist extractivism is the most recent iteration of a much older tension between the politics of land and the politics of the subsoil in Bolivia. Since the colonial era, land has existed in the plural, meaning that it could be owned privately or collectively and was frequently imbued with place-specific meaning. Bolivia's subterranean depths, however, were produced as a national space and infused with meanings stemming from nineteenth- and twentieth-century nation-building projects. Regardless of the chaos on the surface, the subterranean was the bedrock on which successive iterations of nationhood established their legitimacy. Each wave of nation building has invested new hopes in the subterranean, but previous dreams remain sedimented below.

The subterranean has thus become an archive not only of geological histories but also of nationalist aspirations. Cooperative miners are boundary crossers, and not only in terms of the challenges associated with categorizing their economic or ethnic-racial identities: cooperative miners physically cross the boundary between soil and subsoil on a daily basis. In so doing, they expose the raw friction between these realms as much as their unexpected unity. Perhaps because of these transgressions, mining cooperatives were already a sore spot in the national imaginary long before they murdered Illanes in 2016. Going underground with cooperative miners is a way of seeing (and feeling and smelling) how earlier national imaginaries continue to impinge on the present.

SUBTERRANEAN MATTERS AND VERTICAL SPACES

Throughout this book I develop my analysis of mining cooperatives, nationalism, and the subterranean in conversation with Bolivian theorists. By "Bolivian theorists," I mean both Bolivian scholars, or those who have recorded their interpretations in written form, and the numerous organic intellectuals who shared their interpretations with me over coffees and beers, in buses and taxis, at home and at work. Even when I did

not fully agree with their analyses, I tried to build my arguments in conversation with theirs.

More often than might be expected in the US academy, this meant being in conversation with revolutionary lefts of various stripes: Marxism, Trotskyism, Gramscianism, and *lorismo*.[13] Latin America has a rich tradition of radical political economy, and this seems particularly true in Bolivia, where Marxian historical materialism has provided a powerful explanatory framework for understanding the long relationship between colonial extraction and imperial capitalism. This influence is not confined to universities, as Marxism and Trotskyism inform the framework used by regular citizens to evaluate the benefits and drawbacks of various economic programs. Studying mining in Bolivia means having a firm grasp on historical materialism; otherwise, interviews quickly devolve into remedial lessons for theoretically impoverished gringos. This happened to me frequently, even though I had already received (what I thought was) rigorous training in dialectical and historical materialisms. I can only imagine that it would have been harder to gain my interlocutors' approval without this prior experience.

At the most fundamental level, historical materialism describes a method of political-historical analysis that takes society's "material relations" as the agential motor of historical change. What counts as material relations, however, varies significantly across the literature. Basic invocations of historical materialism describe a dialectical relationship between workers and capitalists, in which capitalists own the means of production (resources, tools, land) and workers own only their own labor. Although they meet on structurally uneven footing, both capitalists and workers need one another: without workers, capitalists could not produce; without capitalists, workers would be unwaged. As workers come to understand both their collective plight and the power of collectively withheld labor, however, tensions mount that can only be resolved through revolutionary struggle.[14]

In this simple rendering, workers' anticapitalist struggles can sometimes appear to occur naturally because of the structural conditions of mutual dependence in which capitalists and workers coexist. This version of historical materialism is frequently critiqued for its blinkered focus on economic relations (to the exclusion of colonial, raced, gendered, sexual, and other forms of oppression) and for its adherence to a progressive sense of improvement over time, as inherited from European Enlightenment philosophies. But to describe historical materialism in

these terms alone does not do justice to the theory or its methodological entailments. A more nuanced approach—or one more faithful to Marxist philosophy—also explores how individuals and groups of people are themselves historical products, shaped in sensuous interaction with the world around them.[15] For Karl Marx, this formation happened, above all, through the labor process. As workers transformed natural resources into commodities, they were in turn transformed. Their bodies changed to accommodate the labor process, but even more than that, the labor process shaped their interpretations of the world and of their position within it. What emerged through this process, wrote Marx, was consciousness.[16] With this added layer, the materialism of historical materialism refers both to dialectical relations between workers and capitalists (i.e., between social forces) and to dialectical relations between workers and nature (socionatural forces).

Like historical materialist accounts, this book focuses on labor as a key site of encounter between human and nonhuman nature. I differ, however, in how I historicize both human and nonhuman natures. While the material conditions of labor have always been important for historical materialists, their understanding of materiality does not usually accord any historicity or productivity to nature in its own right. Although the worker might be a historical subject, the materials with which and in which workers labor have typically received short shrift. By contrast, I emphasize the historical excesses that established the conditions of possibility for such encounters. I call this a *material history* rather than historical materialism, since it stresses the material-discursive and place-specific history of the materials prior to their entry into political economic relations (Marston 2021). Material history involves starting with the places of encounter between apparently discrete objects—the matters of flesh, minerals, mines, land, waste, machines, and so on—and working backward to understand how they were constituted as such. In this book I show how bodies and rocks were mattered differently by colonial, geological, and technoscientific processes long before encountering one another in the workplace. Rocks and flesh have histories that exceed economics, and they bring these histories into their economic relations, which is necessarily transformational.

In writing this, I am drawing inspiration, if not whole conceptual frameworks, from a group of literatures frequently collapsed as "new materialities." New materialists conceive of matter not as a condensed site of social relations, as with Marx's commodity, but as politically

important in its own right and sometimes endowed with agential capabilities. This approach to matter disturbs Christian-Enlightenment theories of "the human" as defined by a movement out of (inert, material) nature and into (active, immaterial) consciousness, since matter itself is conceived as capable of effecting change (Bakker and Bridge 2006, 2021; Braun and Whatmore 2010). Instead of a dialectical theory of change, in which material social relations and an emerging consciousness of those relations resolve into a new (and ideally improved) set of social relations, new materialists often gravitate to theories of contingent entanglement. In this light, matter participates in the formation of emergent socionatural assemblages whose pasts and futures exceed any particular—or even any particular collection of—dialectical relations.

While this notion of historical and material excess is important to my analysis, one must tread carefully here. In privileging the material world over the immaterial, there is an inherent danger of slipping into positivist empiricism, which would involve assuming that what can be sensorially experienced is the same as what exists. As feminist science studies scholars have long emphasized, such sensorial experiences are necessarily subjective, as one's sense of the world is inseparable from one's position within it (Haraway 1988; Harding 1992). Even more, the ability to have and describe a sensorial experience (to represent it) is so intrinsically tied to humanist ontologies that it serves as an ironic tool in the posthumanist arsenal. Further, new materialist approaches run the risk of claiming an ontological "discovery" that, as Native American and Indigenous studies scholars have pointed out, is neither particularly new nor particularly comprehensive (TallBear 2017; Todd 2016). At their best, materialist approaches should be *more* politically attuned than their phenomenological counterparts, yet new materialists sometimes revel in European philosophy while ignoring that Indigenous metaphysics has long attended to relations that involve not only humans and nonhumans but also a variety of immaterial beings.

This does not mean, however, that new materialist approaches are always or necessarily politically limited. As Indigenous, Black, queer, feminist, and postcolonial scholars of nature and technoscience have shown, it *is* possible to avoid the twin traps of empiricism and smuggled humanism while examining the political constitution of race, gender, and sexuality through the animacies of everyday objects.[17] Instead of taking matter as the starting point of analysis, they historicize its emergence; instead of showing how matter shapes social relations, they explore com-

plex entanglements in which matter and meaning, as much as subject and object, are continuously unfolding. These are the new materialities from which I draw inspiration. If historical materialism traces *historical relations between humans*, and new materialities focus on *nonhuman things in the present*, what I am calling *material history* involves a place-based historicization of how the thing came to be thingified through both human and more-than-human relations. Nature is reincorporated into history, but it is also itself historicized.[18]

This last point is key to resisting the slide toward positivist empiricism. Matter is not a natural, preexisting surface overlain by social interpretations or cultural constructs; instead, matter can be understood as an effect of power, brought into being through the very categories that regulate it.[19] Neither tin nor tin miners, for example, preexist their encounters with one another. They come into being through a variety of knowledges and practices, none of which are *only* about tin or mining. Rather, the practices and knowledges of mining emerged in tandem with ideas about nature and nation. Supposedly apolitical production processes are always already suffused with nationalist ideals and exclusions. My focus is thus on how the material stuff of nature—particularly nature that is commodified as resource and labor—shapes and is shaped by not only economic processes but also those that temporally precede and geographically exceed economic relations. In the words of Bolivian scholar Fernando Molina (2011, 12), a resource "is considered by Bolivians to be more than a simple reality of determined physical characteristics, an input or primary material. In Bolivia it signifies 'something more'"—and this "something more" matters politically and economically. The meanings that are folded into political economic processes matter because they shape the distribution of risks and benefits. The locally specific ways that economic processes produce injustices cannot be explained by recourse to economics alone. Therefore, mine is not an attempt to create a perfect synthesis of historical materialism and new materialities so much as an effort to rethink the limits and silences of the former by using a selection of tools derived from the latter.

I am particularly interested in how raced and gendered differences—apparently social differences—are constituted through matters that are not only part of "nature" but also detrimental to human life: silica dust, noxious gases, refining chemicals. Throughout this book, but especially in chapters 3 and 4, I explore how human bodies and nonhuman natures are differentiated and hierarchically ordered in relationship to one an-

other, particularly (but not exclusively) in the labor process. This process of differentiation is fundamentally geographic: the production of uneven space is the production of uneven socionatural formations, and vice versa. In the stories I tell, this kind of differentiation plays out above- and belowground. The mine is teeming with a variety of social life: *perforistas*, who encounter the rock face with drills; *barreteros*, who use pickaxes to pry open new veins; geologists and their scouts, who mark the passage of veins with painted arrows; and mining engineers, who devise ways to prop up the rock that looms above them. This sociality is unevenly distributed across three-dimensional space, extending deep into the earth's crust, upward into slag heaps and concentration plants, and outward across downstream fields and urban areas. Forces both natural and social have stratified vertical and horizontal space; this space, in turn, stratifies the social collectives that emerge within it.

To understand these processes, I turn to recent studies of vertical and especially subterranean spaces. Since the discipline's Marxian turn, geographers have demonstrated how capitalism is necessarily uneven, as capital produces endless spatial differentiations, between (for example) town and country, Global North and Global South, industrial neighborhood and residential neighborhood, farmland and wilderness.[20] This line of inquiry has historically focused on processes taking place across the surface of the earth. Recently, however, a burgeoning literature is challenging geography's disciplinary "land bias" (Peters, Steinberg, and Stratford 2018, 2), including within geographic deployments of Marxian theory. Collectively described as constituting a "vertical" or "volumetric" turn, studies produced in this vein have gone in several different (literal) directions. Some scholars have focused on atmospheric space, examining high-rise construction, drone warfare, urban air quality, the politics of wind power, and even extraterrestrial mineral speculation.[21] Others have gone underwater by exploring the spatial dimensions of fisheries, deep-sea mining, and the construction of artificial islands.[22] But the vertical space that most interests me is that which extends beneath our feet. As a growing number of scholars have shown, the subterranean cannot be understood as a space apart; what happens belowground shapes and is shaped by socioenvironmental processes that play out across the surface of the earth. The production of subterranean space is a constitutive part of globally uneven development.

As a three-dimensional space, the subterranean has become a shared site of interest within several apparently distinct conversations. First,

political ecologists and environmental justice scholars are increasingly exploring how control over the subterranean figures in the uneven distribution of environmental resources and environmental hazards.[23] Second, political geographers and some heterodox political scientists have observed how strategies to "secure the subterranean" play out in struggles for territorial sovereignty, whether this involves surveilling for cross-border tunnels, monitoring volcanoes that might threaten existing borders, or producing detailed maps of geological formations found within national territories.[24] Third, cross-disciplinary interest in the Anthropocene has encouraged scholars to think about how the subterranean is at once an archive of deep planetary time and a repository of resources whose combustion has not only altered global climatic patterns but also shown up in the geological record as the (hotly contested) mark of a new geological era.[25] Finally, pushing back against the large-scale and sometimes-totalizing tendencies of the first three conversations, a fourth group of scholars is showing how the subterranean is always more than a repository of resources, an extension of sovereign power, or an archive of planetary change.[26] Instead, this final group shows how the subterranean is deeply meaningful within and beyond capitalist machinations and has long been integrated into human social worlds as sacred and recreational sites, life-giving aquifers, and domestic spaces, to give just a few examples.

I work across all the above conversations, but I focus on the second and fourth. I am interested in how the Bolivian subterranean was produced as national (state-owned) territory through histories of global colonialism, capitalism, and imperialism, but I am also interested in local experiences of laboring and living in this supposedly (but never fully) national space. The rocks and the people who meet at the site of labor are both the products of multiple histories, and these histories shape the uneven patterns that continue to unfold across three-dimensional space.

STRATA OF NATURE AND NATION

My goal in this book is to rethink contemporary senses of nationalism in relation to the matters and meanings of the subterranean. Such a goal implies rethinking historical origins: a material history of Bolivia must begin prior to the nation itself. While post- and decolonial scholars have long explored connections between colonialism and nationalism in Latin America, the histories charted in this section focus on the role of

nature—particularly the subterranean—in mediating this relationship in Bolivia.

In the early sixteenth century, present-day Bolivia was part of the Incan Empire, and the basic unit of government was the ayllu. Ayllus are territorialized communities with nested, rotational political systems and noncontiguous lands that anthropologist John Murra (1972) famously described as "vertical archipelagos."[27] Although they predate the Incan Empire, by the sixteenth century Andean ayllus had mostly been incorporated into a network of Incan tributaries, and their members were expected to provide labor to the Incan Empire for a set number of days per year. This obligation was called the *mit'a*—which means "turn" in Quechua, the lingua franca of the Incans—and those performing it were called *mitayos*. Among other obligations, *mitayos* labored in silver mines, the largest of which was Porco, a mine that remains operational today (Galeano [1973] 1997, 21).

When Spanish conquistadores climbed up from the Pacific coast into the Andes in the 1530s, they were looking for gold, but it did not take them long to settle for a slightly less precious metal. In the oft-recounted origin story of colonial silver mining, Quechua herder Diego Huallpa was warming himself by a fire on Sumaj Orcko (Beautiful Hill) of Potosí in 1544 when he noticed that the rocks under the embers were glittering with molten silver. It seems likely that most Quechua residents of the area were already aware of the mountain's riches—it was, after all, less than forty miles from the Porco mine—but, according to the story, it was Huallpa who brought the deposit to the Spaniards' attention (Bakewell 1984). Once aware of the wealth the mountain contained, the Spanish moved swiftly to extract and export silver from the place they renamed the Cerro Rico (Rich Hill).

At first, the Spanish relied heavily on Incan technologies and governance structures, adopting an indirect form of rule that focused on extracting tribute rather than reorganizing land and labor.[28] This colonial governance system changed when the yields from the Cerro Rico began to fall. The surface deposits had already been ransacked, and the mountain's internal ores were not as easy to access or to smelt. But in 1554 the Spanish merchant Bartolomé de Medina developed the "patio process," which used mercury amalgamation to separate silver metal from ore, and in 1563 a huge source of mercury was discovered in Huancavelica, which is located in present-day Peru. Responding to the labor needs of this new technique, in 1569 Viceroy Francisco Álvarez de Toledo an-

nounced his plan for *reducciones*, or resettlement programs, which forced dispersed Indigenous households across the Andes into concentrated communities where their labor could be more easily taxed. This labor was extracted under nearly the same name as in the Incan system—the *mita*—but it was used almost exclusively in the silver mines, and the conditions were appalling. At any given time, one-seventh of all adult males were expected to be working in the silver mines of Potosí; often their wives and families went with them. The inhuman working conditions resulted in the deaths of more than eight million people.[29] As a colonial territory, Bolivia was thus forged in a crucible of silver and blood, and both were rendered from Indigenous bodies.

Against a backdrop of widespread Indigenous and Afro-Latinx insurrections, Latin American countries began to claim independence from Spain in the late eighteenth and early nineteenth centuries.[30] With the notable exception of Haiti, however, Latin American–born descendants of Spanish colonizers, known as *criollos* (Creoles), claimed power in most of the new nation-states. In Alto Peru—as Bolivia was known in the colonial era—the rise of Creole nationalism threatened an arrangement that anthropologist Tristan Platt (1982) calls the "pact of reciprocity," in which Spanish colonizers had granted ayllus self-governance on collectively held lands in exchange for tribute to the Crown. In the colonial era, the division between Spanish and Indigenous peoples was spatial, juridical, and financial: there were two different legal codes and taxation systems that corresponded with separate places and peoples. When the Bolivian Creole elite won independence in 1825, they sought to overcome this "dual republics" system by dismantling Indigenous landholdings and creating rural land markets for large-scale agriculture, but they were met with widespread Indigenous resistance. The newly minted Bolivian state, moreover, was cash poor following the long independence war, and tax revenue provided by communal Indigenous landholdings was its prime source of income. The push to liberalize abated, and the dual republics model continued well into the twentieth century (Larson 2004; Rivera Cusicanqui 1987).

By this time, elite theories about race, nature, and nation were developing newly "scientific" dimensions in Latin America. While European eugenics was creeping into nation-building projects around the world, the uptake of these theories was unique to the racial reality of each country. In Latin America, Argentina adopted the most strident project of

social Darwinism; Brazil aimed for whitening through European immigration and education programs; and Mexico, Peru, and Bolivia developed concerted projects of mestizo nation building.[31] *Mestizaje* translates literally as "miscegenation," and prior to the twentieth century, such racial mixing was understood in largely degenerative terms, despite proliferating lists of racial "types." By the 1920s, however, *mestizaje* was being reimagined as the optimal combination of supposedly Spanish, Indigenous, and African attributes. In his book *La raza cósmica* (The cosmic race), which defined Mexican mestizo nationalism for decades to come, José Vasconcelos argued that the racial diversity and tropical climate present in Latin America would produce "the definitive race, the synthetical race, the integral race, made up of the genius and the blood of all peoples and, for that reason, more capable of true brotherhood and of a truly universal vision" ([1925] 1979, 20). This was the era of racial eugenics in Europe and around the world, but Latin American leaders were often more receptive to Lamarckian than Darwinian eugenics, meaning that they imagined the possibility of racial "improvement" through environmental changes rather than strictly genetic inheritance (Stepan 1991).[32] In the early 1900s, these leaders developed programs that aimed to improve their nations' "racial stock" through hygiene, bodily care, and education. All these programs focused on shaping people through engineering their environments in ways that distanced them from an external nature, as imagined by Creole policy makers. This involved a literal distancing from the earth: bare feet, earthenware pots, and dirt floors were associated with indigeneity and treated as public health concerns (Orlove 1998).[33] I explore the different theories of *mestizaje* that emerged in Bolivia in chapters 1 and 3, but the point to underscore here is that the debate about the relative merits of *mestizaje* remained an elite concern throughout the first two decades of the twentieth century.

It took a war and a revolution for Bolivian theories of *mestizaje* to be fully articulated with a broad-based popular nationalism. In an analysis that remains influential today, Bolivian sociologist René Zavaleta Mercado (1986) argued that modern Bolivian nationalism did not emerge until the Chaco War between Bolivia and Paraguay (1932–35). This war was initiated by Bolivian president Daniel Salamanca, who hoped to gain control over the Gran Chaco desert, a region that the two countries had disputed for decades. While some historians have contended that this war was an attempt to distract national attention from a dire economic

situation, others have underscored that the Chaco was rumored to contain oil.[34] Regardless of Salamanca's intentions, however, Bolivia lost the war disastrously. But during three years of near-constant retreat, a sentiment that Zavaleta Mercado described as *popular nationalism* emerged from the trenches. More recently, historian Kevin Young (2017) has argued that this popular nationalism was always a *resource* nationalism, since from its inception it was concerned with wresting natural resources from foreign powers. Young defines resource nationalism as the "belief that natural resources should be used to benefit the nation" (1), but several important questions are concealed behind this deceptively simple definition. Who belongs to the nation? What benefits do natural resources offer, and how should they be distributed? Who should bear any associated costs? None of these questions was answered in the 1930s, and all of them remain salient today.

Most Bolivians *did* agree that the existing extractive regime was decidedly unfair. This was especially evident in the country's most lucrative industry: tin mining. The silver industry had played an important role in Bolivia's economy after the country's independence from Spain and had surged again in the 1870s and 1880s, but by the turn of the twentieth century, it was flagging. Bolivia's economic epicenter shifted from the silver mines of south-central Potosí to the tin mines of northern Potosí and Oruro, a shift that was so powerful that it moved the country's executive and legislative center from the temperate town of Sucre (near the silver-mining city of Potosí) to the high-altitude city of La Paz (comparatively near the tin-mining city of Oruro) in 1899. The explosive growth of tin mining in Bolivia precipitated a twenty-year economic expansion led by just three "tin barons": Simón I. Patiño, Moritz (Mauricio) Hochschild, and Carlos Víctor Aramayo (Klein 2003).

Although the financial benefits of tin mining may have accrued to a very small number of people, the tin mines were politically capricious. They had also given birth to some of the nation's strongest workers' unions, nurtured both by Bolivia's long history of artisan-led anarcho-syndicalism and by newly popularized political economic theories, especially Marxism and Trotskyism.[35] In the post–Chaco War period, a plethora of new political parties emerged, and all of them sought the support of the tin miners. One of these was the MNR (Movimiento Nacional Revolucionario; National Revolutionary Movement), which was founded by mostly middle-class students but managed to attract support from factory workers, miners, middle-class professionals, and rural

smallholders. Among these groups, the tin miners' unions were the most militant and are still remembered as the revolutionary vanguard.

In 1952 the MNR led the National Revolution that established Víctor Paz Estenssoro as president. This revolution resulted in three changes that collectively reformulated the relationship between nature and nation in Bolivia. First, Paz Estenssoro nationalized all the tin barons' mines and created COMIBOL (Corporación Minera de Bolivia; Mining Corporation of Bolivia) to manage the nation's new tin reserves. Second, he introduced an agrarian reform program in 1953 that focused on redistributing land from private haciendas (plantation-style farms) to landless farmers in the highlands. All these newly landed smallholders, moreover, were to become members of state-sponsored campesino unions. While this reform was eagerly accepted in the Cochabamba valleys, where haciendas had been most widespread and landless farmers had begun to organize themselves into unions prior to the revolution, it faced steady resistance in the ayllu strongholds of La Paz and Norte Potosí (Postero 2007; Rivera Cusicanqui 2004). Third, finally moving away from the dual republics model of government, Paz Estenssoro elevated everyone to the category of citizen and universalized suffrage. While this legal transformation is usually underscored in histories of Bolivia, less frequently noted is the racial recategorization that accompanied it. In addition to becoming citizens, all Bolivians were officially classified in class terms rather than race terms. Instead of being *indios* and criollos, everyone in Bolivia became racially mestizo: *indios* became mestizo campesinos, and *criollos* became mestizo professionals.

In combination, these strategies worked to create an isomorphism between the new state, often called the "State of '52," and the citizenry it claimed to represent. The state held the subsoil, the people held the land, and all were united (in theory) by a shared origin story. Nature was gendered and racialized as a collective Indigenous mother, firmly located in the past. From her, all Bolivians had inherited the right to benefit from natural resources, but these were held in trust by a paternal state. The State of '52 conjured a postcolonial national imaginary by erasing actual Indigenous communities, including the ayllus, and their alternative claims to both land and subsoil.[36]

The plurinational imaginary that blossomed during Evo's administration owes much to reactions against the assimilationist nationalism of the State of '52 (Canessa 2007). In the early 1970s, a group of relatively deterritorialized Indigenous intellectuals near the city of La Paz began call-

ing themselves *kataristas*, taking their name from eighteenth-century Indigenous revolutionary Túpac Katari. Adding nuance to the Marxist and Trotskyist schemas that had guided the miners' unions during the National Revolution, the *kataristas* sought to understand the "double oppression" of Indigenous peasants under both colonialism and capitalism. In the mid-1980s, Oxfam partnered with THOA (Taller de Historia Oral Andina; Andean Oral History Workshop), a La Paz–based group of *katarista* anthropologists, to understand and strengthen Bolivia's ayllus.[37] As a parade of dictators pummeled the miners' unions—fighting communist leaflets with bullets and layoffs—the Indigenous movement quietly took root.

The State of '52 depended on tin, and when the Bolivian tin-mining sector began to crumble in the 1980s, so too did mid-twentieth-century forms of government. Demand for tin—replaced in many industries by aluminum and tinplate—had fallen precipitously; at the same time, COMIBOL's reserves were nearing exhaustion, since very little prospecting had taken place in the postrevolutionary decades. The Bolivian economy, buoyed for years on the income from a single export, folded in on itself. The economic collapse coincided with—or perhaps precipitated—a tumultuous return to democratic politics after two decades of dictatorships. A series of interim presidents came through during the transitional period, ending with the reinauguration of President Víctor Paz Estenssoro, the same man who had led the country immediately after the 1952 revolution.

In the growing economic crisis, Paz Estenssoro "set out to undo what his 'social revolution' had accomplished some thirty years earlier" (Perreault 2005, 271). Within weeks of being sworn in, he had initiated the New Economic Policy, which scholars usually qualify as the first wave of neoliberal restructuring in Bolivia. The vast majority of COMIBOL mines were either privatized or closed, the currency was allowed to float against the dollar, and borders were opened to direct foreign investment. Most important for this story, twenty-three thousand of the country's thirty thousand miners were laid off (Kohl and Farthing 2006). Laid-off miners left the highlands in droves, spreading their knowledge of union organizing throughout Bolivia and laying much of the groundwork for Evo's later rise to power (Gill 2000). Many of these miners later returned to the subterranean spaces left behind by the retreating state, where they established mining cooperatives in a subterranean nature officially deemed exhausted and formally abandoned. Digging through the craggy

layers of history, influenced by both memories of unionized glories past and visions of Indigenous economic futures, these cooperative miners retrace the invisible seams of ore and nation.

As the miners' unions collapsed, the *kataristas*' demands went mainstream. Gonzalo Sánchez de Lozada (Goni), a mining magnate who became president in 1993, was elected alongside Vice President Víctor Hugo Cárdenas, leader of the Túpac Katari Revolutionary Liberation Movement, and together they began to introduce reforms that might be described as "neoliberal multiculturalism," in that they recognized cultural difference only insofar as it was compatible with liberal market capitalism (Hale 2002). The Goni-Cárdenas administration passed the Ley de Participación Popular (Popular Participation Law; Law 1551), which transferred 20 percent of central state revenue to municipal governments, in 1994; rewrote the constitution to describe Bolivia as "multiethnic and pluricultural" in 1995; and introduced the Ley INRA (Ley del Instituto Nacional de Reforma Agraria; National Institute of Agrarian Reform Law; Law 1715), which created a legal category for *tierras comunitarias de origen* (communal lands of origin), in 1996. These reforms, while not exactly revolutionary, encouraged a fundamental shift in Bolivia's political orientation. For the first time since before the National Revolution, the 2001 census contained a question about ethnic-racial identification, and 62 percent of Bolivians self-identified as Indigenous.[38] At a more material level, these reforms enabled Evo's entry into politics. Supported by the *cocalero* (coca growers') unions of which he was the leader, Evo was elected within his municipality, and funds from the Popular Participation Law made it possible for him to scale up his political program to the national level within a few short years (Postero 2007).

The two social mobilizations that preceded Evo's election were directly linked to struggles over nation and nature: the Cochabamba Water War in 1999 and the national Gas War in 2003. Although these are sometimes framed as anticapitalist or anti-extractivist, they are more accurately described as anti-neoliberal and anti-imperial. The Water War united residents of Cochabamba and the surrounding areas in opposition to an American private company (Bechtel) that had taken control of the local water supply, but there was no consensus on how water *should* be managed to ensure equitable access (Marston 2015). The Gas War was sparked by the announcement that Bolivia's rich natural gas deposits would be exploited by a foreign company that was going to transport the gas through Chile, a country that has raised resource nationalist ire

in Bolivia since Chile appropriated all of Bolivia's coastline in the War of the Pacific (1879–83). Evo's move to nationalize natural gas extraction in the early days of his presidency was the logical response to the Gas War, which was not opposed to extraction per se but to extraction by and for the benefit of non-Bolivians (Kohl and Farthing 2012; Perreault 2020). Colonial and imperial powers had long treated Bolivia as a resource repository, available for plundering without appropriate compensation, and Bolivians were reacting against this legacy. The protests were resource nationalist, and they resulted in the election of a president who enacted resource nationalist policies.

Of course, Evo also inaugurated the plurinational era. Resource nationalism and plurinationalism coexist in vertical space: the subsoil remains national (state-owned) territory even while the land above is divided and governed in new ways. Indeed, plurinationalism is often conceived in terms of horizontality, a word that invokes not only a flat (i.e., nonhierarchical) political relationship between the central state and its many constituent nations but also a two-dimensional understanding of the nation as a series of interlocking two-dimensional shapes. For instance, Raúl Prada Alcoreza (2007)—a Bolivian scholar and erstwhile Evo supporter—traced a spatial history of Bolivia by showing how new institutional maps of the plurinational era were drawn over existing maps of the nation. Prada Alcoreza's allusions to mapmaking were largely metaphorical, but they demonstrated the extent to which nation is imagined in relationship to land, a depthless "manipulable cartography of forces" (Gustafson 2009a, 1003). Given interwoven histories of nation and nature (particularly subterranean nature), such two-dimensional interpretations of plurinationalism occlude not only an important site of national formation but also the political economic relationship between nature and the nation-state.

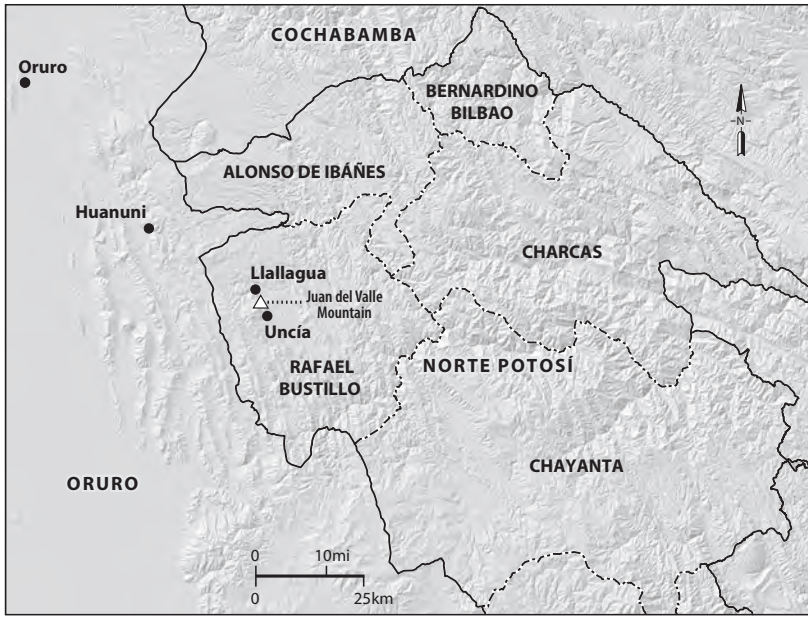
FAULT LINES: COOPERATIVE MINERS OF NORTE POTOSÍ

This book is based on eighteen months of fieldwork conducted in 2013, 2014, and 2016–17, with two follow-up trips in 2022. I spent slightly more than half of my time in the two tin-mining towns of Llallagua and Uncía, located on either side of the Juan del Valle Mountain in the region of northern Potosí (hereafter Norte Potosí—see maps I.1 and I.2). When I was *not* in Norte Potosí, I was traveling throughout the Bolivian highlands and valleys, where I conducted interviews with earth scientists,

MAP I.1. Map of Bolivia. Prepared by Michael Siegel.

policy makers, and activists; visited other mining sites for comparative purposes; and worked in a variety of public and private archives.[39]

Within Bolivia, Norte Potosí is known for two things: tin mines and ayllus. From the early 1900s to the 1980s, Llallagua-Uncía was home to Bolivia's largest tin mine, which in turn nurtured some of the nation's strongest miners' unions. If Bolivian tin miners formed the vanguard of the 1952 National Revolution, tin miners from Norte Potosí were the vanguard of the vanguard. At the same time, Norte Potosí is known for its numerous highly organized ayllus, which have withstood centuries of colonial, liberal, and corporatist onslaughts. In 1874, for instance, the



MAP I.2. Map of Norte Potosí. Prepared by Michael Siegel.

Bolivian state attempted a so-called modernization of agricultural production through ayllu dissolution, but massive Indigenous resistance in Norte Potosí prevented the program's implementation (Rivera Cusicanqui 1987); similarly, attempts to establish campesino unions after the 1953 land reform were largely unsuccessful. The image of "the warrior ayllus of Norte Potosí" is widespread and reenacted within the ayllus themselves in annual *tinkus*, which are ritualized—but genuinely violent—inter-ayllu fights in which spilled blood ensures fertility in the coming year (Le Gouill 2014).

Since the neoliberal gutting of the state mining corporation in 1985, the mine workers' unions of Llallagua and Uncía have been replaced by mining cooperatives. Today the twin towns are home to seven mining cooperatives that together incorporate some 2,600 members, all of whom belong to FERECOMINORPO (Federación Regional de Cooperativas Mineras del Norte de Potosí; Regional Federation of Mining Cooperatives of Northern Potosí). Based in Llallagua, FERECOMINORPO is one of eleven regional federations of mining cooperatives in Bolivia (one for each of the country's other eight departments and three for the mining-heavy

department of Potosí). All seven mining cooperatives in Llallagua and Uncía produce tin, the metal around which the towns were initially built. In continuous creative tension with both the towns' history of unionization and the region's history of Indigenous organizing, these cooperatives continue to shape political and economic panoramas at multiple scales and multiple depths.

When I first began this project, many close friends and acquaintances in Bolivia told me that I was going to get myself into trouble. I was surprised. I had previously spent time in Bolivia studying community-run water supply systems in the peri-urban fringes of Cochabamba, and the only dangers anyone had suggested I would encounter were potentially rabid dogs. But the warnings, I found, were specific to the combination of the new topic and me as a researcher. Cooperative miners, my friends insisted, could be dangerous for women. Unionized miners of years past are remembered as masculine in a positive light: they sacrificed themselves, in both their underground labors and their armed struggle, for their families, the nation, and the global working-class. Without the direction of the unions, however, cooperative miners' masculinity is framed as wild, selfish, and indiscriminately violent. In La Paz so many people warned me about the possibility of sexual assault underground that I nearly designed a different project. Cooperative mining, they implied with their concern, necessarily produced predatory men, and these tendencies would go unchecked in the lawless space of the subterranean.

Yet aside from regular comments on my day-to-day appearance, I never encountered a cooperative miner who embodied the threat I had been warned against. A great deal of my friends' concerns for me stemmed, I believe, from the myth of white feminine vulnerability, a myth that has been used to justify immeasurable violence and is one avenue through which white supremacy is maintained. This is not to say that sexual violence or violence more generally is absent from the mines but rather that being a white foreigner shielded me from that violence rather than (as the myth would suggest) exposing me further. Indeed, the close relationship between whiteness and masculinity meant that although I spent a great deal of time with women miners, I was also able to enter men's spaces with something akin to ease (nothing ever felt fully easy). Moreover, because I was doubly foreign—both from outside the community and from outside the country—cooperative miners were less immediately suspicious of me than they were of middle- and upper-class *q'aras* (non-Indigenous Bolivians), whom they expected to be environmentalists or *indigenistas* ("indi-

genists," or those who romanticize Indigenous cultures or politics) come to decry the ecological and cultural contamination of mining. When I visited the Vice Ministry of Mining Cooperatives in La Paz, for instance, the representative who downloaded data onto my USB told me that he would not have given the information to a Bolivian student, since Bolivians were "not capable of understanding mining cooperatives outside of the negative discourse that circulates about them." In this case, I managed my immediate guilt by sharing the files with Bolivian researchers, but I went on struggling with my simultaneous connections with mining cooperatives and the broader community of leftist researchers.

In Norte Potosí I worked with a weekly rhythm that included regular visits to the many mine shafts scattered around the mountain, the offices of FERECOMINORPO, the offices of the seven local mining cooperatives, the local university's FPS (formación política sindical; political syndicalist formation) and mining engineering departments, the local radio station (Radio Pio XII), and the Catavi office of the COMIBOL Archives, where I pored over employee files from the 1910s to the 1930s. Once I had established myself as a regular visitor in these places, I began receiving invitations to participate in local and regional activities, such as political meetings, annual festivals, commemorative ceremonies, fairs, and parades. While participating in—and occasionally helping to organize—these events, I got to know people both connected to and critical of the cooperative mining sector. I followed up with formal interviews, usually conducted in their homes or offices, one of Llallagua's two cafés, or the tearoom of the Hotel Colonial, the unfortunately named hotel where I rented a long-term room. Inspired by Jacqueline Nassy Brown (2005), I also conducted numerous walking interviews, in which I spoke with people while they toured me through places of significance. Finally, I recorded oral histories with two cooperative miners, Demetria and Mauricio, whose candor greatly facilitated my research.[40]

I did not intend to spend as much time underground as I did, in part because these mines have a reputation for collapsing and in part because it did not seem appropriate for me, a researcher taking notes for her project, to burden a group of miners with my presence. But when I started showing up at mine shafts in the mornings in the hopes of getting to know miners while they ate breakfast and prepared for work, it became painfully apparent that everyone was far more interested in showing me their work sites than in discussing their professional trajectories. I bought myself a pair of rubber boots, a helmet, and a lamp and commit-

ted myself to going underground. In total, I spent about twenty days underground (between five and ten hours per trip). During the one-hour *pijchea* (coca chew) that always precedes a day's work, and during "crawling interviews" through the tunnels that miners jokingly refer to as an ants' nest, I got to know the work process and the workers. These underground ventures proved some of the richest parts of my research, a fact that is reflected especially in chapter 4.

I make no attempt to feign objectivity in this book. Not many foreigners come to Llallagua, and no matter how long I hung around, I remained a source of curiosity rather than a fly on the wall. In fact, some people never stopped calling me *turista* (tourist) even after I had been sightseeing for more than a year. *Gringuita*, *turista*, *choquita* (blondie): these names were used interchangeably with Andreita, a diminutive form of Andrea used as a term of endearment. The words marked a simultaneous distance and proximity that is undoubtedly reflected in my findings. I try to remind readers of this filter by situating myself clearly within the stories I tell. My account is very partial, but I hope it will be useful.

ROAD MAP

This book begins by exploring the production of *patria* and *patrimonio* in historical perspective. Focusing on three periods—early colonial (mid-1500s), early republican (after 1825), and postrevolutionary (after 1952)—chapter 1 traces the concurrent constitution of subterranean property regimes and subterranean natural resources. During these periods subterranean property law was established in conversation with forms of expertise that naturalized a particular way of seeing the subsoil and contributed to its nationalist interpretation as a shared inheritance. Most important among these forms of expertise were religious theology, in which the subterranean was envisioned as a God-given gift to the Spanish Crown, and scientific geology, in which the subterranean was envisioned as an ordered set of strata that preserved the past and yielded future wealth. I argue that the contemporary legal split between Bolivia's subsoil and surface realms can be traced back to the codification of theological and geological knowledges, which naturalized an association between the subsoil and the state while relegating divergent visions of the nation to the surface.

Starting with the second chapter, I focus primarily on the history, labors, and politics of mining cooperatives in Norte Potosí. In chapter 2

I show how the geological and chemical properties of tin informed the growth of Bolivia's tin-mining sector and, eventually, the rise of tin-mining cooperatives. I introduce the concept *material fix*, which extends David Harvey's (2001) "spatial fix" into three-dimensional space. A material fix describes successive historical attempts to rearrange labor and technology to maintain the local economy amid international price fluctuations and declining resource reserves; it also attends to the material traces left behind by past fixes. Using this concept, the chapter complicates the tale of Bolivia's 1985 neoliberalization—usually framed as the origin story of mining cooperatives—by examining how early twentieth-century and Cold War–era events created the conditions under which seven remarkably different mining cooperatives could emerge.

Chapter 3 continues this thread by examining increasing traffic between mining cooperatives in Llallagua-Uncía and the ayllus of Norte Potosí. I contend that the emergence of *agro-mineros* (agricultural miners) in the post-1985 period was important not only because it marked a moment of a regional economic diversification but also because it constituted a local indigenization of the subterranean. This chapter begins by tracing the historical separation of Indigenous campesinos from mestizo miners in Norte Potosí in relation to the two subterranean substances with which they were expected to labor: potatoes and tin ore. This history shows how livelihood practices were always already racialized, such that the recent movement of ayllu members into the mines could signify a racial transgression as much as an economic articulation. The chapter concludes by reflecting on the relationship between mining cooperatives and the Plurinational State, which has both shaped and been shaped by the rise of *agro-minería* (agricultural mining).

Chapter 4 tackles the question of individual subject formation. Irreverently borrowing from Marx's theory of consciousness, the chapter suggests that the site of labor is not only a crucible of subject formation but also ground zero for hierarchically ordering people and rocks along related axes of value. Drawing on ethnographic work conducted underground, it argues that tin's mineralogical variation—both that which occurs "naturally" and that which has been produced by a century's worth of extraction—crystallizes social stratifications among miners. Put differently, raced and gendered hierarchies are constituted in relation to the material specificities of tin as an element and as a geological formation. Minerals and miners are relationally valued in ways that shift not only

spatially but also temporally, a point that is emphasized by using the concepts of *formation* and *degradation* to explore the connective tissues between geological and fleshy matters.

Chapter 5 takes as its object of analysis what I call *industrial ruins*, a category that includes old buildings, machinery, and waste rock left behind by the industrial mining practices of the twentieth century. Drawing on descriptions of walking interviews with cooperative miners and other town residents, the chapter explores how people live with and interpret these industrial ruins. I argue that although residents relate to the ruins differently depending on their own positions within the towns, their stories share a tendency to treat the ruins as monuments to the promise of temporal progress. As a result, industrial ruins—the apparently wasted remains of a previous era—continue to inspire faith in mining as key to individual and regional economic growth. Materialized in the hulls of metallic giants, mountainous slag heaps, and the sagging internal architecture of the mine itself, industrial ruins impinge on local imaginaries of the future, motivating miners underground and inflecting the politics of everyday life.

Chapter 6 returns to the national political arena—and to the murder of Rodolfo Illanes with which I opened this chapter—to explore how subterranean matters influence contemporary political dynamics, a process that is traced through two arguments. First, an abstracted sense of the subterranean as national inheritance (patrimony) undergirds dynamics of political patronage and political violence, both of which are rooted in colonial histories of resource extraction. Second, the Plurinational State created a host of new pathways for previously sidelined people to take on leadership roles within or alongside state entities; when cooperative miners move into these positions, they bring with them subjectivities forged in relationship to subterranean histories. Geological matters, as historicized throughout this book, have thus left their mark not only on flesh and bone but also on the hallowed halls of political and economic decision-making. The subsoil is always already present in economic, political, and social forms.

Finally, the afterword charts three "eruptions" that have emerged along the subterranean fault lines explored throughout this book. The first section examines the role of resource regionalism in the explosive end of Evo's regime in 2019, the second traces a conversation about communitarian mining that began in 2014 and continues today, and the

third reflects on the proliferation of cooperative mining, illegal mining, and *jukeo* (ore theft) in the early 2020s. Overall, the afterword shows how material histories of nature and nation, as traced in preceding chapters, can help explain these contemporary eruptions. The sedimentary remains of past nationalisms do not always stay buried. Instead, they emerge through historical cracks to impinge on the present in unpredictable and often-violent ways.

INTRODUCTION

1. This video was posted online by *El Nuevo Herald*, a Spanish-language newspaper based in southern Florida. "Aparece video que muestra a viceministro boliviano siendo amenazado de muerte" (A video appears that shows a Bolivian vice minister being threatened with death), *El Nuevo Herald*, August 30, 2016, https://www.elnuevoherald.com/noticias/mundo/america-latina/article98763332.html. The translation is mine, as are all others in this book unless otherwise noted.

2. The demand to partner with transnational mining companies reiterated a plea cooperative miners had been making since at least 2014 (Marston and Kennemore 2019). As Francescone (2015) details, this demand emerged as a result of state abandonment in traditional mining regions, which has left cooperative miners with few investment options.

3. On small-scale mining in Ghana, see Coyle Rosen (2020) and Luning and Pijpers (2017); on Brazil, see Cleary (1990) and de Theije (2020). Although cooperatives of small-scale miners have emerged in a few other countries in recent years—usually as part of formalization efforts, as in Peru and Brazil—Bolivia is unique in that the mining cooperative is the dominant form of organization for small-scale miners. Particularly given the importance of cooperative economics to leftist debates since Alexander Chayanov's ([1927] 1991) study of Russian peasant cooperatives, I suspect that my interlocutors were anxious to disabuse me of any romantic expectations I might have been harboring.

4. These numbers are notoriously hard to gauge, given that cooperatives grow and shrink in sync with mineral prices. The recent increase in prices since 2020 has caused a corresponding spike in the number of cooperative miners, with estimates now sitting closer to 200,000.

5. Although the precise number of independent, small-scale, and artisanal miners is difficult to track, one useful approximation is 40 million miners worldwide (Intergovernmental Forum on Mining, Minerals and Sustainable Development 2017), producing between 15 and 20 percent of global mineral output (Verbrugge and Besmanos 2016)—numbers that do not include secondary employment, dependent family members, or even quarrying of low-value subsoil resources such as gravel, sand, and limestone (Lahiri-Dutt 2018). Almost all tin (roughly 97 percent) comes from emerging and developing countries, especially

China, the Democratic Republic of the Congo, Brazil, and Bolivia, and about half of that is produced by artisanal and small-scale mining operations (International Tin Association 2020).

6. These two lefts are akin to Thea Riofrancos's (2020) two "resource radicalisms," which include "radical resource nationalism" and "anti-extractivism." However, I am less interested in periodizing the ascendancy of each "resource radicalism" and more interested in how the two tendencies coexist in imperfect harmony, rarely coherently distinguishable from one another within a single organization's political platform.

7. *Intercultural* is the term commonly used for Quechua and Aymara people who have migrated from the highlands to the lowlands, where they often practice agriculture—and increasingly mining—on a much larger scale than they did on the altiplano. Afro-Bolivians are mostly descendants of enslaved people brought from Africa to work in the silver mines and smelter of Potosí starting in the early 1600s. Today there are approximately twenty-three thousand Afro-Bolivians (0.2 percent of the population) (Zambrana B. 2014).

8. Brent Kaup (2010) describes it as a "neoliberal nationalization": constrained by the legacies of neoliberalism, Evo's administration regained majority control over the hydrocarbon sector through negotiated buyout agreements rather than through expropriation (see also Kohl and Farthing 2012). Even to this limited degree, however, nationalizing gas was a strategic move. Gas not only provides the greatest revenue stream in the country but is also symbolically linked to senses of nation and nationalism (Gustafson 2020), a connection that was particularly evident in the 2003 Gas War that unseated former president Gonzalo Sánchez de Lozada (Perreault 2006).

9. The International Monetary Fund's "Country Report" applauded the Morales government's "prudent fiscal policy," as Bolivia was one of the few countries in Latin America to maintain economic growth during the crisis of 2008 (International Monetary Fund 2014, 4). Bolivia still ranks low on the United Nations' Human Development Index, but the rate of extreme poverty has been dramatically reduced, largely through cash transfer programs. These also contributed to a near tripling of per capita income and overall improvement in health indicators.

10. See also elaborations on Latin American extractivism by Maristella Svampa (2019) and Fernanda Wanderley (2017).

11. See discussions of the TIPNIS conflict in Burman (2014), Fabricant and Postero (2015), Laing (2015), McNeish (2013), and Webber (2014).

12. On the ironic strengthening of lowland elites under Evo, see P. Anthias (2018), Fabricant (2012a), Gustafson (2020), and Postero (2017).

13. Lorismo refers to the work of Guillermo Lora, Bolivia's famous Trotskyist historian and political theorist, who was born and raised in the tin-mining region of northern Potosí. Leon Trotsky and Lora are popular among Bolivian miners because they argued that "semicolonial" countries did not need to pass through the same stages of development as "advanced" countries, since the semi-

colonized bourgeoisie was too compromised to undertake a proper bourgeois revolution (Ferreira 2010; John 2009).

14. This is the kind of historical or dialectical materialism that one would glean from reading *The Communist Manifesto* (Marx and Engels [1848] 1998) and never returning to read *Capital* (Marx [1867] 1990), let alone Karl Marx's many other treatises.

15. Many of the most meditative reflections on Marx's method have derived from readings of his 1857 introduction to the *Grundrisse* (Marx [1973] 1993). For some of these, see Hall (2003), Hartsock and Smith (1979), Ollman (2003), and Postone (1979).

16. Marx wrote, "The mode of production in material life determines the general character of the social, political and spiritual processes of life. *It is not the consciousness of men that determines their existence, but, on the contrary, their social existence determines their consciousness*. At a certain stage of their development, the material forces of production in society come into conflict with the existing relations of production or—what is but a legal expression of the same thing—with the property relations within which they had been at work before. From forms of development of the forces of production these relations turn into their fetters. Then comes the period of social revolution" ([1859] 1904, 11–12, emphasis added). In other words, the material forces and relations of production are what create "conscious" workers, who in turn become revolutionary subjects. The experience of labor conditions political actions and social outcomes.

17. Some of these critical new materialist accounts include Agard-Jones (2013), Alaimo and Hekman (2008), Barad (2007), Chen (2012), Z. Jackson (2020), and Murphy (2012).

18. I am indebted to the emerging field of "inhuman geography" (Clark 2011; Clark and Yusoff 2017; Yusoff 2017, 2018) and the broader rise of feminist geophilosophy (Bosworth 2017; Grosz 2008; Povinelli 2016).

19. This point has been made by Judith Butler (1993) and further developed by feminist and queer theorists, among others.

20. For instance, see Harvey (1982), Lefebvre ([1974] 1991), and N. Smith (1984). On Henri Lefebvre, see also Brenner and Elden (2009) and Merrifield (2013).

21. Eyal Weizman (2007) demonstrates how the Israeli occupation of Palestine has played out in aerial space; Peter Adey (2010), Stephen Graham (2016), and Francisco Klauser (2021) further develop this theme. Franck Billé (2019) examines aerial space in the formation of sovereignty, Jesse Rodenbiker (2019) demonstrates how the valuation of vertical space in Chinese cities contributes to social differentiation, and Julie Michelle Klinger (2018) looks at mineral speculation on the moon.

22. See Steinberg and Peters (2015) on thinking volumetrically about the ocean, Adler (2020) on the vertical dimensions of marine sovereignty, Woon and Zhang (2021) on suboceanic tunnel construction between China and Taiwan, Starosielski (2015) on undersea cable networks, and Jue (2020) on the ocean as a media environment.

23. Subterranean-focused works in political ecological and allied traditions include Bebbington and Bury (2013); Bobbette and Donovan (2019); Braun (2000); Bridge (2013); Kinchy, Phadke, and Smith (2018); Mendez, Prieto, and Godoy (2020); and Valdivia (2015).

24. Political geographic explorations of the subterranean include Billé (2020), Campbell (2019), Elden (2013), Hawkins (2020), Himley (2021), Klinke (2021), Libassi (2022), Marston (2019), Marston and Himley (2021), Scott (2008), Sorrensen (2014), Squire and Dodds (2020), Wang (2021), and Woon and Dodds (2021).

25. On the subterranean and the Anthropocene, see Clark and Yusoff (2017); Gerlofs (2021); Melo Zurita, Munro, and Houston (2018); Parikka (2015); and Yusoff (2018).

26. Works on the intimate or meaningful aspects of the subterranean include Ballestero (2019), Bosworth (2017), Marston (2021), Melo Zurita (2019), Oguz (2021), and Pérez and Melo Zurita (2020).

27. See also Rivera Cusicanqui (2018) and Van Buren (1996) on the possibilities and limits of this concept.

28. The most notable technologies were *huayrachinas*, natural draft furnaces, and *tocochimbos*, domed bellows furnaces (Van Buren and Mills 2005). Jeremy Ravi Mumford (2012) shows how the Spanish strove to govern in a way that preserved the "vertical" nature of the Incan Empire, which the Spaniards believed was a necessary feature of government at such precipitous heights.

29. See Galeano (1973), Kohl and Farthing (2006), Postero (2007), and Silverblatt (1987) for detailed accounts of the brutality of Bolivia's early colonial history.

30. The late 1700s have been characterized as a Latin American "age of insurgency" (Thomson 2002) or "age of insurrection" (Stern 1987) led by Afro-Latinx and Indigenous forces.

31. On race and *mestizaje* in Latin America, see de la Cadena (2000), R. Graham (1990), Sanjinés C. (2004), and Wade (1997).

32. For further elaborations on race and Lamarckianism in Latin America, see Marchesi (2014) and Nelson (2003).

33. Throughout this book, I capitalize "Indigenous" because it refers to an identity, but I do not capitalize "indigeneity" because it describes a sociospatial paradigm rather than a particular person or group. See Gustafson (2020) and Rifkin (2019) for similar discussions.

34. See Gustafson (2020) for a summary of the debates around the origins of the Chaco War. Although the rumor of oil proved largely inaccurate, the Chaco did end up containing a huge natural gas deposit that has become enormously important in recent decades.

35. See Rodríguez García (2012) and Lehm A. and Rivera Cusicanqui (2005) on the anarcho-syndicalists. Robert Smale (2010) traces the exchange between these anarcho-syndicalists and nascent miners' unions.

36. This is clear in Carlos Montenegro's *Nacionalismo y coloniaje* (Nationalism and colonialism, [1944] 1984), which argued that all of Bolivia's history could be narrated as a history of "nationalists" against "antinationalists." Montenegro

became a primary ideologue for the MNR, and his book exemplifies the nationalist tendency to claim previous Indigenous struggles as part of a nationalist history while obscuring ongoing Indigenous demands. See chapter 1 for further discussion.

37. On the historical rise of *katarismo* and the role of THOA, see Le Gouill (2014) and Rivera Cusicanqui (1987, 1992).

38. Ethnic-racial questions were avoided in censuses conducted after the 1952 National Revolution because all Bolivians had officially been declared mestizo in the postrevolutionary moment. This omission makes it difficult to compare the 2001 census results to earlier senses of identity. See Nicolas and Condori (2014) for a fascinating discussion on censuses in Bolivian nation-building projects.

39. In addition to the COMIBOL Archives (in Catavi and El Alto) and the National Archives of Bolivia (in Sucre), two of the richest archives I worked in belonged to Hans Möeller, a German-Bolivian economist who worked with FENCOMIN (Federación Nacional de Cooperativas Mineras de Bolivia; National Federation of Mining Cooperatives of Bolivia) in its early days. I also benefited from libraries held in the College of Geologists and the Museo Nacional de Etnografía y Folklore (National Museum of Ethnography and Folklore), both in La Paz.

40. These names are pseudonyms. Throughout this book I use pseudonyms for all cooperative miners and most other individuals, except those whose public activities make them readily identifiable.

CHAPTER 1

1. Some of the best examples of studies of legal and juridical contestation in Bolivia include Ellison (2018), Gustafson (2009b), Kennemore (2020), Postero (2007), Van Cott (2000), and Yashar (2005).

2. Law 535, art. 2.I, May 28, 2014, https://www.autoridadminera.gob.bo/public/uploads/Ley_535.pdf.

3. Technically, a mining company or cooperative must ask permission from its upstairs neighbor before beginning extraction, but this requirement is toothless. The 2009 constitution guarantees only "free, prior, and informed *consultation*" (CPE 2009, art. 352, emphasis added), not "free, prior, and informed *consent*," which is the wording used in both the International Labour Organization's Indigenous and Tribal Peoples Convention (C169, adopted in 1989) and the UN Declaration on the Rights of Indigenous Peoples (adopted in 2007).

4. In his historical analysis of Bolivian "beliefs" about natural resources, Fernando Molina (2011, 17) argues that three ideological beliefs have been particularly influential: natural resources in exchange for progress, natural resources in exchange for economic independence, and natural resources as a curse. He explores how these beliefs have been layered atop one another and interact with a more general "geological patriotism," defined as the tendency to celebrate the "quantity of mineral or petroleum wealth of the country, as well as its role in the world economy" (28).