CORPORATE FUTURES, ENERGY TRANSITION, AND NATURAL PROSTHETICS IN COLOMBIA'S CESAR MINING CORRIDOR

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While traveling through northeastern Colombia between the Serranía del Perijá and the Sierra Nevada de Santa Marta, one crosses through an immense valley stretching from the La Guajira peninsula and the Colombian-Venezuelan border to the north, and the Magdalena River lagoon system known as the Cienega de la Zapatosa to the south. At the center of this corridor lies the department of Cesar, an impressive valley that is home to one of the largest open-pit mines in Latin America, thousands of hectares of livestock, and the conspicuous spread of intensive oil palm crops. A perfectly paved highway divides the department in two, following the route of the Cesar River that flows into the Zapatosa Marsh. The inclement heat of the region contrasts with the monumental mountains surrounding the Cacique Upar Valley, as it was called in colonial times. These extensive woodlands, now converted into plains, are today landscapes dominated by oil palm and cattle, as well as dusty, scattered, and impoverished towns that have developed along the highway, the region's axis of production. Cesar is the synthesis of Colombia's economic and developmental models which, since at least the late 1980s, have focused on natural resource exploitation and extractivism (Figure 1). A historic region of forest exploitation, extensive cattle ranching, and a smuggling corridor (to and from Venezuela, the

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Caribbean, and Europe) since the end of the nineteenth century, as well as site of the cotton boom of the 1960s (see Bernal 2004) and of armed conflict and drug trafficking in the last quarter of the twentieth century, Cesar formed part of the Magdalena Grande.

The once expansive territory was fragmented into three departments around 1967 so as to redistribute political power among regional elites and to create modern, local bureaucracies. After a devastating war at the end of the twentieth century between leftist guerrillas, Fuerzas Armadas Revolucionarias de Colombia (FARC), and paramilitary groups that displaced thousands of people and produced different processes of dispossession and accumulation of land and nature (see CNMH 2016; Moor and van de Sandt 2014), today Cesar department reflects a productive model made possible by a specific form of state formation driven by a particular technical vision of development, forms of legal and illegal accumulation of value production, and political violence.

With the discovery of coal deposits in northeastern Colombia in the early 1970s, the incorporation of natural resources into the global market radicalized forms of resource extraction via the insertion of large transnational and regional capital. As various authors have pointed out (Bridge 2004; Bürgi, Hersperger, and Schneeberger 2005; Cardoso and Turhan 2018; Carse 2012; Coronil 1997; Gago and Mezzadra 2017; Gudynas 2010; Muradian and Martinez-Alier 2001; Sánchez 2018; Sankey 2014), the relationship between the state, the development model, and value production in peripheral countries is what incorporates them into the global market, while causing dramatic effects on communities, landscapes, and ecologies. In northern Cesar, these spectacular forms of extractivism, as well as ostensibly less intrusive ones such as palm oil agribusiness, reconfigure the social and natural orders already hewn by other forms of natural value extraction and production, violence, and landscape transformation (Bürgi, Hersperger, and Schneeberger 2005; García-Ruiz et al. 2020; Langhorst and Bolton 2017; Sankey 2014; Taussig 2018; Torres 2020).

In 1995, large-scale coal mining operations began in the area, with the construction of different mines along the towns and municipalities of La Jagua de Ibirico, Becerril, Chiriguaná, El Paso, and Codazzi, also directly affecting the villages of El Hatillo, La Loma, La Jagua, and Boquerón. In just a few years, transnational companies Drummond (North American),[1] Prodeco (a subsidiary of the Swiss multinational Glencore),[2] and Colombian Natural Resources (a division of American Consolidated Natural Resources)[3] established and consolidated a regional mining infrastructure that included two ocean ports along the

Caribbean Sea, and a 192 km railway from the mines to the ports. This area and mining operation system is known today as the Cesar Mining Corridor (CMC), a scheme that continues to expand in the region with the authorization of new mining projects to the tune of more than 72,000 hectares (Sánchez 2018). This impressive industrial complex situated in the lower basin of the Cesar River between the Perijá mountains and the Magdalena River disrupts the interconnectivity of the basin, transforms land morphology, poisons soil and water sources, dries up land and subsoils, and confines communities spanning the 40,000-hectare expanse of the Zapatosa Marsh.

The arrival of mining corporations interrupted not just the ecological relationship between the mountain range and lagoon system but also social and historical relations already weakened by the armed conflict. Due to the Colombian government's embrace of agroindustry and the energy mining model in the early eighties, Cesar became the center of sociopolitical violence during the 1980s and 1990s. Paramilitary persecution and resettlement drove internal displacement throughout the department, thus facilitating the expansion of agribusiness and the introduction of mining operations. These violent forms of deterritorialization (Haesbaert 2013) not only transformed the regional economy but also brought another form of war to the region: a devastating war on the region's forests, savannas, rivers, landscapes, and ecologies.

At the end of the twentieth century, in most Latin American countries, including Colombia, development models based on the extraction of natural resources intensified, leading to a period that several authors have referred to as neo-extractivism (Gago and Mezzadra 2017; Gudynas 2010; López Sandoval, Robertsdotter, and Paredes 2017; Sankey 2014). Neo-extractivism is defined as the intensive extraction of resources, with stronger state involvement with raw materials, leading to profound social and ecological impacts on the territory. These impacts are associated with the creation of boundaries and enclosures, concessions and land sales to foreign corporations, and various forms of environmental destruction (Chiasson-LeBel 2016). This model focuses on territory or *place-based development*, grounded in mapping productive sectors and industrial assemblages (Bridge 2008; Haesbaert 2013; López Sandoval, Robertsdotter, and Paredes 2017). Although neo-extractivism aims to generate higher income, in countries like Colombia, royalties and reinvestment in social programs and infrastructure remain limited.

These models of natural resource exploitation led to a loss of territorial control due to industrial intervention in large geographic areas. They also generate

new forms of appropriation and accumulation, along with the abandonment or denial of traditional land-use practices such as communal forms of organization, ultimately leading to territorial precarity and social and spatial disintegration (Dunlap 2020; Giraldo 2015; Martínez Valle 2012; Sánchez 2018). Processes of depeasantization, precarization, and proletarianization (Llaguno, Cerdas, and Aguilar 2014), coupled with the expulsion or confinement of people (Gudynas 2010), particularly affect spatial, symbolic, and material practices rooted in culture and ethnicity (Restrepo and Rojas 2004), as well as local and peasant economies. These deep forms of deterritorialization result from social, spatial, and symbolic decontextualization that stems from profound material, social, environmental, and power-related transformations within, across, and beyond the territories (Haesbaert 2013; López Sandoval, Robertsdotter, and Paredes 2017; Sánchez 2018).

An analysis of the relationship between emerging ecologies and infrastructures, landscapes, and materialities as seen in the mining corridor of Cesar department raises fundamental questions about socioecological relationships and land exploitation in mining, post-mining, and energy-transition scenarios. By examining the social and spatial relationships produced by technical transformations, specifically through the restoration of ruined landscapes and ecologies shaped by large-scale industrial operations within people's lives and territories, I explore how these striking forms of natural extraction create *prosthetic forms of nature* and lay the groundwork for future modes of extractive value production through emerging forms of extractivism in agroindustry and renewable energy production. Based on continuous ethnographic and cartographic research carried out since 2018 along the Cesar Mining Corridor (CMC), I discuss how open-pit coal mining in northern Cesar produces dramatic ecological change, impressive forms of social and landscape transformation, and convoluted corporate mirages of the future.

This research integrates roughly fifteen semi-structured interviews, formal conversations with local leaders and organizations, continuous observations throughout the region, and an exploration of the landscape transformation produced by the open-pit mining operations in the region, as well as of local communities' forms of livelihood and confinement.[4] It combines a cartographic approach, based on geographical information systems that examined the juxtaposition of land-use planning by state institutions, mining industries, and conservation agencies, so as to organize the territory through the technical representation of space in political, legal, environmental, and energy mining models,

knowledge, and practices (see Figure 1).[5] Building from this perspective, the essay examines the technical and material reconfiguration of landscapes in the mining corridor and how these altered environments and wounded ecologies (Crane 2024; Taylor 2024) are configured as spaces of future capital extraction, be they post-mining operations, ecological restoration, energy transition, or agroindustrial projects.[6]

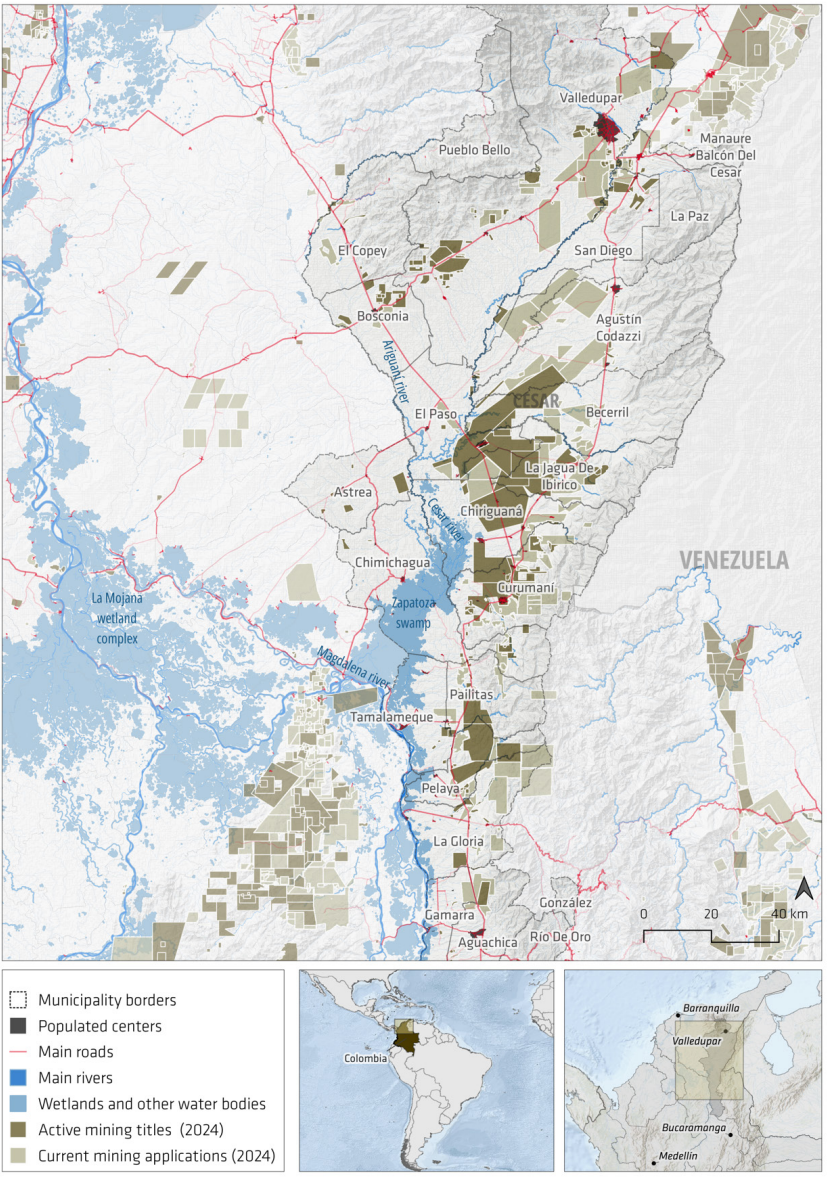

Figure 1. Cesar Mining Corridor Map, created by Luis Baquero.

In the first section of this article, I briefly describe the economic history of these landscape and ecological transformations and the forms of violence through which these modes of production have taken place. I also describe how people and communities remember their relationships to their surroundings, their territory, and to those historic practices and experiences that once sustained life (Ulloa 2016). I argue that corporate models and narratives can be seen in everyday forms of dispossession, confinement, toxicity, and violence, as well as in the permanent spatial and territorial modification of landscapes and ecologies.

In the second part of the essay, I analyze how corporate operations and technical narratives about ecological restoration, post-mining, and energy transition configure actual devices of landscape change, the production and transformation of nature (Bürgi, Hersperger, and Schneeberger 2005; García-Ruiz et al. 2020; Hourdequin and Havlick 2015; Ulloa 2021), and visions of corporate futures. By describing the corporate mining and post-mining practices and narratives in the CMC, the section describes how these emerging landscapes and ecologies are constituted by patches of rehabilitated, transformed, and contaminated landscapes, alongside new structures for renewable energy production. I explore how these emerging landscapes and ecologies configure *prosthetic forms of nature* as nature becomes fragmented, ruined, and reconstituted for future forms of capital-value production.

In the final section, I discuss the scope of restoration, rehabilitation, enhancement, and rewilding practices, the dramatic landscapes and ecologies transformations taking place in Cesar Department, and the scope of prosthetics landscapes, ecologies and social relation in order to offer an analysis of capitalist spatiality in northern Colombia under late liberalism. Taking into account Suzana Sawyer's (2001, 159) examination of how the corporation perfects its performance through a detachable and contingently disavowed subsidiary abroad, forcing individuals who are denied their privileges of citizenship at home to claim their rights in foreign systems, I extend prosthetics of corporate capitalism to frame the actual and permanent re-articulation of people, nature, techno-scientific knowledge, violence, and infrastructure produced by industrial operations, mining, agroindustry, and renewable energy production. These forces of change are accompanied by materialities that replace former ecosystems with artificial, restored, and ruined ones, all suitable for the pathos of extractivism.

The production of these toxic, artificial, and technically produced landscapes configures spatial ruptures and limits, territorial resignifications and simplifications, fragmentations, and emerging interconnections. From a historical point of view, these landscapes suffer endless re-accommodation, re-articulation,

and re-configuration. By using the concept of *natural prosthetics*, I explore corporate efforts to produce narratives and practices of social responsibility and compensation which in the end fail to repair and restore landscapes and ecologies, as much as peoples' lives and historical memory, while working as a mirage that hides actual corporate practices and rationales. Through exploring these ecological and social transformations produced by developmental rationales in the CMC, I hope to contribute to the study of the driving forces of landscape change, corporate practices, and their socioecological and political manifestations.

CHANGING LIVING LANDSCAPES

Throughout the nineteenth century and much of the twentieth century, the Valle (valley) de Upar formed part of the federal state of Magdalena in northern Colombia. It wasn't until 1967 that the so-called Magdalena Grande was divided into the departments of Magdalena (to the west), Cesar (the central savanna), and La Guajira (to the northeast). During this period, economic activities such as cattle ranching and scattered coffee production predominated in the region, along with the extractive economy of forest products like timber and the extraction of pearls and salt (Isaacs 1967; Torres 2020; Viloria De la Hoz 2014). At the end of the nineteenth century, a new productive model began to take hold in the Caribbean region, associated with foreign investment (particularly from the United States and England) in large-scale sugarcane and banana plantations. These businesses operated through land concessions granted by the Colombian government to foreigners and foreign companies, which committed to developing the business and construction infrastructure. Before this period, the Magdalena River served as the main system of communication between the Colombian Andean region and the Caribbean savannas and Caribbean Sea. Not until the 1960s, with the cotton boom and the construction of several roads connecting Cesar department to the Magdalena River, did the local economies expand and did, concomitantly, the regional elites rise.

This transformation took place in the context of the country's economic modernization, promoted by the World Bank and the Inter-American Development Bank, which fostered agrarian reform and the industrialization of Colombia's rural areas. This reform aligned with the aspirations of peasant organizations affected for decades by the plantation and latifundio model. Yet this process soon came to an end with conservative governments that made pacts with regional elites across the country to continue promoting agroindustry, latifundios, and cattle-ranching models. The failure of these polices gave rise to peasant and guerrilla organizations seeking land tenure and redistribution. While political violence started to disseminate across the country, cattle raising and agroindustry

opened new economic and agricultural frontiers that became inserted in the global market, making lasting transformations to local culture and institutions. The discovery of coal in the region occurred during this period; however, Colombia lacked the resources, infrastructure, and technology to mine it.

With the strengthening of guerrilla organizations during the 1980s, paramilitary groups in Colombia began to grow, supported by the Colombian state to combat guerrilla forces. During this time, as several human rights and National Center for Historical Memory reports point out, paramilitary groups carried out hundreds of massacres and displaced civilian populations in the region, facilitating the arrival of mining companies in 1985. With the dissemination of paramilitarism, dramatic forms of land accumulation and dispossession took place (Arias and Caicedo 2017; Harvey 2006), consolidating the livestock and agro-export model. It is in this scenario that mining corporations arrived and superposed on existing capitalist landscapes.

Following the 2006 disarmament, demobilization, and reintegration of right-wing paramilitaries, Cesar department became Colombia's prototypical model of development.[7] Extensive palm crops, livestock, and open-pit coal mines now intersperse an immense valley surrounded by the Sierra Nevada de Santa Marta and Serranía del Perijá. The lower valley is dotted with new, human-made craters and mountains of overburden (mining waste), as well as extensive industrial complexes. This extractivist development model is intimately linked to the war and was only possible after paramilitary groups had expelled communities and various guerrilla groups, allowing large investors in oil palm, livestock, and mining to gain a permanent foothold. The relationship between paramilitaries and national and transnational corporations requiring "security" for their businesses is well documented (CNMH 2016, 2018; CEV 2022; Jakobsen, Marín-López, and Serrano Zapata 2025; Moor and van de Sandt 2014; Sankey 2014).

These reports, the legal processes of ordinary courts, and the Special Jurisdiction for Peace (Colombia's transitional justice court), have gathered testimonies and witness accounts that trace extensive collaboration between the Colombian armed forces, paramilitary groups, and the private security contracted by companies to threaten, displace, and assassinate local community members and union leaders.[8] This history is not new, however, in fact, it played out in parallel in other industries operating in the region. For example, a report from the Colombian Center for Historical Memory points to the central role of the financial sector and of palm crop financiers in the permanent extermination of unionized banana workers throughout the seventies and eighties in the region (CNMH 2016, 2018; Jakobsen, Marín-López, and Serrano Zapata 2025). In a compelling way, Line Jakobsen, Daniel Marín-López, and Angela Serrano Zapata (2025)

have characterized the nexus between state, violence, corporation, and development model in Colombia as "corporate counterinsurgency."

Cesar department has an estimated 1,295,387 inhabitants. Of this population, 51,233 identify as Indigenous, 142,233 as Afro-Colombian, while the vast majority of 893,538 identify as not belonging to any ethnic group. Twenty-four percent of this population lives in rural areas, while the remaining 76 percent live in urban and semi-urban centers (CESORE 2020). Various Indigenous and ethnic groups, such as the Arhuaco, Wiwa, Koguí, Kamkuamo Yukpa, Chimila, and Afro-Colombian communities, inhabit Cesar, distributed throughout the territory. Non-ethnic-identifying peasant peoples in Cesar hail from different regions of the country, having undertaken different migratory processes at various times, particularly from the Andean region.[9] This makes the department a tremendously diverse territory in which different conflicts abound, particularly related to the use and possession of land. These tensions arise from a land-planning structure that, in addition to focusing on extractivist land use, is also shaped by an opposing, radical view based on natural conservation, which prohibits the presence of peasant people and communities. Amid this land-planning structure, peasants and Afro-Colombian communities lack land proprietorship and use rights (Ospina, Vera Lugo, and Del Cairo-Silva 2023; Vera Lugo 2024; Vera Lugo and Mosquera, forthcoming; see also Figure 1).

These structures have exacerbated contradictions among peasant movements, social organizations, and Indigenous populations, all of whom have long suffered marginalization within the national economy. Although Indigenous struggles gained momentum with the recognition of multiculturalism in Colombia's 1991 Constitution, this recognition proved largely symbolic, despite granting collective ownership rights over significant portions of land. This history has proved hardest for peasant communities and organizations, who have found themselves trapped by a land and agricultural-development policy geared at agroindustry and rural modernization without meaningful land redistribution. This same Constitution, while expanding social rights, also liberalized the economy and further entrenched the agroindustrial, extractivist, and energy-mining model.

When mining operations took off in 1995, other forms of violence began. Some families were relocated to other towns, walls and roads were built, and a process of water capture and river diversion was initiated. Passageways to one of the most important swamps were prohibited, with relocation notices issued. During my fieldwork in northern Cesar, I heard stories about shortages of water where it was once plentiful, about fish scarcity, rivers diverted by mining, oil palm and cattle companies, the contamination of wells, and the indiscriminate

and disproportionate use of water by mining corporations. I also witnessed the wounding of these ecologies in the daily water outages in the city where I stayed. Members of communities close to palm crops and mining companies associated the water shortages with mining, saying that the mining companies' diversion of the Calenturitas River had ruined the savanna where they had once farmed and fished. They spoke of a time thirty years ago when a fertile savanna had provided them with everything they needed to live and recalled the arrival in the 1960s of businesspeople from Medellín who began cordoning off their communal lands. They did not know why their lands—collectively held since colonial times—were being enclosed and now had owners from outside the region. Extraterritorial boundaries seemed to fragment the areas that they and their African ancestors had inhabited since at least the late nineteenth century. Testimonies indicate how people were threatened by paramilitaries around the places where mining companies exist today, as well as the difficulties faced by people in leaving and entering the region. In fact, three towns, El Hatillo, La Loma, and Boquerón, were left inside the confines of the mines (Drummond, Prodeco, Colombian Natural Resources), with promises of compensation and relocation. As Doña Ceci, a courageous woman and local leader who has lived her entire life in El Hatillo, once pointed out to me:

> Thirty years ago, my mother would tell us, go cut firewood, and all the women went out with their horses to cut firewood. Those outings were common. Today you can no longer go there. That is the fully private property of the army and there is private security, and those who drink water from the remaining rivers end up with diseases. Here we have no water or a place to buy it; we just boil it or warm it under the sun. Not only are there heavy security and barriers, but large trucks go through the villages, at the edges of which there are mountain ranges [waste heaps] that did not exist before.

These small villages and towns end up enclosed or confined within the corporate operations of various open-pit mines, with no municipal or public service infrastructure. The families of El Hatillo collect water from the toxic runoff that comes from and adjoins the mine, and they suffer from respiratory diseases and malnutrition (OCA-IDEA 2017; BePe, et al. 2020; Sánchez 2018; Torres 2015). A report from the National University of Colombia's Environmental Conflict Observatory indicates, "PM10 particles released into the air significantly exceed the recommended minimum of 60 micrograms per cubic meter, reaching 87 during the driest times of the year" (OCA-IDEA 2017, 12). As a result, and based on

the National Environmental Agency (ANLA) Ruling 3573 of 2011, corporations were required to initiate a resettlement process for Becerril, El Paso, La Jagua, and other municipalities located in the mines' area of influence. However, to date (2024), a significant portion of these families and communities continue to live at the center of mining operations (BePe, et al. 2020; Sánchez 2018).

Given these rapid and dramatic forms of violent accumulation and transformation of the landscape, territory, and environment, by the early 2000s, different legal processes spearheaded by national and international NGOs began to draw attention to health conditions and the companies' failures to provide social compensation and community relocation. Just one relocation plan has been carried out (Plan Bonito village), with irreparable consequences to community social relations, producing their proletarianization and precarization in outlying areas in other towns and larger cities within Cesar department. No other relocation projects have seen implementation, having been dragged out and mired in legal contention. As Doña Ceci told me in her frail voice, walking across her arid and deserted patio, "they are just waiting for us to die of old age or illness, and in the end, to relocate a few or not relocate anyone at all."

While different mining operations and infrastructural complexes proliferated (pits, roads for dump trucks and waste disposal, energy generators and water-supply plants, as well as mini-industrial cities, including housing, recreation, and educational facilities for workers and their families) alongside limited or practically nonexistent public investment in social services (health care, education, employment), a corporatist-state infrastructure connects the CMC with international trade networks. Through this extractive spatialization, these territories—traditionally inhabited by peasants, Indigenous peoples, and Afro-descendants—have been slowly but progressively emptied.

While these facts are widely known, and lively discussions about energy transition and climate change take place across the country, the involved mining corporations have already made future projections for the next half-century. New concessions for more than forty and sixty years have granted mining companies the assurance that the coal market is far from ending. Instead, they are already thinking about what they deem the "post-mining period." This altered territoriality amounts to the de facto rearrangement of the landscape, nature, and soil, while also altering local temporalities and extinguishing communitarian histories, stories, and futures. These rearrangements of nature are planned and designed for future value production and capital exploitation, and they will absorb at least three generations to come, all while shortening people's lifespans and expectations.

PROSTHETIC LANDSCAPES AND ECOLOGIES

In 2019, I talked to the biodiversity and compensation manager of a mining company in the CMC. I was surprised by his immediate responsiveness and invitation to go into the mine. Days later, the company sent a pickup truck for me and a colleague, and we were driven two hours into the mine to visit areas undergoing restoration that had once been exploited and damaged by the mining operations. At noon, we made a stop to watch an explosion, scheduled at the same time every day, to kick-start the subsequent process of waste and coal recollection (many people outside the mine complain that these explosions have damaged their homes and produced massive clouds of dust). The manager explained to me that he had convinced the "company" to use the mine's machinery and technological resources to restore the landscape affected by the mining operation during the past years. In an explanation peppered with some technicalities, he told me that the Colombian government does not ask "mines" to do as they have, but he considers it one of the company's contributions to the region. Instead of leaving behind the waste, he says, "we keep it, so we can use it to rehabilitate these areas as much as possible."

Figure 2. Mountains, made with mining waste, emerge from former savannas. Photo by Juan Pablo Vera Lugo.

Proudly, he pointed out masses of stone and earth overburden stacked into artificial mountains, the makings of canals, and stone pilings meant to structurally reinforce the mountains. He pointed out to us the engineering of vegetation layers and lagoon systems that could be built there. I asked him where the water for the irrigation process comes from, having seen several trucks disperse endless water to control dust on the internal mine roads on which we were driving. He told me that all the water they used was recycled, and that they had forms of treating it before its removal from the mine (a radical contrast from what I had seen outside the mines). Later, he drove us to the top of one of the new mountains and, once there, told me: "In the future, a hotel would look good here, with the mining museum that the company is planning to build when the mine closes and, in the future, lagoons. We have left areas for planting, and here you could make a park to view the wetlands on the other side of the mine, as well as areas for growing palm, solar energy, and agroindustry."

Continuing our journey, the biodiversity and compensation manager harped on the mine's environmental restoration and compensation strategies, adding that the corporation was paying for environmental services, compensation, and carbon credits for peasant families in the Serranía del Perijá. In this way, it pays peasant communities to control deforestation in nearby areas and to help conserve the environment. He claimed that the mine's already restored mountain and lagoon areas (a minor system compared with the size of the whole operation) had "already attracted migratory birds, flora, and fauna."[10]

Figures 3 and 4. Emerging wetlands from the techno-ecological restoration. Photos by Juan Pablo Vera Lugo.

This vision of the future nonetheless proved misleading and paradoxical, at once true and deceptive. To get an idea of the scale of this transformation, extracting an expected 50 million tons of coal involves removing half a billion cubic meters of earth. Over the years, meadows, savannas, remnants of forest, ravines, rivers, and tributaries have been progressively destroyed. Prodeco, another mining company in the CMC, has been accused of diverting four rivers without authorization from the environmental authority, as happened with the Calenturitas River, which flows into the Cesar River, and later into the Zapatosa Marsh (OCA-IDEA 2017). The nine-kilometer course alteration of the

Calenturitas, one of the region's most important bodies of water, as well as of smaller bodies of water like the San Antonio River, has been at the center of debate about the environmental effects of the Drummond company. This has dramatic consequences for communities such as La Loma who have lost all sources of water supply (OCA-IDEA 2017). The alteration of the hydrological system in this region breaks the ecological interconnectivity between the mountain system of the Serranía del Perijá with the lagoon system of the Zapatosa Marsh and the Magdalena River (Anaya and Diaz 2016; Sánchez 2018; see Figure 1). Hydrographic basins, streams, lagoons, and rivers have been destroyed, and with them fundamental ecological functions such as flood control and feedback between the region's extensive wetlands (OCA-IDEA 2017).

Simultaneously, mining extraction sites have replaced land cover in massive proportions. Where once were pastures, gallery and riparian forest, grasslands, and open woodlands, are now pits and waste piles (Anaya and Diaz 2016). Likewise, the mines' joint operations overlap with 1,021.59 hectares of the Magdalena River Forest Reserve and 19.12 hectares of the Serranía de los Motilones, interfering with the forest reserves sanctioned by the environmental authority Regional Autonomous Corporation of Cesar (CORPOCESAR) (Anaya and Diaz 2016).[11] The promotion of policies geared toward the growth of the extractive economy in the region has resulted in the loss of 28.97 percent of natural cover in one municipality in the past twenty-six years alone. Mining exploitation areas have increased their initial size eleven times since 1989, affecting areas designated for agriculture (27.63%) and livestock (43.40%). In terms of natural coverage, mining activity has overtaken 11.33 percent of gallery forests and 8.99 percent of open forests (Anaya and Diaz 2016, 42). It is important to note that for every ton of coal extracted, ten become "waste," amounting to approximately 10,000 waste tons polluting the air, rivers, subsoil, and ground (OCA-IDEA 2017). Nonetheless, the mines continue to expand their operations.

Figure 5. Ruined landscape at La Loma municipality. Photo by Juan Pablo Vera Lugo.

We could not visit the operation areas, nor the giant ponds of black water that we observed on the other side of the mine. In reality, there is no way of controlling the ecosystemic damage to soil and rivers on this scale, much less without legislation requiring companies to do so. What drives this techno-ecological dream in the CMC is the need to do something with the dizzying amount of waste from daily industrial operations. Overburden becomes mountains and toxic water is fed into huge artificial ponds, in the process extirpating soil and aquifer corridors and transitional savanna forests on more than 277,180 hectares of exploited territory (ANLA 2015).[12] Thus, these ideas of ecological restoration and landscape rehabilitation seemed to evade, with restorative jargon, the basic needs of waste and debris management associated with mining operations.

For all this, the ecological restoration manager, operating within the limits of a techno-capitalist imagination, fails in his promise to re-engineer the landscape and nature, even in terms of a liberal vision of ecological restoration and social responsibility. There are no policy requirements that the land be returned in the condition in which it was sold, leased, and tendered to the mining companies, or that it be returned as it was conceded. Yet new mountains have been erected and small lagoons and canals designed and built in former waste and exploitation areas. Despite this, no plans exist to treat wastewater dams or backfill crater pits. In the future, all the pits will amount to 42,800 hectares, an insurmountable wall that will regenerate nature and social relations while fundamentally preparing the ground for future capitalist transformations, such as agribusiness and renewable energy.

Although the expectations of the global market remain optimistic, even forecasting another sixty years of coal extraction, in 2020 Prodeco (Glencore), which manages the second-largest mine in the region, announced its withdrawal from the country (given the COVID-19 outbreak), sparking short-lived national outrage over the unemployment implications. But to those knowledgeable of the region, the withdrawal meant many other things. As Prodeco's case demonstrated, these companies can pick up their bags and leave without offering any form of environmental restoration, reparation, or compensation, without plans for post-mining environmental and infrastructure management, and without any accountability for their involvement in the armed conflict and their failures to compensate communities (Monsalve S. 2023). What is worse, these companies have failed to comply with administrative and legal decisions handed down by Colombian authorities on collective relocation and compensation for communities. The Prodeco announcement nonetheless became a conjuncture for

communities, organizations, and academia to start talking about decarbonization and *just energy transition* across the CMC.

While the discourse around a just energy transition has helped communities and civil society organizations propose alternative paths to mining exploitation, producing crucial ideas about the need to formulate policies for an "alternative productive model," "employment reconversion," and "socioecological transition" (superseding past claims by NGOs and academia for a return to pastoral forms of life, relocations, and reparations), energy corporations are carrying out their business in parallel to coal exploitation in the region, overshadowing mining-extraction practices and representations across the region, and co-opting the energy-transition agenda (Banks and Schwartz 2023). Today energy-transition discourses and practices promoted by state institutions and coal companies are at an all-time high, profusely developing photovoltaic projects across the region. This is the case of La Loma Solar Park, built within the area of the CMC with more than 400,000 solar panels across an area of 437 hectares, producing other landscapes, ecological transformations, and forms of land accumulation. La Loma today constitutes the largest photovoltaic park built in the country. It stands at a capacity of 187 megawatts, capable of generating 420 GWh of renewable energy per year. In this scenario, energy-transition and post-mining narratives prefigure new forms of value production and new forms of landscape and ecological transformation based on ecological restoration narratives and renewable energy infrastructure.

Figure 6. La Loma Solar Park. Photo by Juan Pablo Vera Lugo.

The purportedly altruistic attempt to reconnect disconnected, fragile hydrographic basins with ordinary yellow machinery and the emerging renewable energy production in the region recast attention on the narratives and materialities that weave together these emerging landscapes and toxic ecologies.[13] This configuration of nature and renewable energy production embodies the principles of *natural prosthetics*. While prostheses often refer to mechanical devices, they can likewise encompass supplemental, simplifying, and augmenting technologies (like eyeglasses or hearing aids) (Sawyer 2001, 162). Taking into account Sawyer's (2001) analysis of the prosthetics of corporate capitalism, used to examine the way a corporation perfects its performance through a detachable and contingently disavowed subsidiary abroad, forcing individuals who are denied their privileges of citizenship at home to claim their rights in foreign systems (Sawyer 2001, 159), I extend the concept to frame the actual and permanent re-articulation of people (through exclusion and confinement), nature, techno-scientific knowledge, violence, and infrastructure produced by industrial operations, mining, and renewable energy production into changing forces and materialities that replace former landscapes and ecosystems with artificial, rehabilitated, and ruined ones.

Here, emerging ecologies are configured by shrinking relations, ecological contractions, and simplified landscapes, but also, as with Prodeco and La Loma Solar Park, corporative assemblages and disassemblages. This emerging prosthetic landscape retracts the gap between the Serranía del Perijá and the Zapatosa lagoon system by disrupting the intermediate ecology for the erection of artificial mountains and cliffs. In doing so, it disrupts and contaminates soil and rivers through an intervention of colossal proportions. It works, however, to extend capitalist nature by producing value from nature's decomposition and rearrangement laying the groundwork for future modes of extractive value production through emerging forms of extractivism in agroindustry and renewable energy production.[14]

This capitalist intervention operates by producing the constant re-articulation of social and corporative relations, nature and value, scales, landscapes, soil, and subsoil, while also blurring the line between scientific research, legal knowledge, and extraction (Olarte-Olarte 2023; Tsing 2012). Here, no guarantees exist for the realization of the engineer's technological dream. But it makes visible that a post-mining future is only possible so long as corporations or emerging forms of corporate specters, from mining to renewable energy production, remain to transform the territory, with the capacity and on the scale achievable by capitalist power and knowledge alone.

This landscape transformation also configures a form of self-contained worlding based on the ruination of nature-into-value. It is not only constituted

by plans, projections, and expectations but also by material transformations of the soil and of hydrographic basins that break ecological systems and build artificial relations to conform with corporative operations. In these areas, emerging forms of value production are envisioned for years to come, be they agroindustrial, energy-production, or infrastructure projects. Such visions create new forms of value production through the re-articulation of technical narratives tied to ecological restoration or reparation, conservation, social responsibility, and clean energy, but more fundamentally, to the configuration of future forms of prosthetic capitalism.

POST-MINING LANDSCAPES, EXTRACTIVISM, AND PROSTHETIC NATURE

The first goal of this essay was to account briefly for the economic history stemming from agroindustry, extensive cattle ranching, and coal mining extractive models in Cesar region, its articulation to violence, and the experience of local Afro-Colombian and peasant populations living in this area. The second goal was to describe how corporate visions of the future produce prosthetic ecologies from the making of "restored and rehabilitated" landscapes, "energy-transition" landscapes, and toxic, ruined, and wounded post-mining landscapes that, instead of hindering capitalist value production, essentially foster it. In this last section, I aim to briefly discuss the conceptual and political implications of extractivism, post-mining, and transition in the region, the dramatic forms of landscape and ecological transformation taking place, and the scope of prosthetic nature and social relations, so as to offer a brief analysis of capitalistic spatiality in northern Colombia under late liberalism.

Discussions about restoration, rehabilitation, enhancement, and rewilding recast attention on the economic, cultural, and historical demands of groups, experts, and communities struggling to envision their future in altered or devastated places (Bürgi, Hersperger, and Schneeberger 2005; García-Ruiz et al. 2020; Hourdequin and Havlick 2015; Prior and Ward 2016). This literature has focused on the tensions around ecological restoration, attending concerns about historical and ecological fidelity (Langhorst and Bolton 2017). Still, no agreement exists about the best way to improve the ecological relationships and functioning within an ecosystem (García-Ruiz et al. 2020). These works analyze the technical and political work of remediation and recuperation, centering engineering as an environmental solution, alongside redevelopment and economic reactivation (through tourism, cultural heritage, history) (Hourdequin and Havlick 2015), in addition to reclamation efforts and patrimonialization (Langhorst and Bolton 2017). Yet as some authors have shown, restoration at the ecosystem level

is not always effective enough for nature conservation (García-Ruiz et al. 2020), as human and non-human interactions reclaim and continuously act on spaces and places. In this sense, considering human and environmental relations for the reconfiguration of spatial-natural-cultural relations proves central to ecological and sociocultural analysis (Hourdequin and Havlick 2015; Moreira, Queiroz, and Aronson 2006), as well as to decision-making about severely intervened-on ecologies and landscapes. In many of these scenarios, paradoxical reconfigurations of identity and memory take shape as they superpose, contradict, and change, reshaping the legacies of mining extraction (Bridges and Osterhoudt 2021; Hourdequin and Havlick 2015).[15]

In the CMC, post-mining narratives, practices, and disputes about the vision of the future are front and center. These debates hinge on "reparations," "ecological restoration," and a "productive transition model." However, the post-mining scenario is far from materializing. These narratives operate more as battle grounds than actual techno-political interventions. Far from stalling energy production, agroindustry, and coal mining, plans have intensified. What is visible here are patches of post-mining landscapes (restored and rehabilitated), "energy-transition" landscapes (industrial infrastructures), and toxic, ruined, and wounded landscapes (Crane 2024) that assemble this prosthetic nature, continuously reconfiguring its forms of value production. Thus, in the CMC, post-mining narratives are compatible with active extractivism.

These forms of extractivism reflect the way nature has been reductively conceived of and imagined, and the way in which the market and capital have developed over the past sixty years in northern Cesar. Here, corporate practices are constituted by techniques and knowledge of landscape restoration and ideas of post-mining futures that create emerging forms of value production, forcing temporalities and interconnections, spatial ruptures, fragmentations, corporative assemblages and disassemblages, as well as endless landscape re-accommodation and re-articulation. In this vein, it is essential to pay attention to the way corporate power rearticulates the future and forms of value production through emerging practices and narratives associated with "energy transition," "ecological restoration," "post-mining rehabilitation," "carbon credits," "ecosystem services," "sustainability," and so on. By using the analytic of prosthetic nature, this study helps illustrate the corporate effort to produce narratives and practices that in the end fail to repair and restore landscapes and ecologies—as much as people's lives, livelihoods, and historical memory—but that do work as a mirage distracting from violent corporate practices and rationales.

The importance of studying the emerging landscapes and narratives tied to corporate green futures and sustainable industrial operations lies in analyzing

the material aspects of a development model rooted in ideas of expansion and scalability, which often marginalize local diversity, historicity, and wealth (Tsing 2012). In mining and post-mining contexts such as the CMC, emergent ecologies and infrastructures raise questions about the effects of ruination, toxicity, and the risks to which communities and ecosystems are exposed in the absence of oversight or plans for restoration and management (Heredia Moreno, Barrera Lobatón, and Castillo de Herrera 2019). Paradoxically, renewable energy production and infrastructure were traditionally represented as a reflection of development, modernization, and change, ultimately revealing dramatic transformations in traditional forms of socialization, governance, and power, as well as entrenched accumulation and dispossession mechanisms (Anand, Gupta, and Appel 2018; Carse 2012; Harvey and Knox 2015; Hetherington 2014; Mitchell 2012).

Colombia has the largest coal reserve in Latin America and is the fifth-largest exporter of fossil fuel in the world (Sánchez 2018). The management and exploitation of these reserves are integral to the development model implemented by the Colombian state, based on land and the rent and sale of nature, agribusiness, extensive livestock farming, and fossil fuel exploitation, with profound social and environmental impacts (Coronil 1997; Gago and Mezzadra 2017; Gudynas 1999). This developmental perspective has displaced, slaughtered, and confined populations, imposed infrastructures and colonial legacies on historical territorialities, and radically transformed landscapes, thereby generating new power relations around already transformed capitalist spaces (Arboleda 2020; Bridge 2004; Bürgi, Hersperger, and Schneeberger 2005; Cardoso and Turhan 2018; Mintz 2017, Sánchez 2018; Stern 2019).

In this milieu, university researchers, social organizations, unions, NGOs, and some national institutions have promoted conversations on *just energy transition* to hold accountable the mining industry in the short run. At the same time, these techno-scientific representations are re-appropriated and creatively unleashed by the corporatist imagination to drum up ideas of emergent technologies and practices associated with post-mining, energy transition, net zero, risk management, and sustainable corporate operations. Paradoxically, the idea of a just energy transition, still framed within liberal capitalism, remains among the few forms of contestation to the mining extractivist model in Colombia, as opposed to thinking radically about post-development or alternatives to development (Escobar 2005). Nevertheless, as mentioned before, some local social organizations are mainstreaming important ideas about the need to formulate policies for an "economic model transition" (*transición del modelo productivo*), for employment reconversion (from mining operations to peasant work, ecological

restoration, or something else), and for a socioecological transition across Cesar region.

These narratives about energy transition and a post-mining future contrast with weak corporate practices, ideas, programs, or enforceability of ecological restoration and rewilding. Rather, what we observe in the CMC is a meager process of local participation in which corporations and local organizations sustain challenging and contested relations. In contrast to other experiences, where windows of collective futures and pasts are visible (Halvaksz 2008; Jaramillo 2020), in the CMC, not a shred remains of historicity, humanity, and a sense of nature. Instead, in the CMC, artificial landscapes and infrastructures associated with energy transition, agribusiness, extensive livestock, and large-scale mining proliferate, destroying rivers and savanna forest, and severing communities from natural resources and the means with which to sustain and defend life (Marín López and Vera Lugo 2022; Sánchez 2018; Sankey 2014; Ulloa 2016; Vera Lugo 2023). Today, these practices continue to shape neocolonial legacies of energy production and drive new dynamics of capitalism amid environmental and climate crises.

The process of more than sixty years of corporate expansionism in northern Cesar has been violent and inhumane, causing societal and environmental disintegration. Despite this, corporate power and development mechanisms continue to be regarded as essential tools for democracy-building and economic growth. In this context, it is crucial to better understand, using an analysis of the state and corporate power proposed by Timothy Mitchell (2006) and Aihwa Ong (1999), the *corporate effect* of detaching itself from the world and from nature while, in practice, consuming labor, water, soil, and air. It is central to further question how corporate power, in everyday practice, remains analytically separated from the state, as well as from local and international law and accountability. As seen in the CMC mining industry, the violent roots of the corporation are as much a part of its nature as they are of the state.

The transformation of transitable areas of savanna between the Serranía del Perijá and the Zapatosa lagoon system into abysses and mountains of mining waste is materialized through legal regimes, expert knowledge, and development models, themselves key narratives of state formation in Colombia. It is as if the very formation of the state would be impossible without spectacular forms of capitalist intervention on people and landscapes. These spectacular forms of violent corporate assemblages are transformed into emergent ecosystems and landscapes that permanently re-establish people's relationship to nature and their territories, as well as to local temporalities and landscapes, not to mention to the everyday formations of prosthetic capitalism.

ABSTRACT

This essay examines the socioecological transformations of mining and post-mining landscapes in the mining corridor of the Cesar Department, northern Colombia. When an open pit mine is about to close or has recently closed, companies promote post-mining strategies framed as ecosystem restoration and social compensation. Yet daily practices reveal a contrasting reality: confinement, land and water grabbing, pollution, disregard for legal rulings, and large-scale ecological disruption. Drawing on ethnographic research conducted since 2018, I discuss how landscapes shaped by these specific forms of capitalist extraction configure transformed, fragmented, and reconstituted forms of nature suitable for future forms of extractive value production through rehabilitated yet toxic ecologies, agro-industrial projects, and energy transition initiatives. These processes generate prosthetic landscapes and ecologies where nature is simultaneously restored and destroyed. I argue that corporate narratives of restoration, responsibility, and compensation function as mirages, obscuring violent corporate practices while legitimizing emerging regimes of energy extractivism. [coal mining; postmining; landscape change; ecological restoration; corporate violence; natural prosthetics; energy transition; extractivism]

RESUMEN

Este ensayo analiza las transformaciones socioecológicas de los paisajes mineros y posmineros en el corredor minero del departamento del Cesar, en el norte de Colombia. Cuando una mina a cielo abierto está a punto de cerrarse o ha cerrado recientemente, las empresas implementan estrategias posmineras presentadas como restauración ecológica y compensación social. Sin embargo, las prácticas cotidianas muestran una realidad distinta: confinamiento, acaparamiento de tierras y aguas, contaminación, desconocimiento de fallos judiciales y una profunda alteración ecológica. A partir de una investigación etnográfica realizada desde 2018, examino cómo los paisajes configurados por estas formas específicas de extracción capitalista producen naturalezas transformadas, fragmentadas y reconstituídas, adecuadas para nuevas formas de producción de valor extractivo mediante ecologías rehabilitadas pero tóxicas, proyectos agroindustriales e iniciativas de transición energética. Estos procesos generan paisajes y ecologías prostéticas en los que la naturaleza es restaurada y destruida simultáneamente. Sostengo que las narrativas corporativas de restauración, responsabilidad y compensación funcionan como espejismos, al ocultar prácticas violentas y legitimar regímenes emergentes de extractivismo energético. [minería de carbón; posminería; cambio del paisaje; restauración ecológica; violencia corporativa; naturaleza prostética; transición energética; extractivismo]

NOTES

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1. Open-pit coal mines of la Loma (which began production in 1995) and El Descanso (which began production in 2009). Future expansion will include the areas of El Descanso South, Rincón Hondo, Similoa, and Cerro Largo.
2. Open-pit coal mines of Caleturitas and La Jagua.
3. Open-pit coal mines of La Francia, El Hatillo, and Cerro Largo.
4. I have been working in the region since 2018, involved in different research projects, particularly on land planning and social conflicts. During this time, I have listened to countless stories about socio-environmental conflicts and violence. For this analysis, I include only the interviews related to CMC's environmental transformations.
5. The cartographic approach proves central to understanding the relationship between land planning and development in northern Cesar. It also helps illustrate the monumental scale of the extractivist project in the region. Here, I include the cartography of mining in northern Cesar to provide context for this essay.
6. Additionally, I have conducted archival research in the Colombian National Archives to study the historical configuration of these forms of spatial planning in the region. Drawing on this research, a short documentary titled *Enredos Institucionales* [*Institutional Entanglements*] (2020) was produced that explored the tensions and contradictions of land planning across the region.
7. Paramilitary organizations were largely created in the 1990s by regional landowners to combat guerrilla groups. In 2006, a Disarmament, Demobilization, and Reintegration (DDR) process occurred within the framework of transitional justice to seek truth, justice, and reparations for victims.
8. The 2016 peace agreement between the FARC guerrilla and the government of Colombia included the creation of the Special Jurisdiction for Peace) in the transitional justice system. Several reports created by social organizations such as the Comisión Colombiana de Juristas and the national union representing mining, petrochemical, agrofuel, and energy industry workers (Sintramienergética) have been submitted to this court, denouncing the relations of paramilitary groups with mining companies, particularly Drummond. They also denounce harassment against unions and the murder of three union leaders (in *La explotación minera de Drummond Ltda*, a 2022 report available at https://www.coljuristas.org/sala_de_prensa/informe-sobre-violencia-antisindical-en-el-corredor-minero-del-cesar-fue-entregado-a-la-jep). The court has mandated precautionary measures during the investigation, coupled with additional measures concerning transnational corporations and civilian third-party contributors to the conflict, like its financiers.
9. According to the National Single Registry of Victims (SRV), 263,086 people in the region have suffered individual, family, community, and collective harm related to the armed conflict. The SRV is a database managed by the UARIV (Administrative Unit for Victims' Reparation).
10. In fact, this company has designated a special area in the municipality of El Paso, releasing around a hundred specimens of fauna from seven different species. Ocelots, turtles, night owls, dog foxes, common boas, iridescent boas, and yellow-footed tortoises (*morrocoyes*), many of which are endangered, have been reintroduced into conservation areas.

11. COSPOCESAR is a Colombian environmental authority responsible for managing, protecting, and conserving natural resources (such as water, forests, biodiversity, and soil) within the Cesar Department in northern Colombia. It's one of several regional environmental agencies created by the Colombian government to implement environmental policies and promote sustainable development at the local level.
12. According to a Colombian environmental authority report on the Cesar Mining Corridor (CMC), the zone comprises a diverse and rich area of 2,423.5 km² in the department of Cesar throughout the municipalities of Becerril, Agustín Codazzi, La Jagua de Ibirico, Chiriguaná, and El Paso. The environmental authority with jurisdiction in the area is the Regional Autonomous Corporation of Cesar (CORPOCESAR).
13. Communities and social organizations are excluded from these projects, lacking both access and a voice in the decision-making process about restoration efforts. Former workers from the nearby Prodeco mine, supported by cooperation agencies, have attempted to design restoration projects, but these efforts have yet to materialize.
14. The production of value through the exploitation of nature involves the extraction and transformation of natural resources into commodities for profit. Capitalists extract raw materials (minerals, fossil fuels, timber, etc.) and, through human labor, convert them into marketable goods. This labor adds value to the raw materials, but the resulting market price does not reflect the environmental and social costs of production. Environmental degradation and social inequalities are overlooked, as the costs of ecological harm and the exploitation of marginalized communities do not feature in the pricing of commodities. Thus, while nature provides value, its exploitation often leads to ecological and social consequences ignored by the extractivist system (Foster 2000, Harvey 2006, Marx 1990). As discussed in this article, value is also added in the CMC by reshaping nature into emerging forms of prosthetic capitalism.
15. As Francisco Moreira and others have point out, landscape restoration is justified by historical, cultural, ecological, and aesthetical reasons (Bridges and Osterhoudt 2021; Moreira, Queiroz, and Aronson 2006), and further embodies significant political, social, historical, and cultural battles (Hourdequin and Havlick 2015; Langhorst and Bolton 2017). Recently, these studies have recast particular attention on the so-called global energy crisis and energy-transition policies in many Global North countries given the war in Ukraine. In Europe, interest has increased in the question of whether mining sites should be reopened or abandoned, raising questions about temporality, landscapes' continuous exploitation, geopolitical demands, market demands, and industry transformation.

REFERENCES

Anand, Nikhil, Akhil Gupta, and Hannah Appel
2018 *The Promise of Infrastructure*. Durham, N.C.: Duke University Press.

Anaya, Luisa, and Luisa Diaz
2016 *Análisis de la fragmentación de coberturas naturales producida por la minería a cielo abierto en el municipio la jagua de ibirico, Cesar* [Analysis of the fragmentation of natural land cover caused by open-pit mining in the municipality of La Jagua de Ibirico, Cesar]. Bogotá: Universidad Francisco José de Caldas.

Arboleda, Martín
2020 *Planetary Mine: Territories of Extraction under Late Capitalism*. London: Verso Books.

Arias, Julio, and Alhena Caicedo
2017 "Etnografías e historias del despojo. Una introducción" ["Ethnographies and Histories of Dispossession: An Introduction"]. *Revista Colombiana de Antropología* 53, no. 1: 7–22. https://doi.org/10.22380/2539472X.1

Autoridad Nacional de Licencias Ambientales (ANLA)
2015 "Reporte sobre la zona minera del Centro del Cesar" [Report on the Mining Zone of Central Cesar]. Bogotá: ANLA.

Banks, Emma, and Steven D. Schwartz
2023 "Co-opted Energy Transitions: Coal, Wind, and the Corporate Politics of Decarbonization in Colombia." *Journal of Political Ecology* 30, no. 1: 652–76. https://doi.org/10.2458/jpe.5470

Bienaventurados los Pobres (BePe), Justiça nos Trilhos (JnT), Pensamiento y Acción Social (PAS), and CooperAcción
2020 "Análisis de la aplicabilidad y eficacia de los Principios Rectores sobre las empresas y los derechos humanos: Argentina, Brasil, Colombia y Perú (Resumen Ejecutivo)" ["Applicability Analysis and Effectiveness of the UN Guiding Principles on Business and Human Rights: Argentina, Brazil, Colombia, and Peru (Executive Summary)"]. Bogotá: Bienaventurados los Pobres (BePe), Justiça nos Trilhos (JnT), Pensamiento y Acción Social (PAS), and CooperAcción, with the European Union.

Bernal, Fernando
2004 *Crisis algodonera y violencia en el departamento del Cesar* [*Cotton Crisis and Violence in the Department of Cesar*]. Bogotá: Ministerio de la Protección Social.

Bridge, Gavin
2004 "Contested Terrain: Mining and the Environment." *Annual Review of Environment and Resources* 29: 205–59. https://doi.org/10.1146/annurev.energy.28.011503.163434
2008 "Global Production Networks and the Extractive Sector: Governing Resource-Based Development." *Journal of Economic Geography* 8, no. 3: 389–419. https://doi.org/10.1093/jeg/lbn009

Bridges, Ben, and Sarah Osterhoudt
2021 "Landscapes and Memory." In *Oxford Research Encyclopedia of Anthropology*. https://doi.org/10.1093/acrefore/9780190854584.013.304

Bürgi, Matthias, Anna M. Hersperger, and Nina Schneeberger
2005 "Driving Forces of Landscape Change: Current and New Directions." *Landscape Ecology* 19: 855–68.

Cardoso, Andrea, and Ethemcan Turhan
2018 "Examining New Geographies of Coal: Dissenting Energyscapes in Colombia and Turkey." *Applied Energy* 224: 398–408. https://doi.org/10.1016/j.apenergy.2018.04.096

Carse, Ashley
2012 "Nature as Infrastructure: Making and Managing the Panama Canal Watershed." *Social Studies of Science* 42, no. 4: 539–63. https://doi.org/10.1177/0306312712440166

Centro de Estudios Socioeconómicos y Regionales (CESORE)
2020 *Perfil demográfico del Cesar: Análisis y recomendaciones de política* [*Demographic Profile of Cesar: Analysis and Policy Recommendations*]. Report. Valledupar, Colombia: CESORE.

Centro Nacional de Memoria Histórica (CNMH)
2016 *La maldita tierra: Guerrilla, paramilitares, mineras y conflicto armado en el departamento de Cesar* [*The Cursed Land: Guerrillas, Paramilitaries, Mining, and Armed Conflict in the Department of Cesar*]. Bogotá: Centro Nacional de Memoria Histórica.
2018 *Tierra y carbón en la vorágine del Gran Magdalena* [*Land and Coal in the Maelstrom of the Greater Magdalena*]. Bogotá: Centro Nacional de Memoria Histórica.

Chiasson-LeBel, Thomas
2016 "Neo-extractivism in Venezuela and Ecuador: A Weapon of Class Conflict." *The Extractive Industries and Society* 1, no. 1: 8–23 https://doi.org/10.1016/j.exis.2016.10.006

Comisión de la Verdad (CEV)
2022 *Hasta la guerra tiene límites*. Vol. 1 of *Hay futuro si hay verdad: Informe final* [*Even War Has Limits: There Is a Future If There Is Truth Vol.1 — Final Report*]. Bogotá, Colombia: Comisión de la Verdad.

Coronil, Fernando
1997 *The Magical State: Nature, Money, and Modernity in Venezuela*. Chicago: University of Chicago Press.

Crane, Emma Shaw
2024 "Martial Matters: Race, Environment, and Surplus at City's Edge." Lecture, Department of Anthropology, Stanford University, January 22.
Dunlap, Alexander
2020 "Wind, Coal, and Copper: The Politics of Land Grabbing, Counterinsurgency, and the Social Engineering of Extraction." *Globalizations* 17, no. 4: 661–82. https://doi.org/10.1080/14747731.2019.1682789
Escobar, Arturo
2005 "El 'postdesarrollo' como concepto y práctica social" ["Post-Development" as a Concept and Social Practice]. In *Políticas de economía, ambiente y sociedad en tiempos de globalización*, edited by Daniel Mato, 17–31. Caracas: Facultad de Ciencias Económicas y Sociales, Universidad Central de Venezuela.
Foster, John Bellamy
2000 *Marx's Ecology: Materialism and Nature*. New York: Monthly Review Press.
Gago, Verónica, and Sandro Mezzadra
2017 "A Critique of the Extractive Operations of Capital: Toward an Expanded Concept of Extractivism." *Rethinking Marxism* 29, no. 4: 574–91. https://doi.org/10.1080/08935696.2017.1417087
García-Ruiz, José, Teodoro Lasanta, Estela Nadal-Romero, and Begoña Álvarez-Farizo
2020 "Rewilding and Restoring Cultural Landscapes in Mediterranean Mountains: Opportunities and Challenges." *Land Use Policy* 99: 104850. https://doi.org/10.1016/j.landusepol.2020.104850
Giraldo, Omar
2015 "Agroextractivismo y acaparamiento de tierras en América Latina: Una lectura desde la ecología política" ["Agro-extractivism and Land Grabbing in Latin America: A Reading from Political Ecology"]. *Revista Mexicana de Sociología* 77, no. 4: 637–62.
Gudynas, Eduardo
1999 *Concepciones de la naturaleza y desarrollo en América Latina* [*Ideas of Nature and Development in Latin America*]. Santiago, Chile: Instituto Latinoamericano de Doctrina y Estudios Sociales ILADES.
2010 "El nuevo extractivismo del siglo 21: Diez tesis urgentes sobre el extractivismo bajo el progresismo sudamericano actual" ["The New Extractivism of the 21st Century: Ten Urgent Theses on Extractivism under Current South American Progressivism"]. Americas Program Report.
Haesbaert, Rogério
2013 "Del mito de la desterritorialización a la multiterritorialidad" ["From the Myth of Deterritorialization to Multiterritoriality"]. *Cultura y Representaciones Sociales* 8, no. 15: 9–42.
Halvaksz, Jamon Alex, II
2008 "Whose Closure? Appearances, Temporality, and Mineral Extraction in Papua New Guinea." *Journal of the Royal Anthropological Institute* 14, no. 1: 21–37. https://doi.org/10.1111/j.1467-9655.2007.00476.x
Harvey, David
2006 *The Limits to Capital*. London: Verso Books.
Harvey, Penelope, and Hannah Knox
2015 *Roads: An Anthropology of Infrastructure and Expertise*. Ithaca, N.Y.: Cornell University Press.
Heredia Moreno, Andrea, Susana Barrera Lobatón, Mercedes Castillo de Herrera
2019 "Habitar el paisaje: Un ejercicio desde la producción de paisajes posmineros" ["Living the Landscape: An Exploration through Post-Mining Landscape Production"]. *Cuadernos de Geografía: Revista Colombiana de Geografía* 28, no. 2: 373–93. https://doi.org/10.15446/rcdg.v28n2.73517
Hetherington, Kregg
2014 "Waiting for the Surveyor: Development Promises and the Temporality of Infrastructure." *Journal of Latin American and Caribbean Anthropology* 19, no. 2: 195–211. https://doi.org/10.1111/jlca.12100

Hourdequin, Marion, and David G. Havlick
2015 *Restoring Layered Landscapes: History, Ecology, and Culture*. New York: Oxford University Press.

Isaacs, Jorge
1967 *Las Tribus indígenas del Magdalena* [*Indigenous Tribes of Magdalena*]. Bogotá: Biblioteca Schering Corporation, Ediciones Sol y Luna.

Jakobsen, Line Jespersgaard, Daniel Marín-López, and Angela Serrano Zapata
2025 "Transnational Corporate Counterinsurgency in the Colombian Conflict and Its Legacies Today." *Critical Studies on Security* 13, no. 2: 1–18. https://doi.org/10.1080/21624887.2024.2416850

Jaramillo, Pablo
2020 "Mining Leftovers: Making Futures on the Margins of Capitalism." *Cultural Anthropology* 35, no. 1: 48–73. https://doi.org/10.14506/ca35.1.07

Langhorst, Joern, and Kate Bolton
2017 "The Postindustrial: Landscapes of Extraction between Reclamation and Reinvention." *Change Over Time* 7, no. 1: 158–82. https://doi.org/10.1353/cot.2017.0008

Llaguno, José, Gerardo Cerdas, and Carlos Aguilar
2014 "Transformaciones y continuidades en el capitalismo agrario centroamericano" ["Transformations and Continuities in Central American Agrarian Capitalism"]. In *Capitalismo, tierra y poder en América Laina (1982–2012)*, edited by Guillermo Almeyra, Luciano Concheiro Bórquez, João Márcio Mendes Pereira, and Carlos Walter Porto-Gonçalves, 17–45. Buenos Aires: Clacso.

López Sandoval, María F., Andrea Robertsdotter, and Myriam Paredes
2017 "Space, Power, and Locality: The Contemporary Use of Territorio in Latin American Geography." *Journal of Latin American Geography* 16, no. 1: 43–67. https://doi.org/10.1353/lag.2017.0009

Marín López, Daniel, and Juan Pablo Vera Lugo
2022 "Actores económicos, formación de Estado y justicia transicional: Perspectivas críticas para Colombia" ["Economic Actors, State Formation, and Transitional Justice: Critical Perspectives for Colombia"]. Translated by Mélanie Denef. IdeAs: Idées d'Amériques, no. 20. https://doi.org/10.4000/ideas.14469

Martínez Valle, Luciano
2012 "Apuntes para pensar el territorio desde una dimensión social" ["Reflections on Understanding Territory through a Social Lens"]. *Ciências Sociais Unisinos* 48, no. 1: 12–18. https://doi.org/10.4013/csu.2012.48.1.02

Marx, Karl
1990 [1867] *Capital: A Critique of Political Economy*. Translated by David Fernbach. New York: Penguin Classics.

Mintz, Sidney W., ed.
2017 [1974] *Caribbean Transformations*. London: Routledge.

Mitchell, Timothy
2006 "Society, Economy and the State Effect." In *The Anthropology of the State: A Reader*, edited by Aradhana Sharma and Akhil Gupta, 169–86. Malden, Mass.: Blackwell.
2012 *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: University of California Press.

Monsalve S., María Mónica
2023 "Denuncian amenazas por evitar que reabra una de las grandes minas de carbón en Colombia" ["Threats Reported Over Efforts to Stop the Reopening of a Major Coal Mine in Colombia"]. *El País*, February 23.

Moor, Marianne, and Joris van de Sandt
2014 *El lado oscuro del carbón: La violencia paramilitar en la zona minera del Cesar, Colombia*. Utrecht, Netherlands: PAX.

Moreira, Francisco, Ana Isabel Queiroz, and James Aronson
2006 "Restoration Principles Applied to Cultural Landscapes." *Journal for Nature Conservation* 14, no. 3–4: 217–24. https://doi.org/10.1016/j.jnc.2006.05.007

Muradian, Roldan, and Joan Martinez-Alier
2001 *Globalization and Poverty: An Ecological Perspective*. Berlin: Heinrich Böll Foundation.
Observatorio de Conflictos Ambientales–Instituto de estudios Ambientales (OCA-IDEA)
2017 "Minería de Carbón Drummond, Prodeco, Murray Energy, Cesar: Análisis de impactos ecosistémicos" ["Coal Mining by Drummond, Prodeco, and Murray Energy in Cesar: An Analysis of Ecosystem Impacts"]. Bogotá: Universidad Nacional.
Olarte-Olarte, Maria Carolina
2023 "'Never Mind Extraction, Ownership Still Belongs to "Us"': A Spatial Critique to Subsoil Public Property in Colombia." *Environment and Planning C: Politics and Space* 42, no. 3: 334–49. https://doi.org/10.1177/23996544231213180
Ong, Aihwa
1999 "Graduated Sovereignty in South-East Asia." *Theory, Culture and Society* 17, no. 4: 55–75. https://doi.org/10.1177/02632760022051310
Ospina, Guillermo Andres, Juan Pablo Vera Lugo, and Carlos Luis Del Cairo-Silva
2023 "Legibilidad selectiva y categorías poblacionales en el Sistema de Parques Nacionales Naturales de Colombia" ["Selective Legibility and Population Categories in Colombia's National Natural Parks System"]. *Journal of Political Ecology* 30, no. 1: 627–51. https://doi.org/10.2458/jpe.5548
Prior, Jonathan, and Kim J. Ward
2016 "Rethinking Rewilding: A Response to Jørgensen." *Geoforum* 69: 132–35. https://doi.org/10.1016/j.geoforum.2015.12.003
Restrepo, Eduardo, and Axel Rojas
2004 *Conflicto e (in)visibilidad: Retos en los estudios de la gente negra en Colombia* [*Conflict and (In)visibility: Challenges in Research on Afro-Colombian Communities*]. Popayán, Colombia: Universidad del Cauca.
Sánchez, Luis
2018 "Las grietas del carbón" ["Coal's Fractures"]. In A*caparamiento territorial: Impactos socioambientales*. Bogotá: Ediciones Uniandes.
Sankey, Kyla
2014 "Colombia: The Mining Boom—A Catalyst of Development or Resistance?" In *The New Extractivism: A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?*, edited by Henry Veltmeyer and James Petras, 124–143. London: Zed Books.
Sawyer, Suzana
2001 "Fictions of Sovereignly: Of Prosthetic Petro-capitalism, Neoliberal States, and Phantom-Like Citizens in Ecuador." *Journal of Latin American Anthropology* 6, no. 1: 156–97. https://doi.org/10.1525/jlca.2001.6.1.156
Stern, Pamela
2019 "The Ghosts of Mining Past: A Settler Colonial Story." *Anthropology and Humanism* 44, no. 2: 231–47. https://doi.org/10.1111/anhu.12246
Taussig, Michael T.
2018 *Palma Africana*. Chicago: University of Chicago Press.
Taylor, Sunaura
2024 *Disabled Ecologies: Lessons from a Wounded Desert*. Berkeley: University of California Press.
Torres, Andrea, Johana Rocha, Diego Melo, and Rosa Peña
2015 *El Carbón de Colombia: ¿Quién gana? ¿Quién pierde? Minería, comercio global y cambio climático* [*Colombia's Coal: Who Wins? Who Loses? Mining, Global Trade, and Climate Change*]. Bogotá: Centro de Estudios para la Justicia Social Tierra Digna.
Torres, Camilo
2020 "El desmonte del bosque seco tropical en el Caribe: La Guajira, el valle del Cesar a finales del periodo colonial" ["Clearing the Tropical Dry Forest in the Caribbean: La Guajira and the Cesar Valley at the End of the Colonial Era"]. In *Fragmentos de historia ambiental colombiana*, edited by Claudia Leal, 3–31. Bogotá: Ediciones Uniandes.

Tsing, Anna Lowenhaupt
2012 "On Nonscalability: The Living World Is Not Amenable to Precision-Nested Scales." *Common Knowledge* 18, no. 3: 505–24. https://doi.org/10.1215/0961754X-1630424

Ulloa, Astrid
2016 "Feminismos territoriales en América Latina: Defensa de la vida frente a los extractivismos" ["Territorial Feminism in Latin America: Protecting Life from Extractive Practices"]. *Revista Nómadas* 45: 123–39.
2021 "Transformaciones radicales socioambientales frente a la destrucción renovada y verde, La Guajira, Colombia" ["Radical Socio-Environmental Change Amid Renewed 'Green' Destruction in La Guajira, Colombia"]. *Revista de Geografía Norte Grande* 80: 13–34.

Vera Lugo, Juan Pablo
2023 "The Crossroads of Environmental Protection Policies and the Energy Mining Model in Colombia: Possibilities for Transition in the Government of Change." Hot Spots, *Fieldsights*, Society for Cultural Anthropology, August 1.
2024 "Widening the Nation-Territory Gap: Transitional Justice, Development, and Spatial State-Building in Colombia." *Environment and Planning C: Politics and Space* 42, no. 2: 287–302. https://doi.org/10.1177/23996544231204826

Vera Lugo, Juan Pablo and Daniela, Mosquera
Forthcoming "Socio-spatial Murkiness: Remote Governance, Development, and the Struggle for Territorial Governance in Colombia."

Viloria De la Hoz, Joaquín
2014 *Empresarios del Caribe colombiano: Historia económica y empresarial del Magdalena Grande y del Bajo Magdalena, 1870* [*Entrepreneurs of the Colombian Caribbean: Economic and Business History of the Greater Magdalena and Lower Magdalena, 1870*]. Bogotá: Banco de la República.