HAPED GEOGRAPHIES: DEPLETING ECHOES OF EXTRACTION

Sculpting, Video Archiving, and Multispecies Knowledge in Peldehue's Extractive Landscapes

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ABSTRACT

Extractive capitalism has long shaped economic and geopolitical structures, particularly in the Global South, relying on large-scale resource extraction that reinforces dependency and environmental degradation. This system perpetuates power imbalances, concentrating wealth in industrialised nations while centralising digital-technological production in urban centres. This article examines the material entanglement of mineral exploitation and digital capitalism by analysing the political and legal frameworks that uphold resource management power structures. Through a case study of Peldehue, a rural town in central Chile marked by colonialism, extractivism, political violence, and environmental decline, it explores how artistic practice and decolonial frameworks can generate counter-narratives to territorial dispossession and ecological collapse. By revealing the spectral traces of depletion and resistance, the study highlights the persistence of multispecies interactions and socio-ecological knowledge under the ongoing pressures of extractivism.

Keywords: Extractive capitalism; Environmental impact; Decolonial perspectives; Artistic research; Installation art.

1. PLANETARY PERSPECTIVES IN EXTRACTIVE CAPITALISM

The examination of extractivism and regional commodities has become a significant and recurring focus for decolonial studies. For the Global South, this revision is intimately linked not only to material exchange but also to the symbolic and cultural assets of communities and environments that have been degraded due to the impact of mono-production industries. The direct removal of resources from nature, raw materials extracted without any significant aggregated value and exported to be processed elsewhere, has proven to be a structural feature of capitalism, which might be characterised as a global net of power that is not purely an economic scheme, but which in its structure integrates geopolitical and geo-cultural processes.

Since the origins of the capitalist system, vast amounts of capital have been accumulated through mechanisms of Colonial and Neo-Colonial appropriation. The exploitation of land, bodies, and matter as forms of capital has generated altered territories through an unequal division, extraction, migration, and exchange between hemispheres. The imposition of a legal frame that exhausts land and affects communities of diverse realms: vegetal, animal, human, and other agencies, has consequently enriched a minority and depleted a majority with its exclusions and expropriations.

Petra Gümplová (2021) has investigated how territorial sovereignty established a form of power and domination over nature, outlining the dominant legal-political-technology as a principle that creates the settings for resource accumulation and exploitation. The Colonial era became the most paradigmatic example of the absolute sovereignty claimed by the Spanish empire after the conquest of territories in North and South America, generating distributive injustice stemming from land usurpation (Gümplová, 2021).

Justified by the expansion of Christianity, the war of conquest over foreign territories was legitimised as a colonial religious mission, but ultimately served to assure and increase wealth mainly through mineral extraction: gold, silver, and copper. With Colonisation, the pre-alignments of the modern territorial grab over natural space were established, rooting a territorial monistic hold (Gümplová, 2021) over natural resources. With this configuration, the logic of unlimited accumulation in the shape of exclusion was already settled. That is "an exclusive benefit of the sovereign, within an arbitrary political space that claims an exclusively proprietary to natural space for the sake of the maximal benefit of individual agents" (Gümplová, 2021, p. 37).

The exploitation and profits generated from the appropriation of natural resources and labour in colonised territories permitted a new planetary system, a World system (Wallerstein, 1974) managed within a centre-periphery scheme. According to Enrique Dussel (2003), this geopolitical fact allows us to explore the roots of Modernity, placing it beyond the Eurocentric paradigm as an autonomous process. Spain became the first modern state by means of the domination and hegemony of an imposed globalised culture, introducing a new language, religion, flora, and fauna species, and a political-economic system over its colonised territories (Dussel, 2003). The primitive accumulation (Marx, 1890) as a precondition for the development of the capital system can therefore be traced back to the colonial period, and has since continued through a process of exploitation and depletion.

The imperatives of growth and profit of Global Capitalism sustain its continuity through relations to nature as an object of exploitation and as a mere means of production. As Gudynas (2018) argues within the context of extractivism, "a utilitarian perspective predominates where these resources are understood as merchandise with an economic value" (Gudynas, 2018, p. 67). This approach creates a spill-over effect that obstructs more organic understandings of nature and prevents a recognition of non-utilitarian values. The intricacies inherent in natural environments are methodically structured, categorised, and quantified within a positivist perspective, where all species and constituents within them are perceived as appropriated resources to be utilised, extracted, manipulated, separated, and exploited. This systematic approach, driven by scientific and technological paradigms of modern, industrialised countries, has become the role model for the pursuit of progress and development globally.

Profitable private transnational companies operating between North and South are a feature of Global Capitalism, a financial and production system integrated worldwide through the internet, which is shaped as a management tool in which the stocks and flows of natural capital are transacted. The internet, which originated from the convergence of global finance and digital technologies, now serves as a monopolistic construction of temporality (Hope, 2006), operating through the notion of real-time, where power systems are reconstructed and accelerated in a virtual space functioning globally.

Extractivism, under this analysis, has shifted from a global lens to a planetary perspective. While the global referred primarily to relations between nation-states and transnational trade flows, the planetary foregrounds the infrastructures, technologies, and socio-spatial processes that knit the planet into

a single but profoundly unequal terrain (Aroboleda, 2020). The expansion of the world market under this planetary vision reveals a contradictory phenomenon: while late capitalism operates at a planetary scale, liberal states have become "increasingly militaristic, interventionist, and coercive" (Aroboleda, 2020, p. 30), producing a "convoluted terrain where fences, walls, and militarized borders coexist with sprawling supply chains and infrastructures of connectivity" (Aroboleda, 2020, p. 27). Planetary-scale visual apparatuses – systems for mapping the earth resources – emerged first through militarised technologies of geospatial data collection, such as remote sensing and satellite infrastructures. These tools, now largely instrumentalised by extractive corporations, enable new forms of control. The planetary interconnection is shaped by paradoxes of flow and blockage: the militarisation of borders, the expansion of security apparatuses, the hardening of immigration control and human mobility – all of which reproduce systemic exclusion, displacement, and violence.

With the entire planet operating as an extended mine, with processes of extraction, transportation, and transformations distributed across multiple scales and territories, the periphery becomes ubiquitous. In this sense, the planetary expands the global, revealing how capitalism organises the production of space beyond state borders, absorbing the entire planet as a manageable resource. By tracing the journey of copper, Arboleda (2020) provides an example of a transnational network. From its extraction site in Chile's Andean mountain range, where it is refined into cathodes and shipped from ports in the Atacama Desert to its final destination in China's advanced manufacturing hubs, the world's largest manufacturer of electronic products, where it is transformed into multiple devices such as smartphones, laptops, batteries, cables, microchips, solar panels, and displays. This journey reveals a highly automated supply chain that manifests with relative autonomy through technological systems and algorithms. These products are then distributed and accumulated in cities as urban mines, far removed from geological reserves across the Global South. Here, the notion of the planetary mine developed by Mazen Labban (2014) becomes critical. Labban argues:

> is not simply the sum of urban mines actualized and localized in cities. It is an emergent object in a continuous process of becoming that arises from the production, circulation, and wasting of materials in planetary space. It is the outcome of multiple processes that fundamentally rearrange, if not altogether supersede, spatial oppositions such as city–mine, consumption– production, and waste–resource. (Labban, 2014, p. 564)

The circulation of e-waste after consumption is not only piling up as an inverted mine in urban cities, but is also externalised to poorer countries in the Global South. The Global E-Waste Monitor reports that in 2022, 16 billion kg of e-waste was collected in high-income countries, mainly in Europe and the United States. Without a formal management system, this waste risks being processed without proper de-pollution measures, recycled under unsafe conditions, or exported as uncontrolled e-waste to low-income countries, severely impacting human health and the environment. Unregulated and illegal shipments of e-waste are estimated at 3.3 billion kg across borders. Despite the Basel Convention signed by 187 countries, no binding obligation exists to report hazardous e-waste, and less than half of the signatory countries have provided reports, making it difficult to monitor toxic e-waste movements (The Global E-Waste Monitor, 2024). The circulation of e-waste, therefore, takes part in a deliberate strategy of externalisation that allows wealthy nations to maintain and increase consumption levels while shifting risks and harms to vulnerable populations.

2. THE SOUTHERN CURSE: FROM RESOURCE APPROPRIATION TO DIGITAL EXPLOITATION, ACCUMULATING PERMANENT TRACES

Extractive natural resource dynamics have been persistently moulded into countries from the Southern Hemisphere, and can be characterised by inequitable appropriation and intensive exploitation subordinated to external demand. Alberto Acosta discusses how the hidden social and environmental costs of extractive economies in developing countries of the Global South are not taken into account when assessing the profitability of mining industries. Caught in the resource curse (Acosta, 2013), these countries operate with an extractive approach mindset inherited from the colonial period. They maintain a favourable regulatory framework for transnational industries by de-territorialising the state and de-nationalising the economy, without investing in local technology development, and therefore showing very low levels of industrialisation. Stuck in a series of paradoxes, like being rich in natural resources but ultimately poor, or in the best case with high rates of inequality, these countries are condemned to serve the fluctuating demands of a globalised market, fluctuations that in the end, tend to fragilise employment.

This market relies on interconnectivity for transmitting data, which is carried through intercontinental cables laid on the depths of the ocean floor,

partially made of copper, a crucial mineral for technological development in telecommunication. Digital capitalism, tied to natural resources exploitation, considers not only the functionality and management tools of the internet but also the materials needed for the production of digital devices, computational equipment, and power networks, sustained by extractive activities in the same region where these unequal relations persist.

Jonathan Crary (2022) argues that in post-techno-capitalism, "the internet complex, as the new modality of planetary administration, is an indispensable part of the defensive strategy to maintain the world system, to resist decolonization and de-Westernization." (Crary, 2022, p. 25). Crary critically examines the posited immutability of this network, questioning and dismantling how and why it has been rooted as an integral, unquestionable, and fundamental ruling aspect of our daily lives. Although initially installed in a context of narratives of the digital age and promoted as a democratic, liberating, and autonomous tool in the late 1990s, Crary states that the internet originated from military technology and research centres, and was ultimately conceived to reorganise capital flows, serving mainly as a controlled finance network for consumers, and creating monetised and addictive behaviours that foster the dissolution of social cohesion and cooperation.

The materiality and environmental impacts of this network, with all the interconnective systems, computing, objects, and artifacts like phone devices and e-waste products attached to it, are constantly veiled in an aesthetic apparatus of immateriality, efficiency, and innovation. For Crary, "…the falsifications of 'the digital age' have been so successfully inculcated" that "there is a pervasive imaginary of the dematerialized status of digital technology" (Crary, 2022, p. 25). The devices of these technologies tend to become flatter and lighter, with wireless connectivity, but generate vast amounts of information bits and data stored in a virtual space known as the cloud. A name of a seemingly ethereal nature, a euphemism that masks an intricate, heavyweight material infrastructure of tubes, cabled networks, wires, and huge data centres for powering and storing a water-cooled virtual realm.[30]

The relationship between digital technology development and extractivism is knotted. Jussi Parikka (2015) coined the term Medianatures to express the "double bind of media and nature as co-constituting spheres, where the ties are intensively connected in material nonhuman realities as much as in relations of power, economy, and work" (Parikka, 2015, p. 14). The digital realm is very much part of a material culture with countless after-effects, the most permanent ones being digital waste exported and toxic tailings growing in

[30] "Very high amounts of water and energy consumption is used in data centres worldwide. Just in Europe, the water consumption in data centres is projected to increase from the 2020 estimate of 145.2 to 546.7 million cubic meters by 2030. In per capita values the amount of water usage will be more in internet activities than the water used by human consumption (Farfan & Lohrmann, 2023).

secluded landscapes of undeveloped countries from the Southern Hemisphere, material residues that reveal the violent asymmetries of digital capitalism. Not only mining profits, but new stratigraphic marks are accumulating and layering underground the earth's surface as eventual sediments. Residues that are gradually layered by industrial society into what Jan Zalasiewicz (2014) terms a technostratigraphy. Over time, these deposits interact with subterranean chemical and physical processes, in the very depths where the mineral sources that sustain technological productions are extracted. This cycle of extraction and contamination not only reveals the asymmetry in which digital capitalism's functions operate but also the planetary scale of its footprint: the ground that provides the resources for digital industries is simultaneously being contaminated and remade by their residues. Ultimately, as Peter Half (2013) suggests, these processes are producing a new category of geological remains: technofossils, persisting remnants of the technosphere. The traces left by extractivism enter a recurrent and perverse cycle, leaving deep voids in the earth's surface while simultaneously returning processed materials in the form of waste and contamination. Far from ephemeral, digital devices and their wastes constitute material inscriptions of our present, acting as the new social and technological stratigraphy of the earth, permanent traces that embed the logic of disposability into planetary time.

3. THE CHILEAN CASE, A DESERT OF INTERESTS

Chile has been one of the most emblematic examples of a natural resource-based economy in South America, depending since the 19th century on the export of commodities such as nitrate and copper (Meller, 1998). After deciding to liberalise the economy during the late 1970s, and to provide the conditions necessary to secure investments in the exploitation of copper, fruit, salmon, and wine (Collier & Sater, 2004), during the early 1980s Chile tailored its legal system to the requirements of the productive sector, creating constitutionally protected perpetual private use rights over natural elements, including water and minerals. In 1981, the Water Code was established in Chile, which enabled a free-market approach to resource management of water, with private perpetual use rights protected by the Constitution, allowing freedom to buy, sell, and lease water rights for its reallocation from low-value use to high-value use (Bauer, 2015). Private water rights are traded through DGA, the General Directorate of Water under the Ministry of Public Works, the government agency that grants,

free of charge in auctions, the rights awarded to the highest bidder. These policies incentivise extractive industries to acquire and accumulate water rights, ensuring large-scale volumes needed for resource exploitation.

The neoliberal project installed in Chile in alliance with the support of the United States through the military dictatorship of Augusto Pinochet Ugarte from 1973 to 1989 required the commoditisation of the territory by regions, which were defined by the potential exploitation of natural resources to serve the global economy, emphasising private property over natural resources (Bustos, 2019) and centralising the profits outside the regions that generate them. Consequently, the allocation and management of these elements of nature were left to the sole designs of the market, leading to an abrupt process of commodification and accumulation of *capital by dispossession* (Harvey, 2004), which was especially noteworthy for the case of human communities and nonhuman ecosystems that lived near mining projects in northern and central Chile. Yet another consequence of this privatisation, which enables the separation of water from land, was rapid environmental degradation, with intense pollution, which became more evident in those areas surrounding mining projects, with the drying of the rivers and lakes (Hervé & Pérez, 2011).

These impacts consist of the intensive use of surface and groundwater, the intervention on natural water flows, the construction of tailings dams to deposit waste near where communities live, mainly from agriculture, and the accumulation of minerals that generate dust by the activation of winds, accelerating glacier melt (Barandum *et al.,* 2022) and generating health problems. For more than four decades of intensive extraction, these impacts have contributed to the mega-drought faced in Chile since 2010, which has seen severely decertified regions advance at the pace of 1 metre per year from north to south. Chile officially holds 757 mining tailing deposits within its territory, ranking third globally in this type of toxic infrastructure after China and the United States. In the Chilean context, there is a clear socio-territorial link between poverty and the location of these toxic deposits, producing environmental injustices where the presence of heavy metals generates severe health risks, including cancer, as well as the contamination of soil and watercourses (Ojeda *et al.,* 2023).

The political constitution promulgated in 1980 served as an instrument through which the state promoted a singular national identity linked to the mining industry. Since the return of democracy in 1990, there have been several attempts to resist and change this reality by altering the regulatory framework to protect nature and communities from the devastating effects of

this market approach, like the Indigenous Law written in 1993 and the Reform to the Constitution in 2005. However, as most of them have been ultimately unsuccessful, the protection of nature's elements has become quite a salient issue for civilians in promoting new constitutional processes to reshape the relationship between humans and nature, explicitly recognising nature as a subject with rights and creating an affirmative duty in the government to protect common resources. Ultimately, political corruption[31] (Office of Public Affairs, 2025) has allowed the maintenance of favourable policies that privilege the profit of extractive private enterprises over natural depletion.

Within the context of the global warming crisis, Neo-extractivism continues apace. The transition towards so-called clean, green, and renewable energy infrastructure, being developed in the interest of economic growth, ultimately increases demand for copper and lithium extraction, bringing the impacts that already exist to a major scale, especially considering the large amounts of water required by these operations for the processing of the minerals. New solar and wind power plants, rechargeable batteries for electric mobility, and recharging networks in response to the newer challenge of freeing society from fossil fuels, as well as the growing digital industry with its accelerating obsolescence, are big market forces demanding new mineral extraction. Ultimately, the development of these new technologies by industries in the Global North perpetuates the overexploitation of territories, leading to water depletion, biodiversity loss, and toxic waste contamination affecting both human and nonhuman communities in peripheral zones outside the centres of power.

[31] SQM and Abelmarle, two private mining companies operating in Chile, have been involved in corruption cases of illegal payments to politicians. Investigations and convictions have been resolved through the payment of fees.

3. PELDEHUE: INTO MUDFLATS, DESERTS, BURIALS, AND EXHUMATIONS

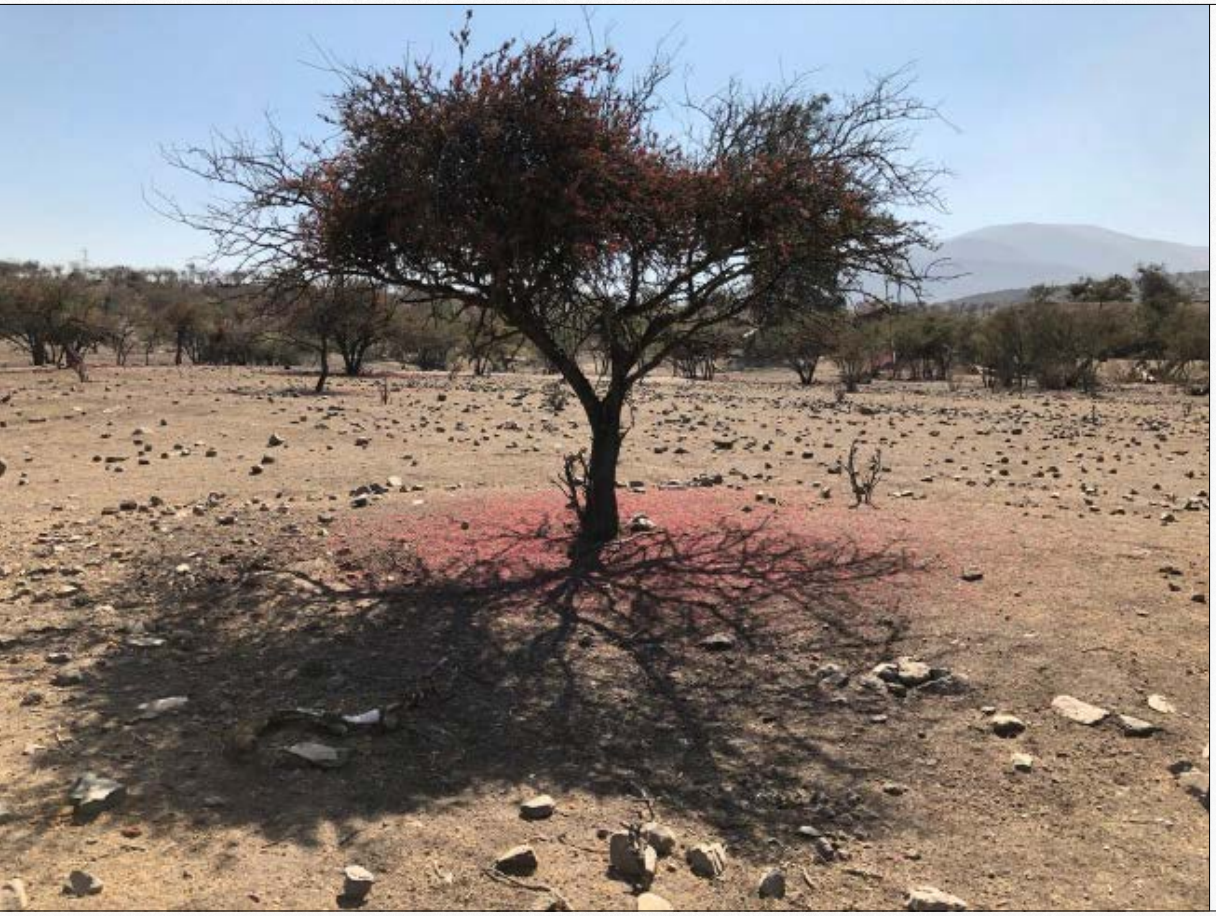

Fig. 1 - Peldehue's Army terrain, Colina, Chile. [Digital Photograph] © *Isidora Correa,* 2022

In the mountain range close to the east and adjacent to the hill of Colocalán a rich gold mine was discovered in the middle of the previous century, which was called Peldehue and which prepared the erection of the convent, but after a long and productive work it had to be abandoned because it was completely watered down. The name, which comes from pelde, the mud, and hue, means place of mud or mudflats.

– Francisco Solano Asta-Buruaga y Cienfuegos, 1899, p. 530.

Peldehue, a rural town situated along the banks of the *Colina River* on the fringes of Chile's Metropolitan area, currently stands as one of the driest regions of the country. Only the strong native trees resist the advance of desertification in a

community primarily sustained by agriculture and farming. However, the land's historical significance extends beyond its present environmental condition. In the eighteenth century, the property known as *Hacendado de Peldehue* was owned by the Dominican Order, a religious order that played a significant role in the expansion of Catholicism in the Americas.

The property was later sold to the state and transferred to the National Army in 1943 for profitable management. The land, still owned by the Army, leases both surface and underground water rights from the Colina River for intensive agriculture and mining. Additionally, part of the land has been granted free of charge to the Anglo-American Group, a multinational mining company headquartered in London. This company exploits copper in the area, transporting minerals and waste from the Los Bronces open-pit copper mine located in the Andes Mountain Range to a processing plant in Peldehue. Extracted ore is crushed and transported to the Las Tórtolas flotation plant, where copper concentrate and cathodes are produced. Approximately 2,400 tons of copper slurry per hour enter the plant through pipelines, yet only 1% of that volume contains usable material. The remaining waste is deposited in the Las Tórtolas tailings dam, posing a high environmental risk to the nearby communities dependent on agriculture and livestock (Calabrán, 2009).

Fig. 2 - Las Tórtolas Tailings Dam of the Los Bronces Copper Mine Flotation Plant, Colina, Chile. [Digital Photograph] © *Isidora Correa,* 2024

Despite signs prohibiting trespassing along the perimeter fence, the local community continues to use the area for grazing animals and as a leisure park on weekends. This stratified territory, with its evolving dynamics of transitioning from wetlands to desertified lands, is shaped by a complex history marked by the interaction of indigenous ritual sites and colonial and neo-colonial exploitation of natural resources, juxtaposing industrial extraction and traditional land use.

In 1999, a funerary archaeological site was accidentally discovered through excavations during the construction of an electrical power line (Decreto 645, 1998), intended to supply electricity to the mining operations, now under the control of Anglo American. Pottery fragments, along with human skeletal remains dating back to 1465, were unearthed, revealing a site linked to ancient funerary rituals and offerings (Hermosilla *et al.,* 2002). Among the artifacts found was a *pakcha,* a camelid-shaped zoomorphic vessel associated with the Inka cult of water and fertility, designed for ceremonial use. The discovery of this ceremonial object, consistent with the Indigenous name of the town, meaning mudflat, is the furthest south *pakcha* found in the Kollasuyu (Hermosilla, *et al.,* 2002), the southernmost region of the Inka Empire. These findings confirm the presence of the Tawantinsuyu empire, explained by the site's connection to the Inka Road, which linked the upper course of the Aconcagua River with various Inka sites along the banks of the Mapocho River. The Indigenous tradition associated with the site as a relevant agricultural area is deeply connected to transhumant pastoral practices. Seasonal migration plays a symbiotic relationship with the land, one that depends on climate changes in *veranadas,* summer pastures, and *invernadas,* winter pastures. During the *veranadas,* animals and communities moved uphill into the mountain range looking for better grazing areas, following water courses fed by melting snow. These practices, integrating ecological knowledge and biodiversity, reflect a biocultural construct shaped by nature's flux.

Within the context of hegemonic extractivism and commoditised territories in the overexploited Peldehue, a rich entanglement of traces emerges where ritual Indigenous traditions intersect with political, geological, and commercial interests. Movements of the soil during mining activities reveal layerings containing historical remnants, with a material culture emerging as a spectral presence of opposition and recalling a once-fertile landscape, forming a counter-image to the current reality of completely dried out soil where only the most resilient flora manage to survive. With each enunciation of the name of the town, we designate what once was, enacting a collision of temporalities that stand in stark contrast with the mineralised landscape. Yet, just a few

metres away from the desertified soil, vast mono-crop fields of table grapes are produced, turning the dried earth into an evergreen oasis with the reallocation of natural flows to sustain the productivity of 85 hectares of grapes. Harvesting 3,000 boxes per hectare for export to the global market (Red Agrícola, 2021), relying on water rights held by the Army from the Colina River, under a contract valid until 2047 (Ejército de Chile vs Agrícola Chacabuco, 2016).

The military history of Peldehue is deeply tied to death. In 2021, following a dialogue between a Human Rights Investigative Commission and the Army under democratic governance, it was established that the northern area of the Peldehue terrain might contain the bodies of members of the GAP (*Grupo de Amigos Personales*), President Salvador Allende´s personal security group, as well as his close advisors and associates. Referred to as the Moneda prisoners because they were first arrested at *Palacio de La Moneda,* the presidential seat of government, on the day of the military coup in 1973, they were tortured following Allende's death and taken to the *Fuerte Arteaga* in Peldehue. There, they were executed by machine-gun fire and their bodies were blown up with grenades before burial. Forty-eight years later, five hundred bone fragments were recovered, and only twelve of the twenty-one captured victims were successfully identified (Museo de la Memoria y Los Derechos Humanos, 2021). In the early years of the dictatorship, when the regime still denied the existence of disappeared detainees, systematic efforts were made to erase evidence of these crimes. The dialogue between the Army and the Human Rights Investigative Commission revealed that between 1978 and 1982, under the code name *Operation Television Removal,* the Army carried out a plan to exhume bodies from clandestine graves in military land and dispose of them by dropping the remains into the sea from air planes, condemning the victim's families to a painful and unresolved search that has lasted nearly half a century (Memoria Viva, 2024).

The Chilean road to socialism, as envisioned by Allende, came to an end with the military coup. His government implemented revolutionary changes, including the nationalisation of natural resources such as copper, which had previously been owned by US corporations like Anaconda Copper Company and Kennecott Utah Copper, and were expropriated under his administration. In contrast, the post-coup period prioritised the privatisation of these natural resources, implementing neoliberal policies, and opening to foreign investments. Pinochet's government enacted Decree Laws providing benefits to foreign companies to invest, developing full concessions that allowed transnational corporations to exploit and export copper without state control over their profits.

Foreign mining between 1980 and 1990 entered the country with companies such as Anglo American Group, BHP, and Antofagasta Minerals, purchasing exploitation rights over deposits. Although the nationalisation of copper was not completely reversed, as Codelco (Corporación Nacional del Cobre) remains a state-owned company, a significant portion of its revenues was allocated to funding the Armed Forces through the Reserved Copper Law.

Earth movements at Peldehue respond not only to political shifts and the imposition of laws that reallocate and exploit natural resources for the global market. By physically reshaping the earth's surface to provide energy for mining purposes and by unearthing the bodies of political prisoners who disappeared during the dictatorship, these excavations resist the forces that seek to erase memory. The violent traces of the past and the buried ritual artifacts of a once-fertile landscape cannot be erased, standing as active testimonies to the transformation of the land of human-shaped geographies.

4. SHAPES OF DISAPPEARANCE

Practice-based research in the creative arts often employs embodied methodologies, including material and situated encounters generated through field work as a means of producing knowledge that cannot be accessed through purely discursive analysis. Within this framework, artistic practice unfolds as a generative process, revealing insights into the experiential relations among bodies, matter, and environments where new narratives and epistemologies take form.

This chapter extends such a practice-based approach into the terrains of Peldehue, Chile, a site shaped by overlapping histories of colonial displacement, ecological devastation, and extractive industry. The conceptual lens guiding this work is a geological metaphor that emphasises how contradictions and oppositions coexist in these terrains, drawing on the *ch'ixi* epistemology described by the Bolivian sociologist and activist Silvia Rivera Cusicanqui (2015). Derived from the Aymara word ch'ixi, this concept refers to a colour space – most commonly grey – as seen in andesite, a fine-grained volcanic rock abundant in the Andes, formed by the juxtaposition of two opposing colours: fragments of black and white. From a distance, these appear as a single tone, yet upon a closer view, the fragments remain distinct, never fully fused, retaining their particular substance. *Ch'ixi* therefore offers a mode of apprehending coexistence without synthesis, a condition in which antagonistic

forces are not resolved or erased but held together.

Attending to *ch'ixi* as a metaphor for epistemic and material coexistence opens dialogue with other decolonial perspectives. Walter Mignolo (2011) develops the notion of *border thinking* emerging from difference and operating at the fissures of what is suppressed or subordinated, "in the borders of local histories" and "confronting global designs" (Mignolo, 2011, p. 277). Eduardo Viveiros de Castro (2014), drawing on *Amerindian perspectivism,* as an Indigenous worldview, describes how humans and nonhumans inhabit and perceive the world from distinct corporeal-affective standpoints, with each body constituting a unique perspective of the world it expresses. Similarly, Macarena Gómez-Barris (2017) advances a method attentive to submerged perspectives beneath extractive logics. Her notion of the *extractive zone* describes the reduction of life into capitalist processes of resource conversion in biodiversity-rich Indigenous territories. Yet forms of life, memory, and creation that persist beneath extractivism – those that "cannot be easily reduced, divided, or representationally conquered or evacuated" (Gómez-Barris, 2017, p. 4) – constitute a decolonial positioning enacted through multiplicity, relationality, and resisting ecologies.

Together, these frameworks challenge the homogenising forces of Western modernity by foregrounding decolonial perspectives that involve local knowledge and the coexistence of heterogeneous worlds. Within Peldehue, focusing on forces that resist the monocultural logics of extractivism can be pursued both materially and metaphorically, revealing how life and death, memory and depletion coexist. By engaging directly with substances drawn from the land, it becomes possible to articulate forms of knowledge that emerge from the contradictions embedded in its material conditions. In this sense, artmaking can act as a critical mode of inquiry capable of reframing sites of extraction and loss into spaces of imagination, ecological resistance, and counter-memory.

This positioning resonates with contemporary artists in Latin America who articulate decolonial and ecological methodologies through interdisciplinary material practices related to mineral extractivism. *Fuel to fire* (2023), a single-channel video of Carolina Caycedo's recent work, foregrounds indigenous ecological protocols as critical counter-narratives to extractive capitalism. The work documents a *pagamento* – a ritual offering of gold to a body of water – performed for the conservation of the Páramo de Santurbán in Colombia, a fragile ecosystem that holds vast deposits of gold currently threatened by mining. The work seeks to redefine the concept of wealth in terms of interdependence and reciprocity, in which the cinematic gesture

resituates gold into a relational economy of care and ecological continuity. The works *Testigos IV* (2022) and *Telurian Signils N.1-4* (2023) by Elena Damiani interrogate geological representation by recomposing sedimentary structures and subsurface fractures, making visible the epistemic violence of extractive knowledge systems. Her work destabilised geology as a purely scientific framework, rearticulating it as a cultural and political field. In parallel, Ximena Garrido-Leca, in *Reverse Demarcations* (2025), examines the entanglement of artisanal traditions such as weaving with extractive economies in the Andean context through copper-based sculptures that interlace natural and industrial materials. By weaving extraction's raw material into forms that recall Andean bamboo-woven panels used by displaced migrants and embedding patterns referencing rivers and water systems, Garrido Leca layers ancestral motifs with the displacements produced by open-pit copper mining.

In what follows, these conceptual, methodological, and artistic frameworks are brought into dialogue with the art project *Shapes of Disappearance* (2022), tracing how fieldwork encounters with bones and living lifeforms in copper-mining extractive terrains are translated into artistic processes. The project connects colonial histories with socio-cultural and environmental knowledge, highlighting interspecies and symbiotic relations within the resisting landscape. In April 2022 I entered the Army's terrain at Peldehue through an open gate in the fence, ignoring the warning signs. It was a hot day, and as I walked over the arid soil for several metres passing between some *Algarrobos* and *Espinos* – native trees capable of enduring severe water stress – I noticed in the distance what seemed like a mirage of bright white stones. As I approached, I realised they were bones scattered across the landscape, completely devoid of organic tissue and bleached by the intense sun. Nearby, a wide duct crossed the land, transporting mining waste from the Los Bronces mine to the Las Tórtolas tailings dam. A man on horseback, moving between large trucks from Anglo American, while herding some sheep, came near, and when both of us were looking at the bones, he said, pointing to his animals, "These are the only animals I have left. More than half died because there was no water or forage to sustain them. The rivers have completely dried up." When I asked about the origin of the bones, he replied, "Cattle, horses, sheep, and goats." These introduced animals, brought during colonial times, have become vital to the community's livelihood. The arrival of European livestock displaced native camelids, particularly guanacos. Well-adapted to the region's condition, guanacos played a natural grazing role, influencing vegetation patterns, promoting ecological balance, and symbolising fertility to Indigenous Communities. Now they are scarcely seen in the high

Andean mountains.

Fig. 3 - Registration process of the collected bones of dead animals, Peldehue. [Digital Photograph] © *Isidora Correa,* 2022

Since 2010, a megadrought has dried up the primarily fluvial rivers, and spontaneous animal cemeteries of these introduced species have become increasingly common around Colina, leading to the loss of the community's main sustenance (Chile Visión Noticias, 2019). The lack of forage has also eroded local ecological knowledge of pastures, including transhumant practices, which have been replaced by employment in mining and intensive monoculture industries.

The scene of scattered bones evoked a type of ceramic made from bone, characteristic of the colonial period. Originally developed in England to reduce dependency on Chinese imports, this porcelain combined white china stone and bone ash to create the thinnest and whitest porcelain of the late eighteenth century. Exported globally, it became a luxury material largely produced from cattle bones obtained from England's colonies, and was widely used by aristocratic and colonial households across the Global South.

I began collecting the bones (Figure 3), transforming them into ashes as

part of a burial ritual, and then mixing them with porcelain to create a bone-ash mixture. Using a process of casting moulds, I replicate the forms of stones and branches from the terrain, filling them with the bone-ash mixture, to transform these landscape elements into bone china sculptures. Each mould was reproduced by subtracting a portion of the mixture from the prepared recipe, resulting in copies that gradually decrease in size until they disappear (Figure 4). By emphasising these progressively diminishing sections, the process reflects the neo-extractive histories of the present, where the vanishing forms of nature mirror the depletion of natural resources.

Fig. 4 - *Shapes of Disappearance,* exhibited at Patricia Ready Gallery, Santiago, Chile. [Bone china sculptures made with ash of dead animals, video projections, variable dimensions] © *Isidora Correa,* 2022

When exposed to high temperatures, the minerals in bone ash melt at about 1230ºc, along with the porcelain, producing a luminous whiteness reminiscent of seashells. As De Landa (1997) observes, bone is "the living material that most easily petrifies, that most readily crosses the threshold back into the world of rocks. For that reason, much of the geological record is written with fossil bone" (Landa, 1997, p. 27). Once vital and rigid organs, bones lose all capacity for growth and regeneration in death, becoming mineral memories embedded in the soil. In the stillness of rocks, these layers of death inscribe traces of colonial migrations within Peldehue's strata.

Shapes of Disappearance (2022) (Figures 4 and 7) was conceived as a video and sculpture installation created primarily with the ash of the dead animals from Peldehue, together with an archive of surviving life forms. The

petrified bones of these animals, transformed into stone- and branch-like forms, fossilise the memory of a reshaped landscape, inscribing the colonisation of territory into mineral layers.

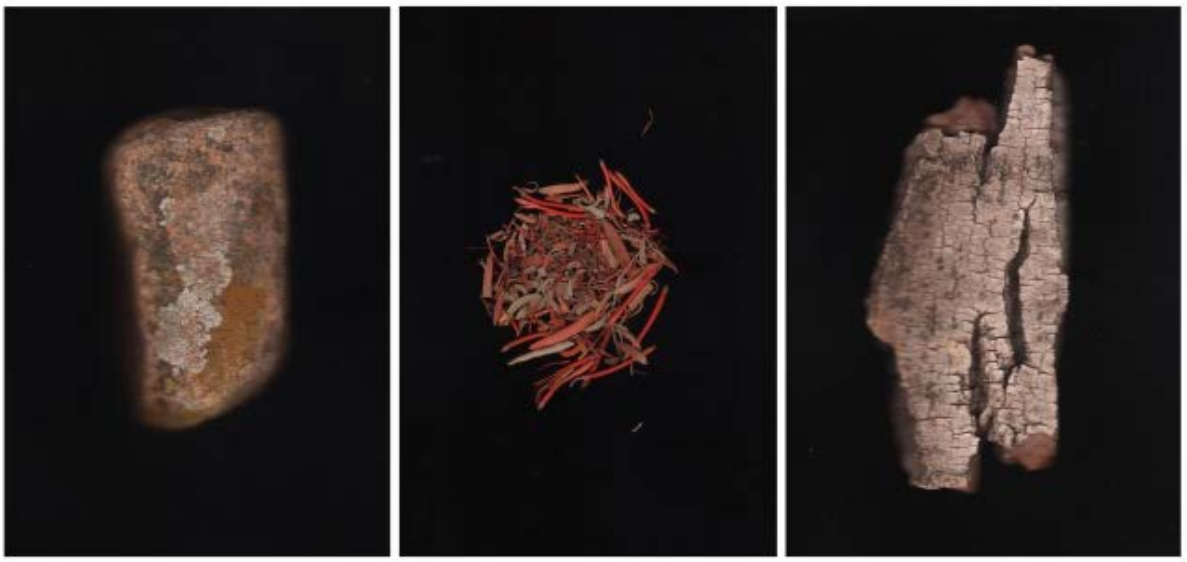

Fig. 5 - Digital image of scanned living forms resisting environmental degradation in Peldehue: lichens, Quintral flowers, and Espino tree bark. [Digital Image] © *Isidora Correa,* 2022

Through the artistic process, the bones are reconfigured into reflective screens that project a visual archive of Peldehue's ecologies. Fallen flowers, the rough texture of a tree bark, and lichens – life forms that persist in resistance to extractive and climate pressures (Figure 5) – were gathered, scanned, resized, and converted into moving images. Projected onto the monochromatic bone replicas, these elements infuse mineral remains with chromatic vitality, producing a dialogue between fossilisation and life. To create the videos, the enlarged scanned images (Figure 6) were examined while the eye and the hand made deliberate, non-automated movements across them to identify the focus areas, with these movements recorded on the screen. The contrast between blurred and sharply focused regions reveals the volumetry of the elements, presenting them as three-dimensional bodies only partially captured.

Lichens found between bones and flowers include *Policauliona candelaria* and *Hiperphyscia adglutinata,* which grows on rocks in Peldehue, tolerating the lack of shade and high sun exposure. The latter species is common

in habitats near metropolitan or anthropised areas. Lichens are mutualistic associations of two or more species between a fungus host, the mycobiont that protects the association against dissection and solar radiation, and algae or cyanobacteria, the photobiont, which surrounds the host, performing photosynthesis and providing nutrients while fixing carbon. Highly resilient to harsh conditions, lichens act as a "sensitive and accumulative biomonitoring tool" (Thakur *et al,* 2024, p. 1), absorbing environmental elements such as gases, minerals, and water across their surface. Lichens can perform the role of biological markers of "long-term accumulation" (Thakur *et al,* 2024, p. 2) and sensitive indicators of pollution, showing physiological changes in response to contamination, affecting their vital processes.

Fig. 6 - Screenshot portraying lichens from the video *Shapes of Disappearance*. [Video, 4:37 minutes]
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The bright red fallen flowers collected belong to the *Quintral,* the common name for *Tristerix corymbosus,* a plant species widespread in the Andes. As a hemiparasite, it attaches to host trees such as *Espino* (Figure 1), using haustoria – specialised fungal-modified roots that extract water and nutrients from the host, while still allowing photosynthesis in its leaves. Reproductively, the *Quintral* depends entirely on interspecies interactions: pollination is carried out by hummingbirds, and seed dispersal is mediated by other bird species. The survival of Tristerix is closely tied to these ecological partners, reflecting

co-evolutionary histories that span millions of years (Núñez, 2022). Beyond its unique biological interactions, this plant holds social and cultural value. Indigenous communities attribute protective powers to the plant, using it in rites and ceremonies to promote health and prosperity. The properties of its flowers and fruit vary depending on the host species, acting as an anti-inflammatory, antioxidant, and immune-strengthening agent (Núñez, 2022).

The collected tree bark came from *Espino* (Figure 1), *Acacia caven,* likely introduced naturally to Chile by llamas or guanacos crossing the Andes from the Gran Chaco region around 3000 years ago (Root-Berstein & Jaksic, 2016). As a nurse plant, it colonises open degraded areas, creating favourable conditions for other native trees to emerge by providing shade, cooler temperatures, and higher humidity (Hernández et al. 2015), generating ecological restoration and reverting the impacts of anthropogenic degradation. As a legume, it fixes nitrogen through root symbiosis, enriching poor soils and supporting wildlife that feed on its seeds (Root-Berstein & Jaksic 2016). In the Metropolitan Area, where it was collected, this species is approaching critical endangerment due to urban expansion, real estate development, and intensive agriculture.

Shapes of Disappearance situates itself within decolonial ecologies, reframing death and petrification not as endings, but as processes through which suppressed histories and nonhuman agencies articulate an alternative archive of coexistence and resistance. This living archive mediates ecological and cultural memory with each species embodying distinct modes of resilience and interdependence, becoming repositories of biological intelligence that record long-term processes of accumulation, adaptation, and symbiosis.

By revealing the entanglements of human and nonhuman bodies in shaping the landscape, *Shapes of Disappearance* emphasises the regenerative potential of nonhuman forces. The bone sculptures entangle cycles of loss, displacement, and survival, with the depleting echoes of extraction, acting as reflecting forces that shape memory, materiality, and resistance. They are not static remnants but intra-acting agents (Barad, 2007), with the land, mirroring the resilience of life forms and testifying to the endurance of multispecies interactions and socio-ecological knowledges under the pressures of extractivism.

As Donna Haraway (2016) states in Staying with the Trouble:

> It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories. (Haraway, 2016, p. 12)

Fig. 7 - *Shapes of Disappearance,* exhibited at Patricia Ready Gallery, Santiago, Chile. [Art Installation: Bone china sculptures made with ash of dead animals, video projections, and sensors, Variable dimensions] © *Isidora Correa,* 2022

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