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To Resettle a Settler Mining Town: experiences, spectres, and recursive discourse in the deformation zone, Kiruna, Sweden.

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To Resettle a Settler Mining Town: experiences, spectres, and recursive discourse in the deformation zone, Kiruna, Sweden.

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Abstract

Using the Mining Induced Development Resettlement (MIDR) of Kiruna, Sweden, as a case study, the aim of this thesis is to articulate the experiences of inhabitants of a settler colonial mining town undergoing resettlement and what they can tell us about the recodification of colonial practices in the 21st century. Kiruna sits atop the world's deepest underground iron ore mine. Due to continuing excavation of the ore, the bedrock upon which Kiruna is located is subsiding, causing the surface to deform. A new town centre is being constructed three kilometres east of the original, with up to two-thirds of Kiruna's population are being moved, and half the town's existing built environment demolished. The resettlement is fully funded by the state-owned mine, Luossavaara-Kiirunavaara Aktie Bolag (LKAB). The research focuses firstly on the selective historicism of Kiruna's industrial heritage, reframing it from a tale of civilising a wild frontier to a history of settler colonialist expansion through the expropriation of land as a means of accumulating resources and capital. The proceeding chapter is an examination of life within the town's deformation zone, the area of the town at risk of subsidence, using the materiality of the built environment and the inhabitants of Kiruna as informants. Next, the development plan through which Kiruna's resettlement is negotiated and deployed is explored. The final section evidences the near total lack of futures not governed by the imaginary of LKAB, which reaffirm the selective historicism through which the resettlement is justified and enacted. These chapters contour how MIDR in Kiruna operates as a means of expropriating land for the purposes of resource accumulation, couched in an inaccessible bureaucracy, derived from an acutely biased historicism that propagates displacement recoded as development. Data was gathering during twelve months of qualitative fieldwork between September 2020 and September 2021.

Keywords: extractivism, colonialism, bureaucracy, ruination, hauntology

Official Statement

Statement of copyright and data anonymisation. Copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent, and information derived from it should be acknowledged. The work produced if the dissertation is published as a monograph would be understood as belonging to the author and the informants that provided the data for the research. As established in the Ethics and Data Protection Form and to comply with it, the identity of all informants and interlocutors who have provided crucial information remains anonymous. In all cases, pseudonyms are used to protect their identities.

Ethical Considerations

All informants and interlocutors were given full Free Prior and Informed Consent (FPIC) before engaging in interviews. All recorded interviews were held on a personal encrypted hard-drive and uploaded to encrypted cloud storage at the University of Durham. All participants have been anonymised and have given their consent to their contribution to the research to be used in this final piece.

kin, living and not, here and there, human and otherwise.

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And last, but by no means least, Islay. Like clockwork you forced me from my desk and out into my favourite place, the woods, day-in and day-out. You are asleep, curled up into a croissant on the reindeer-skin rug next to me, a better companion I could not ask for. We will head back out to the woods once you awake.

E.B, December 25th, 2022.

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List of Abbreviations and Note on Translations

LKAB – Luossavaara-Kiirunavaara Aktie Bolag

DCP – Detailed Comprehensive Plan

SSAB – Svenska Stål Aktie Bolag

GDP – Gross Domestic Product

EIA – Environmental Impact Assessment

SMA – Swedish Minerals Act

Pl.O – Planning Officer

FC – Former Consultant

PT – Person at Table

LO – Swedish Trade Federation (*Landsorganisationen I Sverige*)

Translations were done using machine translation software during the transcription process, based on comments made by my informants while in the field about the use of local dialect and vernacular particularities.

"He is dancing, dancing. He says that he will never die."
Cormac McCarthy, Blood Meridian, or the evening redness in the west, 1985

Prologue

My partner, my dog and I left Gothenburg by car late evening of a late August Friday, harried after the days frantic packing and arguing about packing. By the Sunday afternoon we had crossed up over the 66.3° parallel a couple of hours north of Luleå and officially into Sweden's sub-arctic. By noon Monday we would enter Kiruna via the E10 motorway to the east of the town, the high enveloping apartment blocks on the new settlement's margins a fortress among the sweeping flat-bottom plain of the valley upon which the new city had incrementally grown.

Looking in the rear-view mirror on those last days travel, the empty road spooled out in the car's wake, cutting great fissures through dense forests of pine, spruce, and mountain birch. Across great stoppered rivers, ordained into some grand economic and utilitous order. Upon great prodigal reels of tarmac we passed countless cabins dotted along the hinterland of roadside verge and forests gumming their wood lattice façades glacially. On the road travelling west to east between Örebro and Uppsala there is a grand old farmhouse, three-stories tall with a broad veranda that lines its perimeter. The house is within one hundred metres of the road, abandoned for years. Had the road-noise begun to make life in the house unbearable, the veranda now useless?

The neat and immaculate topography of the motorways and B-roads stood in stark comparison to dilapidated homes and cabins depicted mutely beneath mouldering patinas of moss and lichen. It was hard not to wonder what the connection might be between the two, if there was any connection to be made at all.

Questions kept returning to me from this journey: what did the former owners of these properties have to say about the construction of these roads, central arteries as they are, linking myriad technical, economic, and social infrastructures in Sweden's north and south? What were their thoughts as their house prices fell and kept falling among the din of the traffic that roared past their homes and summer cabins? Did they think about their futures and worry, or was it the blossoming future of the Swedish state, now strengthened by the bolstering of its connective tissue, that bore incandescent through their mind's eye?

Chapter One

Introduction

This thesis is a discussion and interrogation of the power dynamics and asymmetries at work in the ongoing resettlement of Kiruna. The aim of this research is to examine and articulate the experiences of those that live in a mining town currently being resettled. The narratives and ideologies through which a settler mining colony can be resettled are demonstrated as a recursive discourse embedded within a colonial legacy, existing in direct relation to the driver of the resettlement: the political economy of a gigantic, state-owned underground iron-ore mine. As such, I focus on the selective historicism of Kiruna's industrial heritage, the resettlement plan through which that heritage prefigures Kiruna's future, and how these discourses are experienced on-the-ground in Kiruna. Using the materiality of the built environment and the city's inhabitants as informants and sources for abductive reasoning, this research uses the processes of ruination and displacement to articulate the resurgence of the colonialist drivers that first established Kiruna at the turn of the 20th century, recodified and reconfigured under the guise of the current resettlement, one hundred years later.

1.1 Field Site

Kiruna is an industrial mining city situated approximately 100km north of the Arctic Circle in Norrbotten county, in the broader, more informally defined area known as Lappland. With a population of approximately 22,000 inhabitants, one-third of whom are employed directly by Lussovaara-Kirunavaara Aktiebolag (LKAB), the mine that borders the city, the city's economic stability is heavily vested in LKAB, rendering the mine a critical attribute of Kiruna's political economy. In 1898 Kiruna became an experiment in city and social planning by LKAB's then managing direct Hjalmar Lundbohm. Lundbohm used profits from the mine to establish Kiruna as a model city, funding the design and construction of housing projects, the hospital, schools, investing in public works and social mobility schemes, and founding trade and miners' unions within the community (Viklund *et al.,* 2015). Lundbohm positioned himself as a patriarchal figure within the city, generating a legacy of entwined domestic and industrial life within Kiruna. He conceived and developed a rooted entanglement of city and mine that pervades political and economic discourse in Kiruna a century later.

Figure 1: Map of Sweden with county borders and regional names. Kiruna is the last town named at the northern/topmost of the map. (Image courtesy of https://www.map-of-sweden.com/ accessed December 2022)

Now fully owned by the state, LKAB continues to invest heavily in the surrounding logistical infrastructure of Kiruna, developing railway lines initially to carry ore out to ports in the south to Luleå – the site of the HYBRIT fossil free steel smelting plant, a joint venture between LKAB, steelworks SSAB (Svenska Stål Aktie Bolag) and

energy company Vattenfall (Vetter, 2021) – and northwards to the port city of Narvik, Norway. Further development of the railway to include passenger trains occurred through a collaboration between LKAB and the state transport authority, allowing for increased settlement in Norrbotten in the early 20th century (Forsell, 2015). LKAB have also established feeder programmes at local high schools throughout Norrbotten, aimed at steering students towards LKAB's engineering programmes at Luleå Technical University and Umeå Univeristy, with the aim of progressing on to employment within the extractives industry.

In 2015 LKAB released a history of the mine and the city in the form of a large coffee-table book, marking their 125th anniversary (Brunnström *et al.,* 2015). Outlined in LKAB's narrative is a city that has veered from economic prosperity to precarity, during times of boom and bust respectively. Although this is not unique to cities that exist in the economic shadow of a single industrial entity, what is unique for Kiruna is LKAB's desire, historically, to build a community that is not transitory (cf. the fly-in/fly-out mining communities encountered by Eriksen, 2016). The book outlines the continuing relationship between the city and the mine that fosters social and industrial cohesion through a reciprocal relationship: the mine providing job opportunities and regional development, the city providing labour for the mine and services for the labour force (Viklund *et al.,* 2015).

I chose Kiruna for this study on account of the large-scale demolition and resettlement the city is currently undergoing to expand the mining operations of LKAB. The ore body extends diagonally underneath the city and as the biggest underground iron ore pit in the world, provides Sweden with approximately 10% of its annual gross domestic product (GDP) (Tarras-Wahlberg and Southalan, 2021). The size of the ore body mined under Kiruna is indicative of Lappland as a mineral rich region, yet to be economically and industrially optimised. According to the Nordic Council of Ministers, "Sweden has the largest mining sector of the Nordic countries today. In total, there are fifteen metallic mineral mines," (Hojem, 2015:55) with Sweden ranked "as having the fourth most attractive mining policy worldwide" (*ibid*:56). Exploration and exploitation licenses for sites in Swedish Lappland more than doubled from approximately three hundred in 2004, to over six hundred in 2011, with recent numbers suggesting up to around one thousand new minerals exploration permits as of 2021 (*ibid*). With interest from both national and international mining companies, relatively high numbers of permit applications

compared to a decade earlier have been recorded up into 2015 (Haikola and Anshelm, 2016). In 2013 the Swedish Government published *Sweden's Mineral Strategy* (Swedish Ministry of Enterprise, Energy and Communications, 2013), setting out an agenda to decrease government regulation of the mining sector, reducing taxes and accelerating the process of environmental impact assessment (EIA) (social impact assessments are embedded within the EIA, see Langston, 2019) to attract international investment (*ibid*). After the publication of the strategy in 2013, iron markets began declining, dropping to their lowest point since the mid-20th century (Deloitte CIS Research Centre, 2018). Although the iron market is slowly recovering, the accounting firm Deloitte note that this recovery has been drawn-out.[1] It is unclear just what changes the Swedish government made to their minerals strategy in response to the reduced price, as the Minerals Act has remained largely unchanged.[2]

As well as a national minerals strategy having regulatory significance for LKAB's financial development and Kiruna's urban resettlement, there are also several international institutional actors with a vested interest in LKAB's capacity for growth. Approximately 77% of the iron produced by LKAB is exported to steelworks within the EU, with their share of the iron market at approximately 0.3% (Ternell, 2018). LKAB's significance in the iron ore market is greater than this figure would suggest, as they produce a specialised product in the form of pellitised ore. The specialisation in production increases LKAB's presence in a niche market space, inhibiting their overall share of the market (*ibid*). A press release summarising a report into iron pellet futures predicts that the market for the pelletised ore that LKAB produce will grow at 5.5% CAGR (compound annual growth rate) between 2020 and 2026. The reason for this growth is stated as the increased demand for the reduction of carbon in the processing and production of steel products, combined with an

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[1] Since July 2018 the EU has put in place provisional safeguarding measures to buffer against the effects of the US steel and aluminium tariff hikes, with tariffs only being "imposed after the imports exceed the average level for the past three years... (Although this) does not represent an abrupt tightening of demand and supply in Europe," (Deloitte CIS Research Centre, 2018:8) it is another component of the complexity of LKAB and the EU's relationship with the global iron market.

[2] The introduction of a Green Tax Exchange in 2019 can provide lower corporation and income tax in response to the imposition of an increased environmental tax, a scheme targeted at companies in Norrbotten to attract more business development in the region (i.e mining permtis) (https://www2.deloitte.com/se/sv/pages/tax/articles/the-budget-and-taxes-in-2020.html, accessed 27th January 2020).

increase in demand for materials in both car manufacturing and construction. As one of the six specialist pellet producing mines named in the report, LKAB stand to increase their revenue and standing in the iron market during these six years (Pulidindi and Chakraborty, 2019).

The focus on LKAB's reduced-carbon mining technologies and practices is under increasing scrutiny from the EU through the EU Raw Minerals Initiative (EURMI).[3] The policies of the EURMI have direct impact on Kiruna's resettlement through their increased investment in LKAB as an industry leader in Europe's move towards a net-zero future (the so-called 'Green' Transition) (Vetter, 2021). To fulfil the remit of both the EU and the UN's projects, LKAB are obliged, beyond the scope of solely financial motivation, to increase the rate and capacity of extraction in-step with technological developments, thereby continuing the expansion of the Kiirunavaara pit, doubling down on the necessity to resettle Kiruna. As such, the presence of these international institutions provides significant international context through which the resettlement of Kiruna has been conceived, raising questions as to Swedish state's capacity to curb LKAB's expansion underneath Kiruna.

1.2 Kiruna's Mining Induced Displacement and Resettlement

In 2004, LKAB and Kiruna Municipality announced jointly that large portions of Kiruna were to be resettled to accommodate the expansion of the mine (Sjöholm, 2016). Ground deformations in relation to the subsidence caused by the continued extraction of iron ore would begin to destabilise the foundations of buildings along Kiruna's western edge, the topsoil margin the mine shares with the town. Over the following thirty years (2004 – 2033 approx.), the ground deformations would impair and subsume approximately two-thirds of Kiruna's built environment (Phull, 2017). At the time of my conducting fieldwork (2020 – 2021) ground subsidence was becoming an increasingly apparent threat to the stability of Kiruna's built environment. By August 2021, an increasing number of large apartment blocks had been evacuated by LKAB, eight months ahead of schedule.

Joint announcement of the resettlement was made under the auspices of the Swedish Minerals Act (SMA) (1991, amended 2018), which requires LKAB to pay

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[3] The EURMI was launched in 2008 to "respond to the different challenges related to access to non-energy and non-agricultural raw materials" (https://www.ima-europe.eu/content/raw-materials-initiative, accessed 20th October, 2019)

reparations for any damage done to public or private infrastructure (buildings, transport, telecommunications) by their mining operations. LKAB, however, made the decision to not only reimburse for damages, but to also fund the design, development, and construction of a new centre, ostensibly to rehouse those that would lose their homes on account of the mine's expansion. And yet, mining companies are unable to initiate and direct the planning process, as this must be done through local municipalities. Therefore, collecting environmental impact assessments (EIA's), convening public and trade union consultations, and the selection of architects and construction companies are all in the hands of the local municipality (Sjöholm, 2016). Consequently, at the instruction of Kiruna Municipality, White Arkitekter have been tasked with the planning and implementation of the city's resettlement. Rabinder Phull (2017), writing for the Institution of Civil Engineers (ICE), notes that of Kiruna's 23,000km^2 area, containing a population of approximately 22,000 people, the resettlement "involves relocating and replacing 5,000 housing units and 700,000m^2 of residential and commercial premises" (*ibid*:1) from the city's western margin, including the city centre (see Figure 2)

In 2004 LKAB and Kiruna Municipality also began a consultation process on the design and location of the new centre, commissioning a Building Committee comprised of civil engineers, town planners, and architects employed by LKAB, the local municipality, the regional county council, and freelance consultancy firms (Kiruna Kommun, 2014a,b,c, Sjöholm, 2016). Over the course of the following ten years, the Building Committee would negotiate with other actors from across multiple political scales (local to national), as well as union representatives, and private businesses to finalise the Detailed Comprehensive Plan (DCP) (*fördjupad översiktsplan*) in 2014.
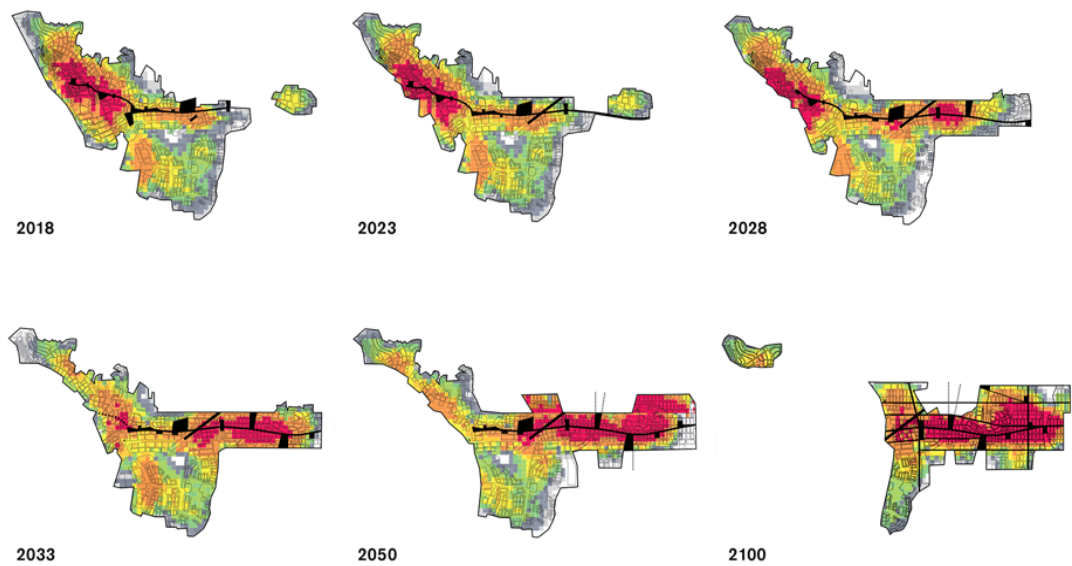
Figure 2: Heatmap showing the population density of Kiruna (red) as it responds to the demolition of the city and the construction of the new centre on a predicted schedule 2018 - 2100. Worth noting that the official completion date for the development is 2033, and yet the heatmap extends 67 years beyond that date to 2100. The representation of the mine as negative space, imposes an immediate dialectic between what is seen as alive space, and what is dead (see Buys and Farber, 2016) is also of note. (Source: White Arkitekter, 2016)

Urban development plans are regulated and governed in Sweden by the National Planning and Building Act (NPBA) (PBL, 2010). The NPBA stipulates that local municipalities have over-riding authority on land-use development proposals and projects (see also, Abram, 2014). However, given the socially democratic model of Sweden's governance structure, decisions made by local municipalities are often debated at the regional county level. This occurs especially for largescale projects such as Kiruna's resettlement, which entails co-operation from the National Heritage Board (*Riksantikvarieämbetet*) and the Transport Agency (*Trafikverket*) at the national level. Kiruna's resettlement is also strictly legislated by the financial reparatory needs of the SMA, which requires that LKAB work in tandem with the local municipality to fund the resettlement, from the design stages through to completion of the new centre.

In 2013, the Stockholm-based architectural firm White Arkitekter, in collaboration with Ghilardi & Hellsten Arkitekter, won an open competition to design and oversee the masterplan (MP) – materials, timeline, architectural style – by which the new centre would be built (Lindstedt, 2020). The timeline set by the masterplan

suggested that the new centre would be complete by 2033 and yet went on to outline a plan that would suggest amendments that could be made to the city up to the year 2100. White Arkitekter's masterplan contributed directly to the DCP published by the Building Committee in 2014.

The timescale for the development of the new centre is projected as 2014 to 2033, with power and telecommunications infrastructure having been rerouted to the new site in 2010. Construction of the new town hall was completed in 2019, taking precedence over other planned buildings and from which the new centre will radiate. Several historical buildings are to be relocated wholesale from their original positions and either included in the new centre or relocated north to the foot of the former mining site of Lussovaara. The relocation of heritage objects, in this case buildings, is designed to signal attention to heritage by the developers and the promise of cultural continuity by the municipality and the mine. Phull (*ibid*) also reports that the required outcomes of the project are to build "3-4000 new housing units(…)a new commercial centre with 1,500 work places(…) new infrastructure [railroad and highway]" (*ibid*).

1.3 The Layout

The facets that govern Kiruna and LKAB's development considered above provide the basis from which I engage, both methodologically and theoretically, with the aim of examining and articulating the experiences of my informants.

To that end, Chapter Two reviews the literature that has been engaged with and deployed to understand and articulate these dynamics, conceived broadly as overlapping conceptual and analytical theories. Subsequently, Chapter Three contains the methodology, describing how these theories were operationalised to inform the practice of gathering data. The means by which data was collecting using autoethnographic, sensorial, and material studies approaches is also discussed. Mitigation efforts to avoid contraction, and limit the spread, of COVID19 on account of the Swedish state, the local municipality in Kiruna, and myself, and how they impacted the ability and capacity to carry out ethnographic fieldwork are also covered in the methods section. The empirical chapters are comprised of a patchwork (Gunel *et al.,* 2020) of archive, materialities, and interview, data. This fragmentary approach to articulating the data is intended as representative of the ad

hoc and piecemeal means by which the data was gathered due to the disruptions and delimitations caused in the field by the COVID pandemic.

Chapter Four is the first of four empirical chapters, arguing that the city of Kiruna must first be viewed as a product and legacy of a settler colonial ideology. At root, this chapter aims to outline a historicism that stands in contrast to the dominant historicity deployed by the mine to justify Kiruna's resettlement. Both terms, historicism and historicity are taken from the work of anthropologist Charles Stewart (2016) and Stephan Palmié (Palmié and Stewart, 2020), referring to the cultural, phenomenological experience and perceptions of the past. Stewart (2016) argues that taking this approach provides rich ground for the critique of dominant modes of conceptualising and articulating the past, allowing for marginalised events and narratives to come to the fore. This mode of interrogation of the past follows from Foucault's (Foucault and Gordon, 1980, Bowman, 2007) genealogical method, in which supposedly structural forms of knowledge such as historical fact, are deconstructed and shown to exist as post-structural in their constitution:

> "And this is what I would call genealogy, that is, a form of history which can account for the constitution of knowledges, discourses, domains of objects etc., without having to make reference to a subject which is either transcendental in relation to a field of events or runs in its empty sameness throughout the course of history." (Foucault and Gordon, 1980:117)

To complicate and problematise LKAB's dominating narrative of linear societal development through industrial expansion, Chapter Four serves to highlight the history of segregating Sámi – reindeer herding pastoral communities, fisherfolk and forest-dwelling hunter-gatherers – and Tornedalan – a Sámi village comprising of fisherfolk along the Torne River along the Swedish-Finnish border –from both their own broader communities and in-migrating settlers. Through reducing the complexity of their myriad subsistence practices as fisherfolk, seal-clubbers, forest-dwellers, and reindeer herders, Swedish state policies that backed private industry between the 18th and 20th centuries restricted once diverse indigenous livelihoods into strictly nomadic pastoralists confined to the northern most territories[4]. These subsistence practices themselves were a mode of Sámi and Tornedalan reification of their

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[4] The term territory is defined here as land "designated… as a project and as a resource that mainly concerned corporations and institutions" (Picon, 2010) of the state.

ontological positionality through the enmeshment of their livelihood practices with a broader animist cosmology (Lopez, 2021). As such, the segregation and reduction of their multiple lifeways was also a means of dispossessing these groups from themselves, their means of orientating the world in which they inhabited. Secondly, the method through which Sweden's settler colonialist expansionism was enacted, primarily the enforcement of property rights as a means of asserting a racial-cultural dominance, followed by rapid industrialisation, is also brought to the fore.

It is necessary to evidence these two primary forms of settler colonialism in Sweden, and how they shaped the state's pre-industrial and industrial expansionism here in this chapter. The history of Swedish development and its reliance on Sámi displacement detailed here serves as the basis from which Hannah Arendt's theory of the "boomerang effect of imperialism upon the homeland" (1951:366) is applied to the ongoing resettlement of Kiruna: the replication of state violence committed outside of, and/or at the margins of the state, occurring in a modified, "invisible" (Foucault, 1976:121), structural form against the state's own citizens. In evidencing this historical narrative and its marginalisation by both LKAB and the Swedish state, I am here pointing towards Stafford Beer's (1984, 2001) theory that "the purpose of a system is what it does" (2001:217): an examination of the inputs, actions, and outputs of a system, adapted in 2021 to address socio-political and economic apparatuses (Benjamin and Komlos, 2021). Beer's systems insight is here operationalised as a means of distilling the coloniality from which Kiruna's initial construction at the turn of the 20th century emerges (after Quijano, 2007, Moraña *et al.,* 2021).

Chapters Five, Six, and Seven each draw upon the above framing of coloniality to represent Kiruna's current resettlement as a recursive reiteration of the historical colonial power dynamics, albethey now played out under the guise of neoliberal capitalism. To do this, Chapter Five focuses on the destabilisation of temporality within Kiruna's deformation zone. The zone is comprised of properties – homes and businesses – that are built upon the ground imminently at risk of subsidence and deformation. As such, LKAB has purchased much of the property within the zone. Through a process of cost-benefit analysis, LKAB governs over the material aesthetics and stability of the built environment of the zone and have allowed many of the material structures to lapse into ruin. The social consequences of the onset of ruination are explored via Caitlin DeSilvey's concept of palliative

curation and curated decay (2017). Adapted from an archaeology of the contemporary past as methodological framework (Buchli and Lucas, 2001), DeSilvey's curated decay allows for the zone's ruination to be used as a means of articulating socio-political care through the lack of infrastructural and environmental maintenance (after Hage, 2021). Here, buildings as non-discursive actors serve as sites of enquiry that move beyond metaphor (Sterling, 2021) to provide discourse on how lives within the zone are governed and what level of care they elicit from the state (after Olsen *et al.,* 2021).

Where Chapter Five details the material conditions among which my informants were living during my time in the field, Chapter Six identifies how the resettlement plan operates and is perceived in Kiruna. To that extent, Chapter Five is derived extensively from interviews with informants that live and/or work within the deformation zone. Whatever the plan's role is at the juridical, economic, and political levels, it is here framed by said data and is, as such, representative of the social impacts and implications of the plan's organisation. It is from this social interpretation and understanding of the plan by my informants that the in-built opacity of the resettlement plan is interrogated, as plan-in-theory meets plan-in-action via the DCP. This opacity gives rise to my observation that the complexity of the DCP delimits meaningful access to the resettlement plan, and in doing so enacts a form of structural, bureaucratic violence (after Graeber, 2015, Gupta, 2012), enacted away from public scrutiny in the boardrooms of private and public actors alike (Hanafi, 2009, 2013).

In Chapter Seven I examine the skewed power dynamics at the core of the DCP foregrounded by Chapter Six. Here, I frame the DCP's capacity for delimiting the futures of those living within the deformation zone in reference to Frederic Jameson's observation that "it is easier to imagine the end of the world than it is to imagine the end of capitalism" (Jameson in Fisher, 2009:9). Mark Fisher (*ibid*) positions Jameson's sentiment as a socio-economic reality under neoliberal capitalism, locating the core of his position in the delimiting of future imaginaries that do not inherently ascribe to economic growth. In Kiruna, the capital-R Real of Capitalist Realism is located in the bureaucracy at the core of the development and deployment of the DCP. Bureaucracy, as well as acting to give voice and implement the needs of a voting body, is reframed as a means of enacting covert, structural violence against informants whose homes and livelihoods stand in the way of the

mine's expansion (after Graeber, 2015, Gupta, 2012). Fisher's (2009) Capitalist Realism is here used to discuss the absence of future imaginaries among those that live within the deformation zone. Primarily, how this absence occurs through the inability to voice concerns about the resettlement at a meaningful level within the dense bureaucratic infrastructure legislated by the DCP. Secondly, LKAB's refusal to recognise, and as such fund, public memorial projects in the deformation zone gives greater depth to the conflicting future imaginaries held by the mine and articulated through the new settlement, and the current inhabitants of Kiruna.

The narrative LKAB put forth - that the intention of the new settlement is to house resettled community members from the zone - is problematised through an examination of the mine's increasing automation and digitisation of extractive processes and the use of *ex ante* reparations to pay for properties in the deformation zone. Threaded through these discussions, Capitalist Realism is used to evidence the "subordinat(ion of) oneself to a reality that is infinitely plastic, capable of reconfiguring itself at any moment" (Fisher, 2009:54) that occurs among my informants in response to the needs of the resettlement plan. The discussion then returns to the coloniality of LKAB's means of expropriating land for resource accumulation, only here divested of its conflictual native–non-native dichotomy and thoroughly embedded within the demands and remit of neoliberal capital.

Chapter Eight is told through my return trip to the field in August 2022. Here, I encounter how my threads of inquiry in the previous chapters have progressed during my time away from the field. Focusing again on the built environment of the former city centre, I now draw the former city centre into direct comparison with the new to examine how, and whose, heritage is enacted there and in what ways.

Chapter Two

Literature Review

2.1 Introduction

In reviewing the anthropological literature of resource extraction, it has been necessary to bifurcate my sources. Firstly, to develop a conceptual basis in which the analysis is grounded, and secondly to assemble an analytical framework that is used to underpin the ethnographic research. The role of the conceptual framework is to move beyond the presence-absence binaries of political systems, institutional governance, and neoliberal capitalism in the lived experience of participants (Buchli and Lucas, 2001, Buchli, 2016). Here I am speaking to the entanglement of material objects, such as buildings and the landscape, and more abstract structures such as production networks and financial systems that constitute contemporary mining practices (see Tilly, 1991, Ingold, 2011, Bakker and Bridge, 2006, Bridge, 2009, Bridge, 2014, DeSilvey, 2014, 2017, Hodder, 2012, Buchli and Lucas, 2001, Buchli, 2016). By deploying discourses that speak to the capacity for physically absent things and systems to be made observable in what is present, I am invoking Derrida's transmutation of ontology into hauntology (1993). Further reconfigured by Fisher to explicitly incorporate themes of temporality and agency as they occur in the context of neoliberal capitalism (2011, 2014, 2016), hauntology is used here by me to articulate a recursive narrative that prefigures Kiruna's resettlement in the form of LKAB's invocation of a linear temporality that promotes industrial heritage. The recursive narrative emerges through overlapping tensions in conflicting historicisms expressed as heritage (Stewart, 2016, Palmié and Stewart, 2019, Sjöholm, 2016, Harrison and Sterling, 2020, Sterling, 2021), material ruination (DeSilvey, 2014, 2017, Schubert, 2021, Hage, 2021, Olsen and Pétursdóttir, 2014) and virtual objects (Baxström, 2013).

Through the analytical framework I, in turn, address dominant developmental narratives that purport to describe the relationship between resource extraction and the lived experience of extractive communities. For example, narratives that invoke a 'resource curse' actively alter how national and international actors perceive of local governance structures' capacity to manage the exponential economic growth that is coupled to resource extraction. At the local level, 'resource curse' discourse is

prescriptive of how relations among private and state actors, and members of mining communities (those that live within towns and villages that supply labour and services to mines) are perceived (Gilberthorpe and Papyrakis, 2015). To avoid contributing to prescriptive discourse such as this, I apply Tanya Richardson and Gisa Weszkalnys' (2014) study of resource materialities, which integrates ethnographic data and anthropological analysis to interrogate aforementioned relationships.

Through these bifurcated sections, I am situating my research broadly within the anthropological and geographical canons on extractivism, a concept which incorporates discussion and analysis of the social and political dimensions surrounding and informing resource extraction. More explicitly, my aim is to demonstrate the operational capacity of hauntology as a means of articulating the recursive nature of the past as it emerges in the present, prefiguring what forms the future can take, via an introduction of the concept of the Deformation Zone (Sterling 2021, Fisher 2009, 2014, Bonnet, 2020), in direct relation to extractivism (after Weszkalnys, 2016).

2.2 Conceptual Framework

2.2.1 From Ontology to Hauntology

This section also provides a critique of ontology as a purely conceptual process, as it is interpreted by the Ontological Turn in anthropology (Holbraad and Pedersen, 2017). Derrida's (1993) *hauntology* is offered as another, more conceptually useful term that, when deployed analytically, operates at the intersection of two key themes: agency and temporality. Where ontology is primarily useful in describing how individual and communal practices are experienced and conceived of in the materially present, hauntology explicitly describes the temporal dynamics and phenomenal encounters that place those practices within a networked ecology of actors simultaneously materially present and affectively absent (after Sterling, 2021). Here, temporality describes the disjuncture between the perceptual experience of time as non-linear and often cyclical, and its conceptualisation as a linear, progressive directionality (Fisher, 2009, Ringel 2018, Wentzer, 2014, Stewart, 2016).

Ontology's lack of explicit temporal awareness, I argue, opens a conceptual space somewhere between the schools of New Materialism – informed by Bennett's

Vibrant Matter (2010), Haraway's *Staying With The Trouble* (2016), and Tsing's *Friction* (2005) and *The Mushroom at the End of the World* (2015) – and Object-Orientated Ontology (OOO) (Harman, 2016, 2018). Where both New Materialism and OOO draw heavily on Latourian Actor-Network Theory (ANT) to establish the fluidity of relationships and blurring of distinctions between subject and object, presence and absence, they are lacking in their ability to address explicitly the temporal aspects of those relationships, and how they come to bear on the emergence and/or delimiting of agency among subject groups.

Derrida's (1993) subversion of the term 'ontology' to 'hauntology' opens a conceptual space through which the relationship between Kiruna's resettlement and the extractive practices of LKAB can be articulated to incorporate themes of temporality and agency, addressing the questions posed above. Hauntology defines and expresses how objects are made manifest through a temporality defined explicitly by its relationship to absence. A relational concept, hauntology contends that presence is assertively contoured and defined by absences[5] (Trigg, 2012). However, the hauntological does not operate in a reductionist Cartesian binary in which presence and absence are clearly defined, separate, and oppositional (see Holbraad and Pedersen, 2017). Ontology in its purely conceptual form becomes insufficient to address the inclusion of phenomenal encounters of affective absences engendered by hauntology (Sterling, 2021). Encapsulating the phenomenality of the "*non-sensuous sensuous*… the tangible intangibility of a proper body" (Derrida, 1993:6 – emphasis in original), hauntology positions perception of the absent object as intrinsic to the understanding of subjective worlds and the practices therein. Philosopher Martin Hägglund argues that Derrida's aim,

> "is to formulate a general 'hauntology' (hauntologie), in contrast to the traditional 'ontology' that thinks being in terms of (…) presence. What is important about the figure of the spectre, then, is that it cannot be fully present: it has no being in itself, but marks a relation to what is no longer or not yet" (2008:82).

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[5] As both Kohn expresses in *How Forests Think* (2013), and Buchli in *An Archaeology of the Immaterial* (2015), perception is a double-thought consisting of both what does and does not constitute the object of encounter. What something *is not* can be as equal to what some *is* when conceiving and perceiving of it.

2.2.2 Hauntology as Critical Heritage

"Haunting, then, can be construed as a failed mourning. It is about refusing to give up the ghost or – and this can sometimes amount to the same thing – the refusal of the ghost to give up on us. The spectre will not allow us to settle into/for the mediocre satisfactions one can glean in a world governed by capitalist realism."
Mark Fisher, Ghosts of My Life: Writings on Depression, Hauntology and Lost Futures, 2014

In my attempt to operationalise hauntology, I follow critical heritage scholar Colin Sterling in adopting and deploying multiple "concepts, theories, practices and methods (that) overlap and push up against each other" (2021:68) throughout this chapter. It is in direct response to Sterling's call for critical heritage scholars to "become hauntologists" (2021:67) that I am deploying Derrida's (1993) concept of hauntology. In Sterling's attempt to operationalise the concept he makes the case that

> "to be a "hauntologist" does not mean embracing a particular philosophical project. Nor does it signal a concern for the macabre or the gothic. Instead, the notion of the hauntological captures a broad range of attitudes and approaches towards the past in the present that demonstrates the political and ethical charge of critical heritage practice." (*ibid*:68).

Sociologist Avery Gordon contends that modernity's penchant for favouring linear modes of temporality through historical discourse has rendered much of history a ghostly phantasmagoria (2008). Sterling's operationalisation of hauntology is intended to give voice to these ghosts as they occur through the "three hauntological motifs – instability and uncertainty, affective absences, and failed futures" (2021:69).

Therefore, in responding to this call and thereby situating my work in the wake of Sterling's, I too am aiming to give voice to these spectral motifs. To do this means situating, at least partially, my work within the field of critical heritage studies (after Winter, 2013, Gentry and Smith, 2019 Harrison and Sterling, 2020). The guiding premise of critical heritage studies, Rodney Harrison and Colin Sterling (2020) argue, is to divest historical discourse from a tendency towards aggrandising narratives that "evoke themes of continuity and nostalgia, played out through historical consumption and a kind of kitsch romanticism, oriented towards the production of origin myths connecting territory, tradition, citizenship and the nation-state" (*ibid*:23). Instead, they posit that heritage exists at the ever-shifting confluence

of political, economic, technological, and material actors (after Deleuze and Guattari, 1972).

In focusing on exactly what it is that historical discourse passes down and therefore takes forward as heritage, as opposed to conserving the past for the sake of conservation, critical heritage engages with questions such as:

> "Who is involved in decision making processes of inheritance and care for the future? How is this future defined and articulated? What 'pasts' are given priority in the present, and whose histories are obscured through such work? How might alternative and marginalized concepts of nature and culture challenge familiar methods of preservation? What stories are waiting to be told about the past, in the present, and what is their role in shaping future worlds?" (Harrison and Sterling, 2020:27).

By adopting a critical heritage approach, I too am asking these questions in relation to the industrial heritage of my field site and those that dwell within it. In asking these questions, my aim is to generate an emancipatory lens within critical heritage (after Gassner, 2019). Emancipation, in this instance, argues against narratives that imply historical and futural ownership and dominion over communal spaces such as those of towns and peoples living in the shadow of hegemonic industries such as mining (Sordi *et al.,* 2017, Finn, 1998, Leech, 2018, Weszkalnys, 2016, Beynon and Hudson, 2021).

Deploying a hauntological lens to locate these narratives means observation and engagement with the non-discursive: that and those which have been rendered discursively absent (Navaro, 2020, Olsen *et al.,* 2021, Buchli, 2016, Buchli and Lucas, 2001, Hodder, 2012). As literary scholar Katy Shaw argues,

> "unlike 'ghost' or 'revenant', the term 'spectre' 'speaks of the spectacle', it 'is first and foremost something visible. It is of the visible, but of the invisible visible, it is the visibility of a body which is not present in flesh and blood.'" (Derrida in Shaw, 2008:5)

Therefore, to translate the non-discursive into a site of ethnographic inquiry, I must turn to the intersection of critical heritage and archaeologies of the contemporary past.

2.2.3 Archaeologies at the Intersection of Past and Present

"The archaeological focus on the deed rather than on the word allows exploration of the movement of the mass as opposed to the elite history of the few."

Ian Hodder, Epilogue, 2001

Archaeologies of the contemporary past was first developed as a method by Victor Buchli and Gavin Lucas (2001) in an experimental case study deploying archaeology as a practical means of interrogating material objects left behind during the hasty abandonment of a council flat in London. Documented in the introductory chapter – *The Absent Present* – of the collection *Archaeologies of the Contemporary Past* (2001), is the case study's ability to conjure a vibrant and rich portrayal of the life lived within the walls depicted by the materiality of the objects left behind. In traditional archaeological style, each assertion made is backed up by what documents were available on the occupants of the 'dig' site. Each object within the council flat is treated in relation not only to other objects within the property, but within the socio-political and economic factors that informed the conditions through and within which life in a council flat in the UK was more broadly lived immediately prior to the inhabitant's departure.

Buchli and Lucas (*ibid*) contend that engaging with materials in both their physical materiality and as a means of making informed inferences has the power to reify abstract underlying factors (such as those mentioned above) through their physical presence as material objects. The object of study, under an archaeological approach, then takes on a doubling quality with the capacity to describe and represent what is simultaneously there and what is inferred. Buchli and Lucas term this "The 'uncanny' effect," which "creates a residue, a ghost that is uncanny and disturbing, which is unassimilable, there but not there. An absent present" (*ibid*:12). Buchli and Lucas go on to underscore that the creation of this spectre, to presence systems and structures that often remain hidden, non-discursive in the quality of everyday objects, is precisely the role that archaeologies of the contemporary past is designed to fulfil:

> "Archaeologies of the contemporary past expose just such realms of the abject and the uncanny: because of their approach focusing on the material, the non-discursive, they frequently engage with the unconstituted. This is not simply the unsaid, but the unsayable – it lies outside the said, outside

discourse. This does not mean it is not visible, not experienced, but all too often the experience is crowded out by other, hegemonic discourses (…) ultimately, archaeology too is most often about producing texts – making the nondiscursive discursive, making 'the mute stones speak'" (*ibid*:12,13&14).

Ultimately, what Buchli and Lucas (2001) are arguing for, and demonstrating through their methodology, is the capacity for physical materials to tell personalised stories that are often counter hegemonic, historical and socio-political accounts of the conditions in which people cultivate their lives.

It is of this methodological and theoretical position that Olsen and Pétursdóttir (2014) speak when discussing the value of using materials in pronounced states of decay and ruination as a means of interrogating dominant historical, economic, and socio-political discourses:

> "Modern ruins, however, are also difficult to cope with, for other and perhaps more subtle reasons. One particular mode of their being may prove especially impeding, as reflected in the very term 'ruin' itself. This is indeed an equivocal concept, which can grasp 'both the claim about the state of a thing and a process affecting it' (…) There is, accordingly, an inherent tendency to see the noun (ruin) as a frozen form, inert and passive, in contrast to the active and transient verbal form (*to ruin*) (…) They are as if caught in a state of 'unfinished disposal' (…), and it may well be that it is this transient state, their being in-between and not belonging, that makes the ruins of the recent past so disturbing." (*ibid*:7)

Olsen and Pétursdóttir (*ibid*) go further in their examination of ruins as a means of engaging in a critical analysis of contemporary forms of – or lack of – political modes of social care to suggest that the power of observing and engaging with ruinous materiality is also a means of locating memory and personhood within an environment. Building on Pierre Nora's (1996) concept of lieux de mémoire (*places of memory*) and Dylan Trigg's (2012) phenomenology of place, an archaeology of contemporary past asserts that memories, personal, communal, and collective, solidify "as objects, sites or places, generating locales or *lieux* of collective remembering" (Olsen and Pétursdóttir, 2014:8). Yet, it is in places' material ruination that the entangled and constituent social, political, economic, and technological parts reveal themselves: deconstruction of the physical begets a deconstruction of the abstract and phenomenological: all that is air coalesces into form, then is pulverised

back into ether. Memory of the material and all it came to mean, its shape and the meaning that filled that shape, comes to the fore much as sensation returns to a phantom limb (Trigg, 2014), presenting itself as a valuable means of inquiry into the relationships that had once composed the absent-present of the material itself.

Furthermore, the disturbance central to the 'disturbing' nature of contemporary buildings and sites in myriad states of ruination is, as Ghassan Hage (2021) notes, primarily a lack of basic maintenance that causes buildings to decay. Decay here is indicative of a lack of care at wider, institutional, and bureaucratic levels of a given society. It is this notion which gives the examination of Kiruna's materiality its interrogative power, providing physical evidence that operates against the claims of care made by Kiruna's municipality and the mine (DeSilvey, 2017, Schubert, 2021, Hage, 2021, Gupta, 2012).

2.2.4 Palliative Curation and Landscape as Body

"The pathogen is nothing, the terrain is everything."
Louis Pasteur on his deathbed, quoted by Mike Davis in Ecology of Fear, 1998

It is from within the methodological framework of archaeology of the contemporary past that Caitlin DeSilvey develops her conceptual interpretation of landscape. In step with philosopher Dylan Trigg's observations of the distributedness of the human psyche within the body and among the environment (2012, 2014), DeSilvey's (2017) critical focus is on the materiality of the built environment as an affective terrain that harbours the need for a level of care akin to that of the human body and psyche (2014).

Known as "palliative curation" (*ibid*:88), DeSilvey draws a direct comparison between the lifespan of a built environment with the lifespan of the human body, and in doing so, puts forward that dilapidation and decay are not to be heavily intervened in or processes to prevent. Instead, ruination can be engaged with as a series of processes that bestow a sense of agency onto the built environment, granting its ruination a sense of dignity. DeSilvey is worth quoting at length here, and so, from *Ruin Memories: Materiality, Aesthetics and the Archaeology of the Recent Past* (ed. Olsen and Pétursdóttir, 2014):

"The term 'palliative' is most often used in clinical contexts, where it refers to efforts to relieve or soothe the symptoms of a disease or disorder without effecting a cure. Palliative care of a terminally ill patient involves minimal clinical intervention, only that necessary to ensure comfort and dignity. Applied to the care of buildings, a palliative approach would accept that structures and artefacts have a finite lifespan, just as people do… it suggests that steps can be taken to ensure that their 'death' is attentive, respectful and intentional." (DeSilvey, 2014:88).

DeSilvey's (*ibid*) broader theme in this extract is the treatment of buildings as materials that have been woven into the personal and social fabric of communities, and how granting a form of end-of-life care to these buildings can be emotionally alleviative and politically powerful.

Palliative curation speaks to a care for the built environment that tempers the affective turbulence of ruination. This is a care administered in the present that acknowledges the inevitability of futural decay. As a means of gauging who, how, and what – economically, socially, politically – maintains the physical integrity of a built environment, palliative curation also belays an examination of any plans which organise and oversee the conditions from which ruination is governed. It is through the governance of planning processes, however, that another spectre arises: that of the failed future.

2.2.4 Virtual Objects and Failed Futures

"Haunting looks back to the past and points forward to the future from the moment of the present. In doing so, it signals towards a legacy as well as to a promise of something to come, drawing attention to the structuring role of absence."
Katy Shaw, Hauntology: The Presence of the Past in Twenty-First Century Literature, 2018.

The notion of a life in which one's future has been foreclosed upon and rendered unimaginable is at the core of recent interpretations of Derrida's hauntology (1993, Sterling, 2021, Shaw, 2018, Lincoln and Lincoln, 2015). Most notably, Mark Fisher's interrogation of the experience of Western post-industrial culture under neoliberal capitalism in his books *Capitalist Realism* (2009), *Ghosts of my Life* (2014), and *The Weird and The Eerie* (2016), modifies Derrida's (1993) concept of hauntology to describe personal, temporal, spatial dislocation from the future as it continually fails to materialise in the present: the failed future of which Sterling's (2021) third hauntological motif speaks.

Fisher identifies the source of this failure of the future to emerge in forms not primarily favourable to capital as an internalised subordination to futures predetermined by capital and the political desire for economic growth (Shaw, 2018). Such a future, I argue, as the one under development and directed by the resettlement plan in Kiruna. At the local level, Kiruna's resettlement is governed by the aforementioned DCP. The DCP is a legally binding, yet open-ended contract of agreement between LKAB and Kiruna municipality, by way of the building commission, about how the resettlement will unfold. I frame the formulation of the DCP through a continual and open-ended planning process with multiple actors as a historical-geographical practice. Here, my positioning draws on Carter *et al's* (2015) advancing of Doreen Massey's notion of the layering of successive rounds of investment that embed local and/or regionally pervasive narratives or inequalities into urban spatial organisation inherent to development plans:

> "'local areas are not just in passive receipt of changes handed down from some higher national, or international, level': rather, the 'vast variety of conditions already existing at local level also affects how these processes themselves operate'" (Massey, 1983:75).

What Carter *et al* (2015) do is define Massey's layering of intra- and extra-local forces, indicative of the contradictory pressures of neoliberal planning regimes,

as palimpsestic – i.e maximising financial investment and profit margins while protecting or enlarging public and social welfare (after Knox, 2012). The term palimpsest is used to articulate the multiple overlapping layers of political, economic, technological, and social infrastructures that exist within a plan and are enacted upon a landscape.

In framing the planning process as a palimpsest, my intention is to "merge the material and the social," and go beyond the use of palimpsest as metaphor to "bring out history and geography, time and space, as key dimensions of longer-term changes in spatial planning" (2015:4). Reifying the abstract latticework of complex infrastructures of Kiruna's resettlement via Carter *et al*'s (*ibid*) palimpsest frames the DCP as a component of the spatial dynamics of place (Malpas, 2012).

Where the palimpsest articulates the multiple over-lapping dynamics that constitute the planning process, Baxström (2013) focuses on the role of the plan itself, operating as a tool of coercion by oppressive regimes in Kuala Lumpur, identifying that "the primary effectiveness of [a] plan largely relates to its status as a virtual object in the present" (2013:139). Baxström's plan as virtual object is conceived of as a crucial component in governing localities through its managerial capacity in its insistence on the liminality of the present. However, in Baxström's ethnography, the liminality he describes is in fact a finality created by the presence of the plan itself. 'Final' in that the narrative of the development plan is not merely descriptive of a possible future, but prescriptive of the conditions necessary to obtain that future. As Baxström contends, the role of the virtual object is to "bind subjects to the conditions of the present within the desires and limits asserted by the institutions seeking to dominate contemporary life" (*ibid*:62). That the plan is not required to be a definite image of the future, only a variable image that the plan itself projects, is central to its ability for producing an increased political-managerial capacity in the present. As much a palimpsest of overlapping infrastructures as an apparition of the future made present, the plan emerges as an affective absence, superimposed upon the materiality of the present cityscape.

Adopting Baxström's conceptual approach to the plan as a virtual object engages with key themes in the redevelopment of Kiruna: the recursive nature of the plan and its capacity to reduce agency through invoking temporality, the question of whether the temporality of the plan or the temporality of extraction has primacy within the resettlement plan, and what relationships emerge or are delimited in the present

by the imposition of such a process. Foremost conceptually, what the virtual plan does is invoke a historicism, taking a chosen narrative and projecting it into the future, framing it as progress and reifying a linear model of time. Invocation of the past by such a plan turns the virtual object into a temporal spectre, haunting the experiences of communities living under the shadow of development projects.

Hauntology then, I argue, submits itself as the optimal conceptual base from which seemingly disparate meso-level theories are thread together to form a coherent analysis. As an overarching concept, hauntology expresses theoretically the reification of the abstract and non-discursive in the materiality of Kiruna's built environment, as well as the historical discourses and future imaginaries made absent through the dominance of the mine's role in the resettlement process. The following section will build on this conceptual framing to situate Kiruna within the broader extractive literature and develop the analytical frame from which the methodology (see Chapter Three) will be developed.

2.3 Analytical Framework

2.3.1 Situating Kiruna in the Extractive Literature

Through an in-depth meta-data study, Mildner *et al* (2011) relate economy-driven narratives of industrial development as the dominant marker of social stability in communities within resource rich locations. Indebted to either a resource's scarcity or abundance, these narratives underpin the need for mines to increase the rate of extraction, often via the expansion of their ore pits. As a direct result of expansionism to increase resource accumulation, the Mining Induced Displacement and Resettlement (MIDR) of communities that border mines and often provide labour and services for the mining company is common (Owen and Kemp, 2015, Adam *et al*, 2015). Adam *et al*'s definition of MIDR is directly applicable to Kiruna's resettlement process: "incremental expansion in land access, cohabitation patterns between mines and communities, patterns of leveraging for compensation and associated dependency, and the complexities of governance arrangements that congeal around mining operations" (2015:582). Key to the definition of MIDR is the need for any development plan to remain open, akin to a living contract, in order to renegotiate any terms that may arise as a direct result of ongoing mining practices. This, then, requires that those living within sites of MIDR are placed in a finalising state: having

to submit to the extractive process' newly established claim to their domestic arrangements.

Kiruna bucks the trend of MIDR in at least two key areas. Firstly, the majority of MIDR of communities occurs in the I South, where it is explicitly linked to the legacies of colonialism and racial capitalism, conceptualised under the banner of extractivism (Gomez-Barris, 2017, Wilson, 2019, Sordi *et al*, 2017, Morris, 2022, Lesutis, 2021, Féliz and Melón, 2022). Decolonial environmental humanities scholar Macarena Gómez-Barris states: "(w)hile racial capitalism refers to the processes that historically subordinated African and Indigenous populations, extractivism references the dramatic material change to social and ecological life that underpin this arrangement" (2017:xvii), and goes on to clarify that "(e)xtractive capitalism (…) violently reorganizes territories as well as continually perpetuates dramatic social and economic inequalities that delimit Indigenous sovereignty and national autonomy" (*ibid*:xviii). I raise this here as Kiruna has yet to be framed in such explicit terms, and it is the task of Chapter Four to demonstrate why this should be reconsidered in the literature on Kiruna going forward.

Secondly, Kiruna's is the first case of MIDR in which a new settlement is being paid for and constructed on behalf of the mining company, to accommodate the expansion of the ore pit. The only similar form of civic reconstruction in the literature is known as managed retreat (Carey, 2020, DeSilvey, 2014). According to A.R Siders, from the University of Delaware's Disaster Research Center (sic) in Newark, managed retreat is the "purposeful, coordinated movement of people and assets out of harm's way" (Carey, 2020:131). Carey (*ibid*) notes that managed retreat, although a relatively recent policy option, is not a particularly new phenomenon, tracing a historical legacy in the United States of entire communities abandoning villages and towns from prehistory up through industrialisation to include contemporary examples (such as the federal grant made to the state of Louisiana in 2016 to resettle approximately thirty households from the flooding Isle de Jean Charles). Yet, I note in Chapter Five the similarities between the cost-analyses both managed retreat and Kiruna's resettlement use to justify decision-making procedures in relation to property damage and relocation.

2.3.2 Anthropology of Corporate Social Responsibility

Indeed, the role of property ownership is prominent within the anthropological literature on extractivism. Anthropologist Marina Welker (2009, 2014) focuses particularly on the moral and ethical confluences and divergences of property relations among and between extractive corporations and communities of mining labourers. Using both Denver, USA, and Sumbawa, Indonesia, as field sites, Welker demonstrates that property can have multiple meanings for both corporate and public actors beyond that of legal frameworks. Here, Welker contends that mining companies cannot operate as monolithic, ungovernable entities. Instead, they are necessarily constituted by a multiplicity of actors, not least of which are the communities directly reliant on the mine for employment and provisioning for local and national economies. As such, Welker's analysis engages primarily with the administration of corporate social responsibility (CSR) as a means of managing constituent components external to direct governance of mining companies. Welker's (2014) critical analysis of CSR picks up on economic anthropologist Dinah Rajak's examination of CSR in their book *In Good Company: An anatomy of corporate social responsibility* (2011). Within, Rajak critiques the notion of CSR as a managerial tool for producing positive social and environmental outcomes within the oil industry. Instead, Rajak argues that CSR initiatives primarily serve as reputation management and a means of legitimating negative social and environmental impacts of corporate practices. Highlighting the tensions between profit-oriented corporate objectives and broader social and environmental concerns, Rajak's interrogation of meaningful accountability via CSR occurs primarily through adopting community perspectives on agency. Using a community perspective to shed light on how power dynamics are negotiated, and differing positions (corporate or community) are contested and/or reinforced, Rajak's ethnography (*ibid*) concludes that CSR initiatives often reinforce local hierarchies and marginalise dissenting voices (see also Kirsch, 2014).

Elana Shever's (2012, 2022) anthropological exploration of corporate extractivism in Argentina outlines and reinforces the notion of social, economic and political hierarchies in company towns. Shever's (2012) work on oil extraction in Argentina articulated the internalisation of the mine's neoliberal policies by way of CSR initiatives. By adopting the language and logics of extractive corporate capitalism, Shever's informants consolidated the expansionist policies of local mines, facilitating their growth at the expense of local interests. Shever (2022) since

deepened her exploration of the internalisation of capitalist logics in extractive centres. Detailing a historical emergence of corporate paternalism in extractive industries throughout the 20th century, Shever (*ibid*) uses a multi-sited ethnographic approach to strengthen their critical analysis of CSR ad further articulate how such initiatives advance neoliberal capitalism. Both Dajak (2011) and Shever's (2012, 2022) bolster arguments made in Chapter Six pertaining to the failure of imagination in Kiruna's futural landscape.

2.3.3 Anthropologies of Resource Extraction

Anthropologist Kari Dahlgren's (Pink *et al,* 2022) research highlights the ways and means that technological advancement in extractive industries augments capacities for imagining futures among industry insiders and external actors within mining communities. Much in the same vein in which Chapter Seven is argued, Dahlgren and co-authors question the viability of futures framed explicitly in techno-speculative (Dahlgren, 2022) for those that live beyond the remit of extractive policies. This work builds upon Dahlgren's previous ethnographic explorations of ethics and morality in Australian coal mining towns (2019, 2021). Akin to the iron ore underneath Kiruna, Dahlgren (2019) argues that coal is a point of material purchase upon which both historicisms and future imaginaries are hinged. As such, coal, as both inert matter and as mineral resource, has multiple overlapping and divergent meanings. In engaging explicitly with the extraction, procession, and production of coal, Dahlgren's (2021) research occupies itself with discussions centred on climate change, diverging from my own in which climate change is not intrinsic to my analysed. However, Dhalgren's (*ibid*) interrogation of an ethics of complicity among pro-coal lobbyists is instructive in its argument against the cultivation and/or maintenance of overtly moralising landscapes that delimit the emergence of complexity in data gathered from extractive industry-friendly interlocutors. To temper any moralising, Dahlgren argues a necessary forbearance and acknowledgement of researcher positionality explicitly, in order to embrace and scrutinise anthropological rapport and complicity in resource extraction.

Rapport and complicity are two central themes that underpin both the methodology and the objects of ethnographic inquiry in Hannah Appel's (2019) *The Licit Life of Capital*, an exploration of US oil extractive industries attempts to produce narratives of disentanglement from civil society policies and processes in foreign

states. Here, Appel builds on previous research which takes industry – labour regimes, inter- and intra-company infrastructures, expertise - as the object of analysis (2012a, 2012b) to underscore how deeply entangled -indeed, inextricable - extractive corporations are in local to international scale processes. Focusing particularly on a reliance on a demonstrably defunct – in its primary power to dispossess, enclose, and exclude – late capitalism, Appel's (*ibid*) research focuses on international oil exploration and extraction in Equatorial Guinea. Implicit throughout their ethnography is extractive processes capacity for securing capital away from sites of extraction while simultaneously territorialising those self-same sites (after Ferguson, 2005). It is in this manner that Appel highlights vast international networks of institutions that oil corporations are reliant on to extract and produce their product: infrastructures of extractive capital world-building. In doing so Appel, as Richardson and Weskalnys (2014) suggest and akin to my own approach, turns away from purely economically deterministic interpretations and articulations of extarctivism.

As anthropologist Andrew Walsh (2012) notes, on-the-ground effects of international mining operations is precipitous of precarity and uncertainty among local communities. Detailing the post-rush fallout of the discovery of sapphires in Madagascar, Walsh's ethnography centres around the population demographics that circulate within boomtowns. At the announcement of the mineral discovery, Walsh's field site experiences a population boom as both domestic and foreign investors, miners, and traders moved into the town. These incomers outnumbered the generationally embedded locals. As the population grew a service culture arose to satisfy their needs, augmenting the fabric of local economic, political, and social relationships. The rapidity of in-migration to the area, coupled with the process of extraction, had a huge detrimental impact on local ecosystems too. Once the boom had receded and people began to move out, the communities that remained had become entirely destabilised, with even the local police force abandoning those that had remained.

In located the emergence of such local crises in international financial expansionism and local economic desire, Walsh's analysis moves beyond the merely economic to examine the establishing of social precarity where once it maintained a robust quality. Uncertainty and precarity are two entwined themes that underpin Kiruna as a fieldsite. The level of social, economic, and political

destabilisation that Walsh (*ibid*) describes underpinned a number of anxieties I encountered at the behest of my informants. Furthermore, at the core of his analysis, Walsh situates the emergence of such precarious conditions within a historical context of colonial violence, quoting AbdouMaliq Simone's observation that African states' uncertainty "was (often) primarily generated out of the imposition of an external world upon local economies" (2004:29). The presence of coloniality in Kiruna is one that I define in direct relation to the production of industrial heritage in Chapter Four.

2.3.4 Analytical Framing of Extractivism in Kiruna

A majority of literature on Kiruna focuses on the industrial heritage of the mine and its role in the production of memory and meaning-making for the inhabitants of Kiruna (Overud, 2019, Sjöholm, 2016, Brunnström, 1981, Persson, 2015). It is only recently that the processes deployed by both the Swedish state and private mining companies to secure access to resources in Kiruna has been framed as a colonial process by cultural historian Åsa Össbo's investigation on the means by which hydroelectric dams were constructed and used to power mines (2022), and anthropologist Elisa López (2021) case study of Sámi inclusion in the design of Kiruna's new settlement. I deploy Össbo's framing of the historical extractive practices of LKAB as a process of settler colonialism in Chapter Four.

My foremost intention in deploying this analytical framework is to push back against overarching theoretical discourse in extractives focused research that prioritises economy centric narratives of society (Mildner *et al*, 2011). To achieve this, I frame the research using the emerging concept of 'resource materialities' (after Richardson and Weszkalnys, 2014, Kristofferson *et al*, 2021, and Bridge and Dodge, 2022).

2.3.5 Resource Materialities as Research Design

Coined as a study of resource materialities (Richardson and Weszkalnys, 2014), the framework emerged as a direct response to overtly economic interpretations that coded a moralising 'good' or 'bad' discourse onto the social processes surrounding resource production, often deploying an ends-justifying-the-means narrative of extraction. The proliferation of such discourse tended to focus on the economic capacities of natural resources, and as such reduced the scope of analysis to binary

financial oppositions. In a study on gold mining in Ghana, Obeng-Odoom (2012) asserts that assessing the broader social implications of resource extraction based on economic input/output mechanisms problematises how resources can be engaged with ethnographically, limiting the scope for analysing how resources very presence affects sociality.

Anthropological investigations of the impacts and materiality of resources within extractive communities, such as Weszkalnys' research in Sáo Tomé and Príncipe (2008, 2011), highlight the performative power of macroeconomic systems as they relate to resource extraction. Weszkalnys (*ibid*) argues that the work of anthropology is to negate the determinative, supposedly reflective, capacity of economic theories of community-extraction relationships in favour of demonstrating that such theories play a formative role in shaping the lived experiences of extractive communities. What Weszklanys' work asks is that any anthropological, ethnographic research into the extractive industry challenge the myopic representation of mining communities evidenced by Mildner *et al* (2011) by "re-embedding extractive processes in social relations" (Rajek and Gilberthorpe, 2016:9). By reasserting the agency of local groups beyond a merely economic scope, the current "fetishization of capital that continues within much of the (resource extraction and exploitation) literature" (*ibid*) can be minimised.

Central to the study of resource materialities call to re-embed extractive processes in social relations is the need to observe resources beyond their commodified form and in doing so ask what relationships are formed and how they are articulated over time through the social and political processes of resource-making. Ferry and Limbert (2008) posit that resources impact the communities that extract them not only in their commodified, economically viable form, but also via the processes by which resources are made: "We began with the premise that nothing is essentially or self-evidently a resource. Resource-making is a social and political process, and resources are concepts as much as objects or substances" (2008:4). By asserting that resources are conceptual sites in which personal and communal narratives, histories, and relationships can be ascribed, Ferry and Limbert (*ibid*) contend that resource-making is an ontological process, in which resources are imbued with narratives that transcend their position as mere objects and substances, aiding in personal and community meaning-making.

In response to their appeal for a critical rethinking of what natural resources are, the study of resource materialities sets the process in which "bodies, technologies, infrastructures, and substances become entangled" (Richardson and Weszkalnys, 2014:21) through the extraction and exploitation of resources at the core of its framework. The study of resource materialities addresses two anthropological tendencies when discussing the extractive industry: "First: a tendency to centre intellectual discussions and analysis on individual resource substances that are part of a relational material world: and second, a tendency to focus on the commodity status of resources rather than asking ethnographically what else they might be at any given point in time." (*ibid*:7). The study of resource materialities sets itself the aim of shifting the focus of natural resources as singular nodes[6] within a much greater network, to natural resources as relational substances constituent of and constituted by social, political, economic, and material relations that the network consists of (after Deleuze and Guattari, 1972). Contained within this framework are resources' inherent materialities that exists "beyond their status as particular kinds of commodities" (Richardson and Weszkalnys, 2014:6), and how these materialities are distributed across multiple spaces and temporalities at any one time.

As an analytical framework resource materialities establishes the question: how do we discuss and analyse the exploitation of resources when these resources become irreducible to the forces that generate and exploit them? From this question stems the need for moving beyond nature-culture dichotomies to understand the implicit social forms that occur during the process of resource making. As Descola (2013, Descola and Sahlins, 2005) among others (Ingold, 2011, Tsing, 2017) asserts, nature-culture dichotomies are out-dated modes of understanding bodies and environments: what is needed is a critical method of analysing and describing the fluidity that occurs between objective and subjective actors in a network. With the study of resource materilites Richardson and Weszkalnys (2014) have established a framework in which this fluidity can be discussed and applied to resource environments, especially in an extractive centre such as Kiruna (see also Kristofferson *et al*, 2022, Bridge and Dodge, 2022).

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[6] 'Nodes' here are defined in Latour's (1996) actor-network theory context, as sites of human and non-human interaction within Global Production Network's (GPN's), in which subjects and objects define and redefine each other through their interaction.

Chapter Three

3.1 Introduction

"Between landfills and monuments there may seem a vast difference, but there is a structural similarity between the two"
Victor Buchli and Gavin Lucas, Between Remembering and Forgetting, 2001

The methodology below is composed of four sections. In the first section, I discuss how I framed Kiruna conceptually as a site of ethnographic enquiry, via work on 'resource materialities' (Richardson & Weszkalnys, 2014). Second, I explain the methods I deployed to gather ethnographic data and draw links between forensic architecture (Weizman, 2017, Fuller and Weizman, 2021) and Sarah Pink's sensory approach (2009), and walking ethnographies (Vergunst and Ingold, 2016). Third, I explain how I created an interrogative framework for the data gathered via work on archaeologies of the contemporary past (Buchli and Lucas 2001, DeSilvey and Edensor, 2012, Olsen and Pétursdóttir, 2014).

3.2 Research Design

3.2.1 Framing Kiruna as a Site of Ethnographic Inquiry

Since the earliest inception of this project as a masters' thesis in the winter-spring of 2016 it has been informed by the anthropological work of Gisa Weszkalnys, especially her work on oil-focused extractive industries and their relationship to anticipation and the future of Sáo Tomé and Principe (2008, 2011, 2014, 2016). In preparation for my first foray into the field in 2016, I met with Gisa at a café in Oxford, UK, to discuss the analytical framework she had recently developed (along with Tanya Richardson) for studying the relationship between socio-technological, economic, political, and material processes that produce and signify resources in their contemporary form. The design of this research project is concerned with operationalising the study of resource materialities to stimulate an ethnographic analysis of the resettlement of Kiruna.

The approach this project takes is to deploy theorist Max Gluckman's situational analysis (Kapferer, 2014), an analytical framework that stresses the

"complexes of connected incidents that were occurring in the field, in order to isolate and identify the actual mechanisms underlying the(ir) development" (Evens and Handelman, 2006:2). The capacity of situational analysis' capacity to provide instructive and insightful analysis rests on the theory being deployed in the examination of atypical or untypical events and scenarios within the context of the field. J. Clyde Mitchell, in their chapter *Case and Situation Analysis* (2006), argues that atypicality or untypicality are of course directly relational to normative interpretations or perceptions of the observed object or subject within the field. The field site itself must first be conceived of as existing within its own typical structures before any deviations from which can be identified.

In Kiruna, the atypicality of the field is the centre point of the entire public relations image of the resettlement. The engineering and architectural prowess of moving entire buildings, dismantling iconic landmarks of Kiruna's built environment, and the construction of a new city are all headline-making indicators of the atypicality of Kiruna's resettlement. Indeed, even within the literature of resource extraction and mining induced resettlement (Downing, 2002, Owen and Kemp, 2015, Adam *et al.,* 2015). Kiruna's move is an uncommon occurrence. The decision and capacity to resettle large portions of mining communities to new, purpose-built cities in the wake of pit expansion does not occur in the literature. But of course, Kiruna's exceptional atypicality is a product of its own making. Historically speaking, the dominant mode of living in the Scandinavian sub-arctic has been nomadic mobility and impermanent seasonal campsites (Lantto and Mörkenstam, 2008, Raitio *et al.,* 2020, Öhman, 2020). The notion itself of a static city in the sub-arctic of Norrbotten County was incongruous in Sweden when it was first mooted at the turn of the 20th century (Brunnström, 1981, Öhman, 2020). The level of daily maintenance of public infrastructure – buildings and roads – that must occur in Kiruna to keep the city functional throughout the winter is tremendous, reliant on the ubiquity of industrial loaders and excavators clearing snow from roads and footpaths throughout the day. One afternoon in late-January I sat by the living room window of my apartment and counted no less than fourteen industrial excavators and ten loaders the space of an hour, hauling snow and ice up Gruvvägen, a former main-road that runs from the re-routed arterial E10 on the western margin of the city up past Kiruna Kyrka and into the multi-story apartment blocks at the top of Kiirunavaara's north-eastern foothill known as Backen (*The Back*), to be dumped in the former mining pit at Luossavaara.

This is to say that Kiruna's resettlement to a purpose-built city is only exceptional and atypical if viewed from a primarily western-industrial ontology, i.e a belief in the pre-eminence of permanent property as a mode of personhood. Which is exactly how LKAB and Kiruna Municipality have framed the resettlement, and in doing so open-up the process to be framed as an atypical event or situation. Situational analysis uses the atypical event or situation as a highly potent means of revealing the underlying socio-political, economic, and technological factors and tensions that underpin not only the atypical, but also the typical or traditional structures of the fieldsite. As such, the disruption to daily routine as well as the political and social perceptions around what Kiruna, as a city, is, reveal more about the aforementioned factors and tensions than ongoing and repeated socio-political, economic, technological practices ever could (Even and Handelman, 2006). The deeply, domestically, and professionally intrusive nature of the resettlement, given LKAB's socially and politically accepted claims to the land upon which Kiruna sits, resulted in the terms and conditions under which the resettlement is taking place to be a near constant focus of my informants. Even when encountered and observed outside of an official interview capacity, conversations readily turned to the conditions of and within the deformation zone, and the inclusivity and uncertainty of the resettlement process. The livelihoods of the inhabitants of the deformation zone were inextricably dependent on being in, moving around and working within the zone. Conversations would often take a 'now and then' perspective, meaning that informants and interlocutors would talk about how things were prior to the resettlement in comparison to how things are now. Each of these experiences would be couched within their own personal temporal frame, and rarely would references to a broader or longer history than that of which my informants had themselves encountered be discussed unless prompted.

In the context of this research, the use of situational analysis addresses primarily the atypicality that Kiruna Municipality and LKAB themselves confess to in relation to the resettlement. This atypicality speaks to the resettlement as an unusual, non-frequent event not only within the socio-political, historical, and technological context of the resettlement itself, but also within the broader literature on mining induced development resettlement (MIDR). Here, situational analysis and the study of resource materialities operate in concert, as both conceptualise these same underlying structures as a means through which communities can be

ethnographically engaged with. What the study of resource materialities does is set this mode of ethnographic enquiry squarely within the field of extractivism.

3.2.2 Forensic Architecture

"There's a crack, a crack in everything
That's how the light gets in."
Leonard Cohen, Anthem, 1992

Focusing primarily on the demolition and ruination of the deformation over the construction of the new centre, the physical materiality of Kiruna's built environment is a principle point of inquiry of this thesis. However, a means by which the physical environment could be framed as an interlocutor and engaged with as such did not come to me until after returning from the field in September 2021. My limited access to human participants, a result of ethics-based compromises the coronavirus pandemic forced into play, meant I found myself spending a lot of time wandering in among and taking notes on the built environment of Kiruna's deformation zone. Upon returning from the field, I was unsure about how exactly my encounters with Kiruna's dilapidated and abandoned buildings could be used as a means of interrogating the underlying socio-political and economic factors at play in the field. At summer school at Martin-Luther University at Halle, Germany on Post-Carbon Futures in late-September 2021 I was introduced to Eyal Weizman's *Forensic Architecture* (2017). A method of using high-spec imaging and computer-generated environmental reconstruction software, forensic architecture interrogates sites of conflict and violence, as well as the asymmetrical power dynamics of using high-spec sensing technology. It is in relation to Weizman's (*ibid*) conceptual framing of the physical landscape as a legitimate informant that Kiruna's built environment presented itself as site of investigation in its own regard.

Forensic architecture's fundamental premise: that the built environment inherently records not only physical or atmospheric changes but also the socio-political shifts from which these changes emerge, offers a means to deconstruct the dominant discourses and narratives at play in Kiruna's deformation zone:

"(T)he formal mutations (responses to environmental factors) a building undergoes are processes of recording: *deformations* as matter *in formation*

are also *information.* From this perspective buildings are not only objects to be repaired, restored and lived in, but also sensors of the environment outside themselves (…) Buildings might be among the best sensors of societal and political change. There are several reasons: buildings are immobile, anchored in space: they are in close and constant interaction with humans… regardless of the political, social, strategic, and financial rationalities that went into their conception." (Weizman, 2017:51)

Weizman frames buildings as "storage and inscription devices" (*ibid*:52) that function as a form of media device, relaying information about the surrounding environment (human interactions and proxy-interactions included) through the mutations the buildings material undergoes over time. These interactions are externalised and diffused into the environment as patinas of decay on the aesthetic cladding of buildings, or as more foundational and structurally destabilising cracks and fissures. An illustrative example from Kiruna is the evacuation of the apartment block on Biblioteksgatan eight months prior to its official evacuation date on account of structurally destabilising cracks forming in its foundations. The cracks being a direct response to the encroachment of LKAB's nightly excavating detonations underneath the town, their appearance of the crack's relays information about LKAB's processes of monitoring the stability and liveability of buildings within the deformation zone, the validity of their evacuation schedule, and the precarity through which the occupants of the apartment block were living.

Another important aspect of forensic architecture's methodological capacity is its insistence on decentralising violence as occurring to primarily human actors, reframing violence as equally pervasive against a built environment:

"The environment, whether built, natural, or the entanglement of the two, is not a neutral background against which violence unfolds. Its destruction is also not always the unintended "collateral damage" of attacks aimed at other things. Rather, environmental destruction or degradation over an extended timescale can be the means by which belligerents pursue their aims (…) Some forms of environmental violence are largely invisible. "Slow violence," the literary critic Rob Nixon has pointed out, "occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an additional violence that is typically not viewed as violence at all." (…) This kind of violence is slow, often formless, diffused, and continuous and thus largely imperceptible, unimaginable, and unimagable (sic). It is often not considered violence at all, thus demanding that we expand our definition

of what might constitute violence, what might count as killing, and also what amounts to evidence." (*ibid*:118).

Taking after urbicide scholars (Goonewardena and Kipfer, 2006, Graham, 2007, Kipfer and Goonewardena, 2007), Weizman posits that the destruction of the built environment is often politically ignored as an means of enacting violence upon a community, and yet is often the site in which it can be most readily detected if only the scope of who or what violence can occur to is widened to include the built environment. Forensic architecture's widening of this scope provides another critical method with which to comprehend and use the built environment of the deformation to provide data on aspects of the resettlement that might otherwise remain hidden or covert.

Weizman's (2017, Fuller and Weizman, 2021) forensic architecture typically deploys highly technological sensing and imaging equipment. As these were not readily available to me, I combine in this thesis Weizman's insights into the operationalisation of the built environment articulated by archaeologies of the contemporary past (see Chapter Two). (Buchli and Lucas, 2001, DeSilvey and Edensor, 2012, Olsen and Pétursdóttir, 2014).

3.3 Methodology

3.3.1 Abductive Reasoning Through Sensory Ethnography

"We speak so much of memory because there is so little of it left."
Pierre Nora, Between Memory and History, 1989

By using a methodology deployed by archaeologies of the contemporary past, I am arguing for engagement with embodied senses (after Pink, 2009) to provide a phenomenological point of entry into my fieldsite and topic of inquiry (Bear, 2014). That phenomenological experience is contextualised through interview data and textual analysis of archive material that documented the development of Kiruna's built environment and its role in the broader infrastructure of the site, at local, regional, and national scales (Dubois and Gadde, 2002, Neubauer *et al.,* 2019). For example, Kiruna's built environment was simultaneously a national industrial heritage site, a regionally demographically dense locale, and at the local level, provided homes, a means of earning an income (businesses) and access to essential resources (shops for food). Although a phenomenological approach operates as a functional opposition to forensic architecture (sensory is grounded, whereas forensic architecture is remote), they both rely on the same fundamental premise that the environment is a recording device.

Given the experiential means of gathering data throughout my time in the field, an abductive approach was the most intuitive mode of accessing and articulating the information encountered and collected. A deeply malleable research approach, abductive reasoning allows for a continual interrogation and re-examination of data gathered as time in the field goes on (Dubois and Gadde, 2002, Timmermans and Tavory, 2012). Given the nature of gathering and imposing theoretical frameworks *a priori* as means of progressing through the PhD programme, abductive reasoning allows for those frameworks to be discarded, or modified in light or data gathered in the field, allowing for a more accurate representation and reflection of *in situ* encounters (Timmermans and Tavory, 2012).

In this way, an abductive research design moves between the open-endedness of inductive reasoning, and the more hypothesis-driven deductive reasoning, to generate insight through pragmatism (Dubois and Gadde, 2012). The "nonlinear, dynamic interaction and feedback" (Boyd and Boyd, 2017:12) between

and among theory, observation, and practice that abductive reasoning assembles – and can simultaneously disassemble – grants a more elucidative interpretation of data, especially so with nondiscursive informants through its necessary continual re-evaluation (*ibid*, Paavola, 2005).

The consistency of encountering, and volume of interpretation, that an abductive research design demanded of the fieldnotes gathered required the imposing of a temporal limit as to when and how preliminary findings can be gathered. To prevent an over-saturation of one mode of inquiry, for example, textual analysis of news reports, over another, interview data and observation, data collection effectively ended once I had left the field in September 2021. I was able to run some initial impressions collected in the field through a couple of informants upon returning home, and the last of my data was gathered in August 2022 upon a brief return trip to the field.

3.3.2 Fieldsite and Informants

I first encountered Kiruna at a seminar given by White Arkitektor at the London School of Economics and Political Science (LSE) in the autumn of 2014 while studying for my M.Sc. at University College London (UCL). From there, I met with Gisa Weszkalnys of LSE to develop a proposal and plan for my Masters thesis using her co-authored resource materialities framework in the Spring of 2016, travelling up to Kiruna for the first time for three months of field-work in the summer of the same year. Although the PhD thesis submitted here does not include any research conducted during my time in Kiruna in 2016, that research played a fundamental role in my understanding of Kiruna and how it could be framed and articulated as a case study in the co-productive forces of resources and communities.

The inhabitants of Kiruna in 2016 seemed to be living under entirely different circumstances than during my second trip there between 2020 and 2021 to conduct fieldwork for this piece. In 2016 only one district, Ullspiran, had been affected by the ground deformations and subsequently demolished. The deformation zone was yet to be extended underneath the original city chambers, and the property within the shopping district Meschaplan was yet to have been purchased by LKAB. During that time informants would willingly come forward for interviews, and most were concerned with dealing in rumours surrounding the lack of progress that seemed to have been made with regards to the resettlement: most considered seriously the

idea that the resettlement would not go ahead, even given the fact that the foundations for the new city chambers had been laid, and that paradoxically/oxymoronically, the mine would still be able to extract at the same or an increased rate.

By the time of my return in the autumn of 2020, these conditions and interpretations of events were no longer present. A significant number of my informants from 2016 had moved out of Kiruna in the wake of the COVID19 pandemic, either to look after family members in other towns, or they had crossed the border to Norway or Finland in distrust over the Swedish state's lack of physical and social restrictions in response to the pandemic. I found out during the initial months of fieldwork in 2020 that one of my key informants had gone bankrupt and fled Kiruna sometime in 2019, leaving behind the remnants of his café and tourism business. What all this meant, in practice, was that the first several months of my being in the field was spent accruing a group of interlocutors, via the few of my informants that had remained, using a snowball sampling method. There were two primary hinderances to this method, the first being the inability to form or maintain intimate relationships with potential informants due to the COVID19 pandemic. Conducting social research during a pandemic with a high mortality rate among middle-aged and elderly people in a state that had decided against enforcing restrictions imposed a slew of ethical implications which in-turn resulted in self-imposed restrictions. Kiruna has a high level of elderly inhabitants and given that the COVID19 virus' main mode of infection was asymptomatic transfer (Zhang *et al.,* 2020) meeting with informants would involve firstly asking how comfortable they were with meeting given the context, and secondly requesting that social distancing measures be observed and acted upon. Of course, this meant there was no option for me to join informants, potential or not, in their homes or to share meals with them. Another deeply limiting factor encountered due to the combination of COVID19 and a lack of clear guidelines issued by municipal authorities in Kiruna was my inability to to make direct contact with miners (those that worked directly in LKAB's underground pit). At the onset of the spread of COVID19, LKAB stopped all public tours of the mine and severely delimited entry onto their Kiirunavaara site to anyone without an official LKAB pass. An informant in the press office told me that strict social distancing measures had been issued and was being enforced for those that worked underground, stricter indeed than those imposed by the local municipality. I

was informed that miners were unlikely to want to talk with anyone outside of close family and friend circles on account of these strict measures. Which may explain why my calls and texts to miners whose numbers I was given by other informants went unanswered. Indeed, all my meetings with LKAB employees occurred online using Zoom conferencing software.

My informants consisted largely of people living within the deformation zone in Kiruna: business owners, employees, residents of the zone. They were both men and women between the ages of 30 and 75 years old. The interlocutors on this project ranged in ages from their early 20's up to 60 years old. Here, I am defining informants as those willing to provide scheduled, semi-structured interviews, and interlocutors as those participating in the knowledge, I am conducting a research project (the research's premise and what it seeks to find) and are willing to hold on-the-spot conversations as unstructured interviews (after Blasco and Wardle, 2006).

Beyond the obstructions that saddled the research due to the pandemic, there was also an aspect of interview fatigue felt by my informants. On several occasions I was refused interviews, or they were cut short on the ground of having been asked incessantly, by tourists and media outlets, about the resettlement of the town. However, things took a turn for the better when one key informant took the stance that I was not asking the usual "hard" questions, meaning questions about the facts of the resettlement – framed as LKAB's "city transformation" – but instead was asking the "soft" questions, meaning primarily questions on the affective dimensions of the resettlement. This revelation by my informant, and her influence within the town, opened a snowball sampling technique and I was able to gather two more key informants, along with other interlocutors.

My fieldwork for this project began in September 2020, when my partner, dog, and I moved into a first-floor apartment of a renovated home originally built in the 1920's. My partner lost her job on account of the pandemic, as we were unable to afford rental price on two properties, one in Kiruna, the other outside of Gothenburg, we were forced to sublet and for my partner and the dog to move with me into the field. This turn of events afforded a much greater focus on the domesticity of living within a town being resettled: it became easier to grasp how the pressures imposed by being coercively removed from your home would often take a back seat to the day-in, day-out realities of having to pay bills, clean the house, walk the dog, discuss what needs doing, when and by whom. It would only really be between 1.20am and

1.45am every morning, upon waking up to at first a low dull concussion, mushrooming rhythmically into a deeply unsettling and house-shuddering crescendo[7], that circumvention of the pulverising violence of the resettlement became impossible.

Our apartment granted south-west and west facing views over the valley floor that wound between Kiirunavaara and Luossavaara and out towards the serrated massif at Nikkaluokta, giving a first-hand experience of the "alpine views" my informants said they would miss most from Kiruna new location at Tuollavaara. Indeed, locals spoke of the "Tuollafrost," a sudden and noticeable temperature change that would occur when travelling from the city centre in Tuollavaara. This temperature difference occurs on account of Tuollavaara being held in the flat-plain between the former mountain of Tuollavaara and the hill Östermalm where Kiruna was built.

The apartment became an important mode of engaging with life in Kiruna on two overlapping accounts that centre on the amount of time spent within its walls. Due to pandemic restrictions preventing access to informants and interlocutors' homes, and the climatic and temperature conditions of conducting fieldwork in the sub-arctic during the six month winter (October – March) followed by the two-month winter-spring (April and May), meeting outside was rarely an option, bar the walking interviews and ethnographies conducted (upcoming section). The house in which the apartment was situated was itself located upon the proposed final boundary line that would demarcate what would be LKAB owned deformation zone and what would be Kiruna by 2033. As discussed in chapter five, this granted the apartment a temporal quality, a means of accessing questions about what the simultaneity of the presence and futural absence of the built environment. Moreso, as the house was on the boundary, this raised questions as to locating spatially the socio-political and economic narratives that would shape the property, and its residents' futures. It was in this pandemico-enviromental context that my home while in Kiruna became a close companion and informant: a means of not only living within the built

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[7] This the result of LKAB's backshift pit crews nightly installation of twenty-four tons of ammonium nitrate, specifically designed by LKAB subsudiery LKAB Kimit (Nynas, n.d) in the shafts underneath the town, "eight blasts of emulsion based explosives, each measuring three tonnes" (*ibid*).

environment of Kiruna, but a means of relating directly to it, and in doing so interrogating our relationship within the broader sociopolitical and economic discourses on the temporality of Kiruna's materiality at the margins of the deformation zone.

3.3.3 Walking Ethnography

"Walkers are 'practitioners of the city,' for the city is made to be walked. A city is a language, a repository of possibilities, and walking is the act of speaking that language, of selecting from those possibilities."
Rebecca Solnit, Wanderlust: A History of Walking, 2001

It is from within the context of the pandemic that walking interviews presented themselves as not only a viable option for gathering data, but also as a means of inverting the interviewer-interviewee dynamics (Pink, 2008, Carpiano, 2009). Walking interviews allowed for a much more flexible structure, relying heavily on the informant to formulate and follow their own lines of inquiry and thought in direct relation to the landscape we were walking within and through. For example, one informant decided during our walk to take me on an unmarked route that mapped where they knew (or thought) portions of the final fence-line would be erected that would demarcate what was town and what would be mine by 2033. This means of interviewing introduced temporal narratives as entwined innately with the landscape, evoked by the sensorial experience of being in their presence. Walking interviews also granted a more nuanced access to Kiruna as a fieldsite, breaking the area down into multiple, highly personalised overlapping sites as opposed to the ostensible pluralism of mine and town (Jensen and Sandström, 2020). It is in this sense of Kiruna as a site of spatial multiplicity that walking while talking with informants opened-up a greater understanding of how their bodies, and my own, worked as a way of understanding and narrating both their own lives and making discursive the materiality of the environment. Tim Ingold (2008, 2011) has referred to this means of enmeshing one's personal history with that of the nonhuman as a way of developing a spatial aspect to the temporality of biographical narratives, highlighting the use of walking environments as a way of engaging with the lived, perceived, and conceived representations of space (Lefebvre, 1974) simultaneously.

Taking the framing of materiality as an indicator of wider political, economic, technological, and historical trends entangled with, and co-productive of, society (see

above), then walking interviews in which the informant takes the lead on what is observed and what is discussed in relation to that observation can also grant insight into these broader themes: their absence made present through interaction with the landscape (Carpiano, 2009, Evans and Jones, 2011). It is through this method that social and political infrastructures can be distilled from hypothetical or abstract notions into observable, discursive relationships between people and and the places in which they cultivate their lives.

3.3.4 Positionality

"When you get into bear baiting on that level, paranoia is just another word for ignorance . . . They really are out to get you."
Hunter S. Thompson, The Banshee Screams for Buffalo Meat, Fear & Loathing in the Graveyard of the Weird, 1977

The closure of university campuses across the UK as a result of the lockdown measures brought into place during the COVID19 pandemic and the move to online teaching necessary to facilitate continued learning by students meant I was able to pick up some teaching work with the University of Durham during my fieldwork. It was during this period, while transcribing online lectures for an introduction to anthropological practices that I was re-introduced to the ethnographic trope, 'make the strange familiar and the familiar strange.' Ethnography's bread and butter, this quote petitions social scientists in general, but anthropologists specifically, to seek out the Other and make them and their ontologies and epistemologies relatable (Myers, 2011). The practical implications of this quote lean heavily into the participatory nature of ethnographic fieldwork, entreating the researcher to shelve their own means of constructing and negotiating the world via a reflexive understanding of the self, to invest their time, energy, physical and mental well-being to integrating into communities that the discipline necessitates as an Other worthy of study.

Yet, dwelling on this I came to realise that the dictum didn't describe my experiences in Kiruna. Instead, it became increasingly clear to me that what Kiruna represented was very much a material actualisation of my own interpretation of the world: a world in which huge amorphous international business ventures undermine and displace communities which stood in the way of economic progress or

threatened their financial margins. Coming up through my teens during the second invasion of Iraq and turning twenty-one in 2008, the year of the financial crash that reorientated neoliberalism towards deeply perverse austerity politics in the postindustrial West, perhaps this explains why I am drawn to the work of Mark Fisher (2009, 2014, 2016) and his eloquent analysis on the psychological fallout of living at the whim of a hypertrophied Late Capitalism. What I am describing here is my own capacity for in-built bias when gathering data, which also has the potential to lead to a power imbalance based on differing epistemological understandings between myself and my informants of what is occurring in Kiruna (Sodero and Glas, 2020).

Potential biases that may have arisen during fieldwork were delimited through acknowledgement on my part that any knowledge I may believe I have is always only ever partial and situated within specific, personal contexts (Haraway, 1988). Critical human geographer Dragos Simandan (2019:129) argues that such situated knowledge must take into account four "epistemic gaps: (1) 'possible worlds versus realized world', (2) 'realized world versus witnessed situation', (3) 'witnessed situation versus remembered situation', and (4) 'remembered situation versus confessed situation'" between the researcher and their subjects in order to address imbalances in positionality of each actor's knowledge-base. Employing a self-reflexivity on these fronts allowed for me to keep me biases and any potential assumption that I had a keener, truer sense of what was happening in Kiruna at bay.

Beyond these considerations, as a cisgendered white male in my mid-thirties who identifies as heterosexual, there was little aesthetic difference between myself and the community I was integrating with. Although my Swedish is conversational and limited, I was often included in discussions as a native Swede, until interlocutors were notified, by myself or by others, as being from the UK. I draw on this as ethnic identity is a highly complex issue both locally in Kiruna, and regionally in Norrbotten. Regionally, Norrbotten has a dense history of trans-border Fennoscandic migration, the homogenisation of multiple differing Sámi villages throughout the area, and conflicts between Sámi villages and Swedes often over hunting and fishing rights. During my research I never actively sought to find out or engage directly with ethnicity, allowing my participants to bring up the topic if they felt the need to do so. This happened frequently, with most informants and interlocutors disclosing that they had a relative, often distant, who claimed indigenous heritage.

3.3.5 Autoethnography

Finally, this research was conducted using an autoethnographic approach, taking up geographer Stefano Bloch's argument "for increased reliance on the body as archive and memory as data to be used in the storytelling process about displacement and unhoming" (2021:706). Focusing on my own experience of Kiruna's resettlement required taking account of not only the sensorial aspects of fieldwork – the dust, noise, sights and smells – but also the emotional registers through which resettlement affected me. In doing this I was better able to relate to the sensorial aspects of my informants, and given my research of Kiruna's materiality, a sensorial and emotional approach to the built environment allows me to translate their non-discursive nature into a vital component of ethnographic investigation (Pink, 2009, Bloch, 2021).

Chapter Four

Sweden's 'saltwater problem': Settler Colonialism and Extractive Historicism

4.1 Introduction

"(Capital) constitutes itself as the subject of history, displacing the human beings who have made it and turning them into its servants"

Nancy Fraser, Cannibal Capitalism, 2022

The primary concern of this chapter is stating in no uncertain terms that the implementation of Kiruna's City Plan at the turn of the twentieth century was a direct product of Sweden's settler colonialist industrial expansion between the 17th and 20th centuries. The sedentarisation of trans-Scandinavian white labourers into Sápmi, the indigenous transnational home to once multiple, now dwindling, Sámi villages, is an expression of centuries of colonial expansion into indigenous lands in Sweden's north. However, as later chapters will argue, the development and construction of Kiruna at the turn of the 20th century did not conclude settler colonialist claims to resource accumulation by LKAB, but part of a wider cannibalistic system that dispossesses Kiruna's inhabitants of their land and property through the town's ongoing resettlement.

As Nancy Fraser argues in her book *Cannibal Capitalism* (2022)*,* the rendering of ethnicity and heritage as subservient to subsistence practices and property ownership is an economic ideal. Yet, Fraser contends, ethnicity and heritage are not subsidiary to capital, but instead are integral to the structure of capital's accumulation through expropriation. As capitalism encounters non-economic structuring systems, such as the social relations of which domestic and community life are composed, it necessarily intersects with pre-existing nationalist and racializing systems embedded within socio-political discourse and practice. In Kiruna, these pre-existing discourses are embedded within the context of settler colonialist expansionism.

Eliza Maria López' (2021) ethnography *Transforming Kiruna: Producing Space, Society, and Legacies of Inequality in the Swedish Ore Fields* provides an explicit and detailed scope to the legacies and ongoing permutations of colonialism as they have been experienced by Sámi and Tornedalan communities. Defining identities, whether group or individual, native, indigenous, settler, or occupier, is complex in Norrland, as this section will also show. Therefore, the empirics of this section are taken from interviews by informants that had explicitly defined themselves as from Norrland and not as Sámi or Tornedalan. Although most informants and interlocutors expressed some indigenous heritage, a grandmother or a great-uncle that was Sámi, for example, my informants considered themselves Swedish nationals, and indeed were recognised by the state – legally, politically – as Swedes.

It was not my intention to study colonialism and its effects on Kiruna's resettlement, and I'm not sure how I would have begun looking into it if it had not been for a rather eye-opening incident towards the end of my fieldwork. I was sitting in the lobby bar of SPiS Restaurant and Delicatessen flicking through a coffee-table book of Borg Mesch's photographs, taken at the turn of the 20th century, on the construction of the railway lines through Norrbotten and the initial development of Kiruna from a mining encampment into its first incarnation as a municipal township. A man in his late-fifties leaned over and regarding the English in my notebook, told me "My great-grandfather built those railroads. He was Finnish, he came over here to work because there was no work for him in Finland and Sweden was building and building." Introducing himself as a Finnish long-haul lorry-driver, he went on to inform me that after his great-grandfather worked as a navvie on the railroads, he remained in Kiruna to help with the upscaling of the mining infrastructure on and in Kiirunavaara and with the construction of the town. After discussing what I was doing in Kiruna, my informant, in a bitter tone, made me aware of something to bear in mind when I speak to people about Kiruna's history: "It was the Finn's and the Norwegians that built Kiruna. The Sámi too: Swede's would not come here to work. But they forget (that) now. The mine is Sweden's pride."

The full weight of this interaction would not make itself known until two days later, when I was to see this same Finnish man in the local pub, sitting in a steadily mounting fever a few tables over. Directly opposite from him there was a table of employees from LKAB, geologists from what I overheard. At the head of the table of

geologists was an elderly man holding court and making crude remarks about his colleagues that were from Norway or Finland, loudly. It wasn't long before this became too much for my Finnish acquaintance to bear. He stood up abruptly and made his way towards the table of LKAB employees. Having taken umbrage at the comments, he began jabbing his finger at the elderly man. Becoming increasingly incoherent, he was building towards doing or saying something terrible. His tone and facial expressions, the weird gesticulating angular arm movements, had a torsional effect on the room. Everyone was tense, no one knew what to do. The Finnish man kept glancing around the room, "Dear God," I thought, "don't recognise me, not here, not after eight months in the field: don't yolk my work to your ghosts." It was then that it happened, the Finnish man went too far and in explicit terms told the elderly geologist that he was a product of a colonial legacy in the trans-Scandinavian north.

Whatever drove this man to first engage me with conversation about Sweden's past, and then later so possessed him to run amok publicly and confront what he saw as a direct, contemporary product of that past was enough to draw my own attention to the subject. Doing so forced me to revisit previous observations and interactions I had had and re-engage with Kiruna from a new critical lens. The most prominent site that presented itself for re-examination was Kiruna Kyrka, the church perched on the little hill over-looking the mine.

4.2 Kiruna Kyrka and Displacement as Diplomacy

Jocasta and I met outside of the church on Gruvvägen in early March, shod in seal skin both. It was relatively warm at minus-six degrees Celsius, dense fog a reticulating cerement, rendering rare light from the low frail sun opaque and chromatic. The birch trees polychromous and squat in the church yard, their pale bark adorned the mist as if it had briefly manifested a thin, resolute body. Cars passed mute in the street, dull headlamps tunnelling through the thick gauze of frozen fog.

Jocasta is co-manager of a local charity that organises events based primarily within the deformation zone with the aim of "bringing some life back into Kiruna," as she told me. The charity uses what funds it can raise from donations and sponsorships to decorate public spaces, adding colour and flair to the zone often within the context of Kiruna's seasonality. Funding and sponsorship of the charity is

made primarily by local businesses, LKAB being among their primary benefactors. The co-manager position Jocasta shares with a friend is a result of their having split the initially solo managerial role after bonding over a common conviction that more could be done to support the businesses and inhabitants of the deformation zone. Although not originally from Kiruna, Jocasta has lived here on-and-off for a number of years, eventually deciding to settle down in Kiruna with her partner and children around the time of taking the charity job.

Having just emerged from the latest of Kiruna's impromptu work-from-home orders, Jocasta and I had taken the opportunity to walk from the church, down to the site of the former city chambers, and up to her office on the third floor of the Kupolen indoor shopping centre, a relic of poorly executed Swedish modernism residing in dereliction and abandonment in the Meschaplan district. We had been put in touch by another informant after they had told me about the work that the charity does in keeping the centre from lapsing into melancholic lassitude.

In a city of diminishing landmarks, the church is obvious for our first face-to-face meeting. Designed by architect Gustav Wickman to resemble a Sámi kåta (tent) and completed in 1912, Kiruna Kyrka (church) is a looming, angular structure sat atop a small hill in solitude from the surrounding built environment. The church is made from timber in its entirety. The wooden panelling on the exterior is oxide red, layered with hundreds of small triangular slats like scaled saurian hide. In concert with the angular design of the eaves, the slats give the building the appearance of a huge sleeping dragon, curled in on itself for warmth, hulking with its immense bent elbows pointing skyward. The windows in the vertex corners of the four perpendicular A-frame rafters, obtuse against the reflex of the sky, have a panopticon quality allowing sunlight to flood the pews within at any time of day or supposed night. The fervent dark patina of the timber interior is lit by five electric chandeliers hung in the outline of a square with a central point. The altarpiece is a Mediterranean scene, an Art Nouveau copse of trees in pastel greens and blues by the late Prince Eugen, Duke of Närke, member of the Swedish royal family and a respected artist.

Figure 3: Kiruna Kyrka as seen from the south-west, looking north-east. Visible along the edge of the roof are six golden statues that depict both settler and Sámi figures, each displaying various emotional states. Photograph by the author, August 2022

Upon entering Jocasta asks me to look out for crucifixes, count the number I can see in the church. The sum-total of which turns out to be zero:

JOCASTA:There's only one in there, when you come in. It is small so you can't really see it. When they built the church it was meant to be for everybody: they did not want anyone to feel like they couldn't come in here. Which actually caused a lot of problems because they (Svenska Kyrka – Church of Sweden) would not ordain the building until there was a cross in it. So here we are.

Reading the building, Jocasta's claim makes sense. Etched into the wood above the entrance way is scene depicting a miner and a herder, having decamped from under the shade of a tree on the left, and their village on the right, respectively, embracing and turned towards a celestial deity ensconced in a bank of cloud, flanked with rays of light. The carved fresco depicts a scene of communality and a shared future –

albeit under a monotheistic Christian God – between the settler mining colony and the resident indigenous community.

Figure 4: Fresco carved into the wooden façade above the entrance way to Kiruna Kyrka. Reading the piece from left to right depicts first the settler community, then the vision of God looking down upon a settler and Sámi embracing and turned towards the horizon, and finally the Sámi village (note the reindeer head on the far right, above the dog).

Yet, as Lopez' (2021) recent ethnography on the politics of space in Kiruna suggests, a small Sámi hilltop settlement was displaced to build the church. If this is the case, why displace a community to construct a symbol of reconciliation between that community and those that displaced it? The answer may lie in Hjalmar Lundbohm's capacity for statesmanship, especially in relation to Sámi villages in the area. Noted by both design historian Lasse Brunström (1981) and Lundbohm biographer Curt Persson (2015), the managing director of LKAB and patriarchal founder of Kiruna, Hjalmar Lundbohm, had an affinity for building diplomatic relationships with local Sámi villages. Lundbohm employed the labour of Sámi in the mines, paying them wages on par with the Scandinavian miners. He also actively sought their skills in reading and comprehending the local landscape, chiefly

regarding the discovery of potential deposits (*ibid*). Although, as will be detailed later in the chapter, Lundbohm's appreciation of Sámi lifeworlds – their embodied knowledge, practices in, and perceptions of, their environment (Walter, 2021, Rumsey and Weiner, 2004) – had a distinctly reductionist and imperial scope in its reinforcement of Swedish cultural tropes at the time, and his financial investment in the State Institute for Racial Biology in the 1920's (Persson, 2015).

Returning to the materiality of Kiruna Kyrka, its architectural reference to a Sámi kåta and an entreaty for the consolidation of settler and indigenous differences are both intrinsic to its design and construction by Gustav Wickman (Sjöholm, 2016). Wickman's design was made in close collaboration with Lundbohm. Wickman would often implement Lundbohm's design brief's directly (*ibid*). What the design and construction of Kiruna Kyrka suggests is that Hjalmar Lundbohm was able to convince the inhabitants of the small Sámi settlement that stood on the desired location for his church that he would build not a church, but a community centre in homage to Sámi culture: a giant, solid structure in which they would always be welcome. In short, a means of displacement that was centred on coercing a community to move on the promise of a better material future, much akin to the contemporary resettlement of Kiruna.

Acknowledging the conjectural aspect of this assertion, it is necessary to embed the construction of Kiruna Kyrka into a broader, yet still marginalised, historical narrative of settler colonialism in Sweden's northernmost territories. In tracing the roots of the begrudgingly ordained church's construction in the long duree of settler colonialism, the underlying imperialism that produced the initial development of Kiruna from a settler mining encampment to a frontier town and municipality through the City Plan between 1892 and 1912 is revealed and held in direct relation to the resettlement that Kiruna is currently undergoing.

4.3 Settler Colonialism

"We cannot escape our history."
Ta-Nehisi Coates, We Were Eight Years In Power, 2017

The term settler colonialism has only recently begun to be used, outside of trans-Scandinavian indigenous communities, to frame Swedish national policy towards Sámi and Tornedalen communities (Össbo, 2022). Yet, it is a deeply useful

analytical tool for framing historical tensions and ongoing structural violence meted out in the name of industrial development in Norrland, Sweden's most northly region.

Settler colonialism is a specific mode of state domination that seeks to dispossess native peoples from their lands and install non-native, predominantly white, settler communities to "constitute an autonomous political body," with the specific aim of creating a "sociopolitical body that reproduces in the place of another (sociopoltical body)" (Veracini, 2019:1). Settlers are commonly agents of the state, in that they seek out and occupy indigenous and non-native lands through military campaigns or government sponsored industrial development under the auspices of nation-building expansionism, enacted through resource extraction and exploitation (Wolfe, 1999, 2006, Morgensen, 2013, Veracini, 2010, 2019, Malm *et al.,* 2021). Settler colonialism differs from colonialism in that the latter is defined primarily by the subordination of a majority native population by a non-native minority operating at a distance, often from within a foreign imperial centre. Settler colonialism is distinct in that it operates on a "logic of elimination" (Wolfe, 2006:387). Patrick Wolfe's (2006) logic of elimination is premised on a central motivation to disappear the native population, as opposed to subordinating them. The act of disappearing itself can take many forms, such as physically violent genocide, or can be dispensed as something more akin to what Rob Nixon has termed "slow violence" (Nixon, 2011): structurally oppressing, marginalising, and polluting native and indigenous communities. In relation to the logic of elimination, slow violence adopts indigenous and native communities into colonial political structures and steadily degrades the societal, political, health and livelihood conditions of the colonised until they are dead or leave their land (Vaughan, 1993). Veracini defines both permutations of colonialism as mutually beneficial to the colonising state and reciprocal forms of "exogenous domination" (2010:1), meaning that once either form of colonialism is enacted, their methods of subordination and subjugation often operate in tandem to the benefit of the settler state.

4.4 Industrial Expansionism as Colonisation
"Take it easy, Charlie… my foot's on the rail."
Mel Brooks and Richard Pryor, Blazing Saddles, 1974

Swedish occupation of Sápmi is not an exogenous occupation today, but rather the legacy of successive waves of colonisation from at least the 17th century onwards. At

the time of writing, the Swedish state have not formally acknowledged the brutalising legacy of industrial expansionism into Sweden's northernmost territories.

Åsa Össbo (2022) has framed the inability of the Swedish state to come to terms with both its colonial legacy and ongoing colonialist policies of industrial development as a "saltwater phenomenon" (*ibid*:1), meaning that colonialism is something that is necessarily conducted overseas. Further to this, Össobo cites the inbuilt cognitive dissonance at play in Sweden's self-image as a champion of human rights and outlier of a functioning socially democratic state in western politics, meaning that colonialism is not only antithetical to, but outside the realm of Sweden's political and social imaginaries (*ibid*). But calls for Sweden's settler colonial tendencies to be recognised have been growing steadily outside of Sámi communities and political groups for the past ten years or so, culminating in the establishment of a Truth and Reconciliation Commission (TRC) in 2020, engaging with the legacies of colonial violence and dispossession deployed against Sámi and Tornedalian communities (Kuokkanen, 2020, Szpak & Bunikowski, 2022).

Colonial violence reaches back to at least the 17th century, when concerted efforts were made by the Swedish state to convert the northern inland regions and Bothnian coast into agricultural land and areas of mineral extraction through the intensification of forestry logging – the timber from which doubled as a saleable resource itself – and the granting of small-scale (agro)forestry and fishing leases through the Lappmarks Placat of 1673 (Össbo, 2018, Andersson *et al.,* 2005). The spaces carved out of Sápmi by the Lappmarks Placat were given over to smallhold farm steadings built and occupied by settlers from the south of Sweden, encouraged to travel into indigenous land through offers of tax relief and exemption from military duty made by northern county governors of the time (Össbo, 2022). Sámi communities were also encouraged to take up smallhold farming in place of their traditional reindeer herding, subsistence hunting, and fishing livelihood practices. It was Johan Graan, a 17th century governor of Västerbotten County in Norrland, that summoned Sámi villagers to integrate with the newly settled peasant farmers. Integration of Sámi and settler through smallhold farmsteads was known as Graan's "parallel theory" (Greaves, 2018:112). Graan's theory was that forest dwelling Sámi villages would be encouraged to integrate with settlers via the shared labour of subsistence farming, leading eventually to assimilation. The flipside of Graan's theory was that the Sámi whose subsistence was derived from reindeer herding in

the mountainous regions in the north and along the Swedish-Norwegian border were to be encouraged to pursue their traditional livelihood practices and rituals (*ibid*). Gunlög Fur (2006) argues that parallel theory bound the distinction between settler and indigenous native not to any racial markers, but to the means of subsistence practiced. 'Sámi' was then to become a technical marker, rather than an ethnic one, and as such "the genesis of the view that individuals are not truly Sámi, and thus entitled to specific rights or political consideration, unless they engaged in such practices" (Greaves, 2018:112) is to be found in Graan's means of dispossessing Sámi from the forests of Västerbotten.

Össbo's (2018, 2022) centralising of colonialism as national policy in the north during the 19th century furthers Fur's (2006) position by defining 'settlers' as not simply non-indigenous, but as those who explicitly gain from and/or promote the colonialisation of indigenous land. The 19th century saw the Swedish state enact a wholesale approach to settler colonialism through the expansion of extractive mining industries and hydropower enterprises into Sápmi. Össbo, again:

> "(T)hese ventures were accompanied and advanced by state policy and legislation, such as the Mineral Act (1884), the Forestry Act (1894), and the Water Act (1918), and through the confining of Sámi rights in the Reindeer Grazing Acts of 1886, 1898, and 1928. The authorities defined a Sámi person as being first and foremost a nomadic reindeer herder, and the state eventually constrained all Sámi rights to the practice of reindeer herding, denominating and also devaluating customary rights as 'Lapp privileges.'" (2022:5)

What Össbo is outlining here is the codification and recodification of Sámi communities into the Swedish legal system as a means of misappropriating their land and assigning a specific, livelihood-based identity on to those that lived in Sápmi. Graan's parallel theory was foundational to the means and the political justification for such expansionism. Through his theory's introduction of subsistence practice – whether it be smallhold farming along with the settlers or restricted to reindeer herding further north – as primary identifier over racial or ethnic heritage, Graan's method of elimination through intra-group segregation and inter-group assimilation heralded the parcelling of Sápmi into allotments, expropriating them from their land, allowing resource prospecting and extraction by settler industries to occur there instead.

Yet ethnic distinctions are contested and complex, given the demographic intricacies of northern Swedish communities today, within which are ongoing components of "hundreds of years of Fennoscandic group migration and colonial assimilation policy (which has) shaped internal and external group boundaries, as well as individual histories" (López, 2021:74). I encountered the legacy of trans-Scandinavian migration into Sweden's northernmost county during my own ethnographic fieldwork. Most of the informants I spoke with would confide that they had indigenous heritage from the region, a grandmother or great uncle, relatives at a remove from close family life. Yet the politics of self-identification in Kiruna are complex, and indeed there is contestation within and between Sámi villages over what identifying as indigenous grants access to (often specific forms of hunting and fishing rights) or denies (full integration as a political actor within the Swedish state) (Árnadóttir, 2017). Several informants went so far as to suggest that identifying as either Sámi or Swedish no longer had any fundamental meaning beyond the granting of hunting and fishing rights. What truly mattered, I was told, was that identity did not matter as long as you came to Kiruna to work, to live there and participate in community life. In short, to own property and pay taxes. However, the history of property ownership, and the wielding of its capacity for civilising Sweden's northern frontier by national and regional state actors is worth exploring in relation to framing Kiruna as a product of settler colonisation.

4.5 Property Ownership as Colonialism

"Property breeds lawyers, I said, forbearing to add a belief that unfortunately property now seemed the only thing palpable enough to demand the respect of governments, and perhaps was the generating clout against encroachments on the spiritual protections for speech, assembly, and so on. It might turn out that without the right to possess we are not sure we really have the right to speak and to be."
Arthur Miller, Death of a Salesman, 1949

Graan's parallel theory introduced another central component in the socio-political and legal mechanisms that drove Sweden's colonial expansion into the north, that of property ownership and the personhood ascribed to those with property by the settler state throughout the 19th century.

By the 19th century, smallhold farming had been all-but-abandoned due to the effects of the inhospitable and long winter seasons on crop growth. But when

considering the general immutability of harsh winter conditions in Sweden's pre-industrial north, especially between the 17th and 19th centuries when glaciers reached their maxim – an indicator of just how cold the temperatures were – during the Little Ice Age (Polovodova Asteman and Nordberg, 2013), the installation of smallhold farmsteads appears a disingenuous policy at best. A likelier motivating factor would be the claim to land rights through property laws. A comparative study of the implementation of settler colonialist jurisdiction at the state frontiers of South Australia, British Colombia, and Palestine, Brenna Bhandar evidences, in *Colonial Lives of Property* (2018), how the reifying of land from abstract space – land's existence outside of economic, industrial, agricultural or private ownership – into a state resource, occurs primarily through the legal rights afforded to property. Bhandar (*ibid*) extends this thesis to argue that the act of recognising property rights is premised on recognising specific ontologies: modes and practices of living that were often favourable to the state granting the property rights in the first place.

May-Britt Öhman (2020) provides an example of the application of Bhandar's (2018) regime of ownership in Norrland at the end of the 19th century in their essay *An Alternative perspective on the History of the North* (Öhman, 2020). This piece ties the legal and moral justification for Swedish colonialism directly to the lack of private property claimed by the now segregated Sámi and Tornedalan communities. Citing an article written by Justice Knut Olivecrona, a member of the Swedish Supreme Court in 1884, Öhman points directly to an explicit racialisation of land-use practices and property ownership derived from "Knut's bigotry… a basic ignorance of how reindeer husbandry was tied to a nomadic lifestyle… He very casually rejected an entire cultural tradition and way of life that – for thousands of years – had been essential to surviving in an arctic climate" (*ibid*:240). It is also worth quoting from Olivecrona's article as it is found in Öhman's (*ibid*) essay:

> "One immutable condition found with all people of an enlightened higher civilisation is that they own permanent residences. Those races that do not want to leave their nomadic life behind must necessarily remain on a lower cultural rung, give way to the more civilised, permanent tribes and finally, as they waste away, become obsolete. The history of mankind demonstrates that this has been the case in all areas across the earth, and the nomadic Sámi must submit to the same law and succumb, unless they eventually take to farming or other such occupations that are only possible with a permanent abode. The State, in

whose interest it is to foster a higher civilisation, cannot, and rightly so, but promote agriculture" (Olivecrona, 1884 translated by Öhman, 2020:240).

What Öhman evidences here is the extent to which property ownership was wielded as justification for displacing indigenous communities by members of Sweden's highest court in the last decades of the 19th century.

I put forward here that Kiruna's settlement in the early 20th century through the City Plan must be viewed in the historical context of Justice Olivecrona's call to 'civilise' Sápmi through the eviction of Sámi and Tornedalan from their land, or their assimilation with the in-migration of Swedish and Fennosandic groups into a sedentary settler colony. However, before it is possible to discuss the City Plan, it is necessary to understand the dominant role LKAB's Managing Director Hjalmar Lundbohm played in the organisation and design of the City Plan, and the construction of the first incarnation of Kiruna.

4.6 Hjalmar Lundbohm

"A fair society, founded in the middle of nowhere in the kingdom of reindeer and wolves and bears. No harmful traditions existed. The inhabitants came from all regions in Sweden. The navvies constituted the core, and the followers must have been of good material, too… Only the sons of Sami travelled across the vast expanses. Here they were born, lived and died, stung by the Almighty at last. They did not know much about the world, delighted however, and during the journey they grew their ancient, pagan cult."
Ernst Landin, Kiruna 1900–1950: minnesskrift till 50-årsjubileet, 1950

The City Plan was devised by LKAB's former Managing Director Hjalmar Lundbohm, along with a cohort of colleagues and associates from Stockholm University, as a contemporary, modernist model city, taking after model cities built under the guise of 19th century industrial paternalism enacted in the UK and the US. Lundbohm's plan transformed the settler mining camp Luossavare on the south-west bank of Lake Luossajärvi into the first incarnation of Kiruna's colonial municipal city between 1892 and 1912 (Hägg, 1993). The role of Lundbohm in the first decades of Kiruna's development from mining encampment to urban settlement has a far-reaching legacy, evident in references to the ongoing resettlement as a second model city in honour of Lundbohm's care, foresight, and perseverance over a century earlier. That the new centre's architecture should be vernacular, focusing on public spaces and domestic functionality is a continuation of the ideals of the first City Plan (Carrasco, 2020).

Lundbohm himself was a prominent member of Stockholm's intellectual set. A cultured industrial middle-class bourgeoisie (Persson, 2015) that deployed his vision of paternalistic domesticity to Sweden's northernmost frontier. During the Oscarian era, named after King Oskar II, late 19th century Sweden undertook rapid expansion in its industrial capacities, engendering a boom in a well-heeled middle-class in-step with this expansion (Frykman and Löfgren, 1987). The Oscarian bourgeoisie, much like the Victorian throughout the British Empire of the time, had a preoccupation with high art: portrait and landscape paintings, music, sculpture, entertainment, heavily gendered institutional education, colonialism and the production of spatial imaginaries that fetishized the tempering of state frontiers (Malm, 2016). It is from within this emergent and solidifying cultural milieu that Lundbohm's ideological drive – given form by the City Plan – for Kiruna's settlement stems. As Lopez notes (after Tsing, 2003), Lundbohm's model city was "reflective of settler colonial frontier

ideology: a land imagined as simultaneously empty, wild, and lacking, but also highly desirable and full of potential (for economic and social reform)" (Lopez, 2021:115-116). At the time Lundbohm first visited the orefields (malmfatten) in the 1880's as a geologist working for the Swedish Geological Survey (Persson, 2015), the Swedish segregation, subjugation, and assimilation of Sámi and Tornedalan communities was continuing apace, through the prospecting of mining sites and the construction of hydropower dams to fuel mineral ore extraction (Össbo, 2022). Yet, the orefields in the north beyond Luleå were still largely free of transport infrastructure to effectively transport ore out, and people in, meaning the largest influx of settler's came in the guise of railroad navvies and engineers, themselves nomadic, blasting paths of least resistance northwards towards the mines and ports such as Narvik across the border in Norway (Frank, 1950). Lundbohm's role as geologist was to operate at the forefront of the industrial expansion the navvies and engineers excavated towards, prospecting for valuable mining sites within Sápmi.

Lundbohm had taken-up residency by the 1890's in the pre-Kiruna settler camp Luossavare in his role as geological surveyor for the state. Lundbohm had been aware of the progressive social reforms such as the banning of child labour and the implementation of schooling and nursery programs, that had emerged from other company towns of the era (Ahnlund and Brunnström, 1992). Pullman, Illinois, and Quincy, Massachusetts loomed large in Lundbohm's vision for a frontier model city (Åström, 1964). Both Quincy and Pullman had instigated radical infrastructural development such as public transport designed around citizens' needs, and the installation of indoor plumbing systems in workers' households, respectively. Lundbohm himself was a devout Lutheran, invested heavily in the notion of an ascendant Lutheran morality (Persson, 2015): a belief that those who find themselves in a position of power are ethically bound to help others rise upwards from their social standing. Lutheranism such as this is premised on morality being embedded within domestic space and was (and still frequently is) a religion of conservative practice, one in which hierarchies are essential to the maintenance of core beliefs and practices.

The broader themes at work here are those of corporate paternalism embedded within a Christian industrialism that sought to emphasise domestic reform over reformation of the conditions in which high mortality industrial exploitation occurred (Ahnlund and Brunnström, 1992). Although influenced by the reforms

driven by a renewed Calvinist theological ethic emergent from the late 19th century American mid-west (Smith, 1981), Lundbohm's Lutheran reforms envisioned a frontier habituated to Christian moral ascendency against the sovereignty of Divine Law envisioned by Calvinism (Persson, 2015). Where Calvinism propounds in a strict doctrine of predestined salvation that mirrored and replicated the rigid class structures of 15th century France, Lutheranism proposed that its followers had an active role in the salvation of those they perceived as less fortunate: in short, a moral duty to administer paternalist care.

A testament to t^{he} power of lundbohm's paternalistic legacy lies in the fact that his body is the only one interred in the churchyard of Kiruna Kyrka. Ensconced in squat and coppiced mountain birch, Lundbohm's grave is a three-metre-tall granite obelisk sat at the northernmost point of a circle composed of smaller standing stones.

Figure 5: Detail of the engraving and inscription on Lundbohm's grave. There was no signatory mark of the sculptor. Photo by author, December 2020

The inscription on the grave reads in columnar composition,

"From

Hjalmar Lundbohm

Man of national virtue

Friend of mankind

Lover of beauty

B. 1855, D. 1926

To

The benefit of the motherland

He laid bare

The treasures of the mountain

And founded the city"

Atop the column sits Lundbohm, a corroded engraving of outstretched arms, a collared winter top-coat hangs about him like vestment robes oddly canonizing.

Figure 6: Steps leading up to Lundbohm's grave, the stone circle in amongst the trees to the right. Lundbohm's grave is the first stone on the right. Photo by author, May 2021

4.6 Legacy of Industrial Paternalism in Kiruna

Lundbohm's legacy of benefactory care is set within the wider implementation of corporate paternalism in company towns throughout American and Victorian industrialism, and Sweden's longer history of iron and steel production from the 17th century onwards. Ahnlund and Brunnström (1992) provide a detailed overview of the history of a corporate paternalism emergent from mill – textile and timber – and mining towns – predominately iron ore – in Sweden. Known as *bruks*, these towns offered public services and socialised care for its labourers in the form of local education programs (again gendered and often directed at supplying the bruk with a generational supply of workers and attendant domestic care), pensions, and health care. Arguably designed as form of implementing and retaining the biopower – shaping the health and wellbeing of labourers in direct relation to the working environment to foster an economic discipline – of a highly skilled workforce (Clevenger and Andrews, 2017), bruks also fostered 17th century incarnations of the union-driven industry of which Kiruna would become known for during the wildcat strikes of the late-1960's. Through the power of the workers guilds, which often co-managed the running of the mills and mines along with the owners, workers could leverage improvements to their domestic lives through the development of localised public services listed above. Ahnlund and Brunnström (1992) name a steam-powered lumber mill town at Tunadal, north of Sundsvall, and ironworks such as Lövstabruk in Uppsala as directly influential of the paternalistic social care that would be deployed later by Lundbohm in Kiruna.

Several overlapping political and demographic formations on a national scale, along with influential international shifts in trade and social welfare during the Oscarian period provide a political-historical frame for the development of socially progressive company towns in Sweden. Following the liberalisation of Swedish trade policy by the reformist finance minister J.A Gripenstedt, with his introduction of the 1865 Free Trade Treaty coupled with the banking reforms of 1864[8], the steel industry in Sweden experienced a boom in international trade (Magnusson, 2000).

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[8] Gripenstedt was also responsible for nationalising the rail infrastructure that would ultimately aid the industrial boom in Norrbotten before it's large-scale roll-out in the mid-19th century.
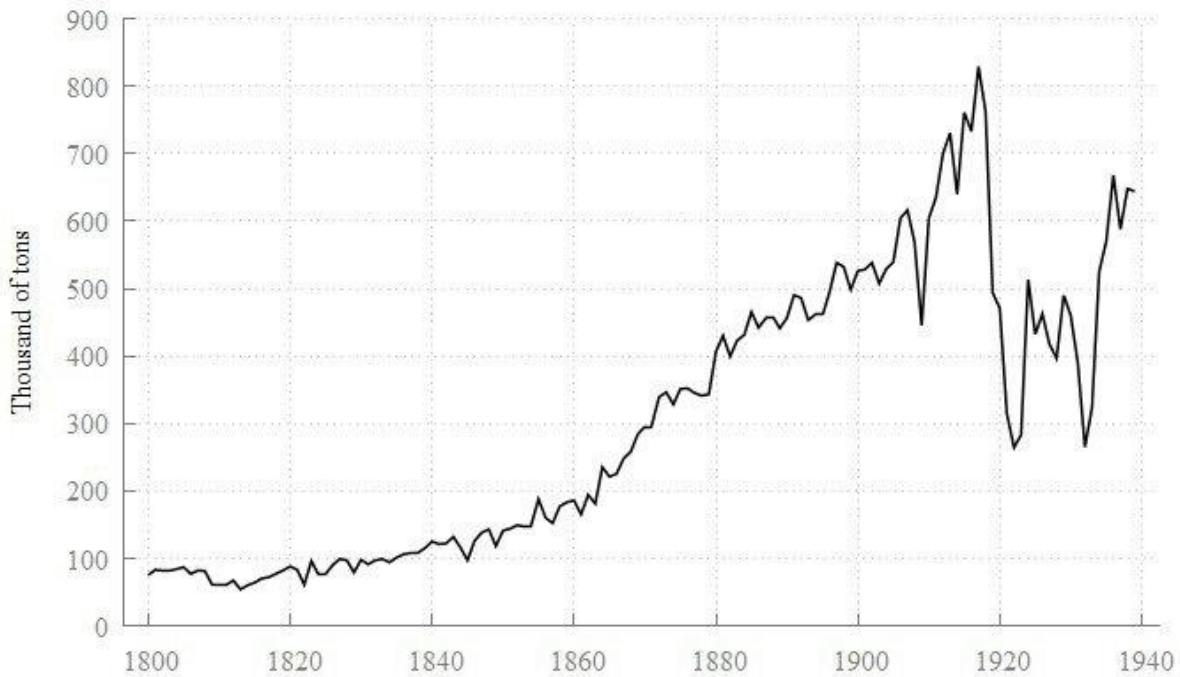
Figure 7: Graph illustrating the growth of the Swedish steel production between 1800 and 1940. Note the boom in growth around the 1860 mark on the X axis, coinciding with the Free Trade Treaty (1865) and banking reforms (1864) (Ruiz and Spjut, 2021).

The massive deregulation of trade and reduction in excise duty paved the way for an influx of workers into mills and miners down into pits, creating population booms in townships that surrounded ironworks, mills, and mines, giving rise to new towns and municipalities:

> "Starting with economic reforms in the 1860s (e.g., freedom to establish new firms for men and women and liberalization of foreign trade), Sweden followed a trajectory of fast industrialization with the highest recorded rate of productivity growth between 1870 and 1913… The export-oriented raw material sector expanded very fast as it supplied the booming Western Europe with timber and iron ore." (Högfeldt, 2005: 522-523)

Högfeldt (*ibid*) also records the population boom in Sweden between 1750 and 1850 as being influential for institutional change, such as the liberalisation of the Servants Act in 1833, that made moving from rural areas towards industrial centres easier.
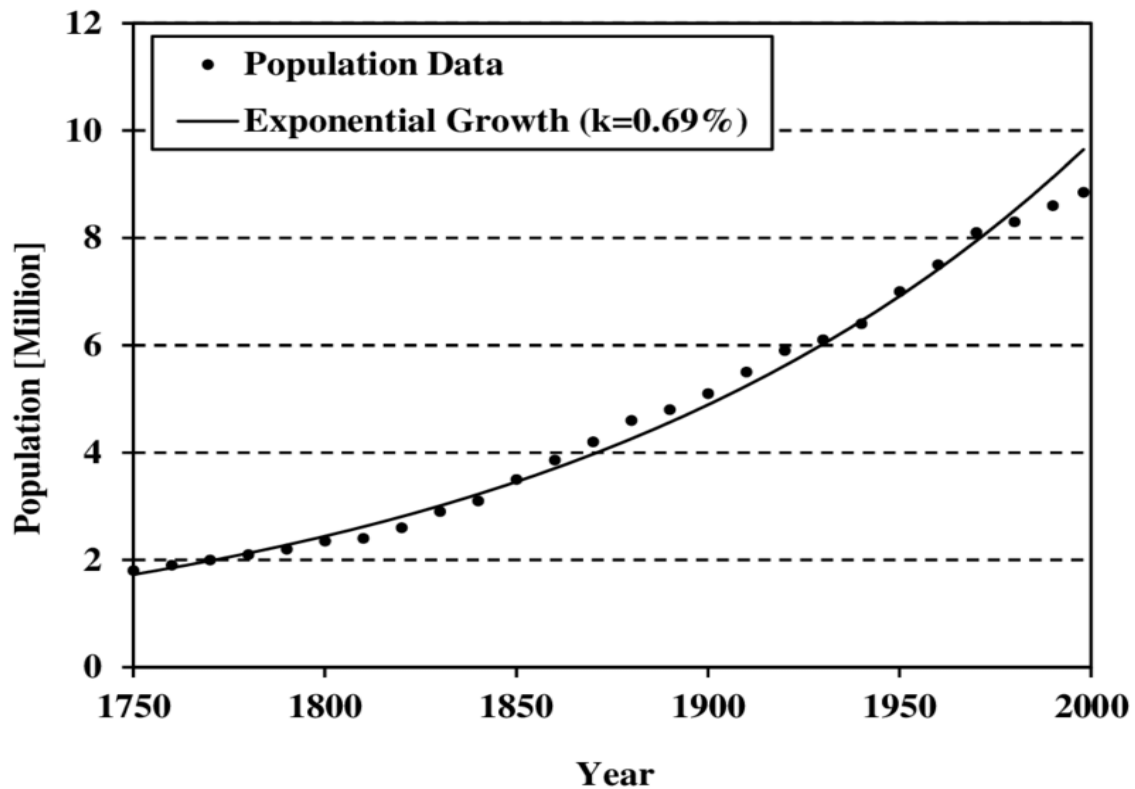
Figure 8: Graph of population growth in Sweden between 1750 and 2000. Note that Sweden's population doubles from two- to four-million people between 1750 and 1850, which saw the liberalisation of the Servants Act (Nielsen, 2013).

With housing policy largely absent in favour of fostering privately led housing development (Viklund *et al.,* 2015), such as was seen in the development of the bruks, living conditions and public infrastructure in these emerging townships did not improve or expand in-step with the swelling population numbers. In response to this burgeoning milieu of workers without housing, the Swedish parliament (*Riksdag*) began calls for the state to take control of housing and housing policy, although this was not fully realised until 1932 (Magnusson, 2000).

This wave of localised social care during the late-19th century was in confluence with a parliamentary outcry over the living conditions of those outside of the paternalistic bruks. More than mere insouciant political grandstanding, the outcry stemmed from direct observation of the slum-like mining encampments sprung up around Malmberget and Gallivӓre, by members of the Liberal, and Agrarian, parties (Brunnström, 1981). In relation to Kiruna and Norrland, Brunnström (*ibid*) records political outcry in 1890 at the establishment of approximately 650 illegally built shacks and hovels at Gallivӓre and Malmberget, approximately 80km south of the Luossavare encampment. Politicians such as Carl Lindhagen claimed that these

camps echoed the brutality of the gold mining camps of Klondike in the Yukon, which he further claimed harboured and fostered prostitution, gambling, alcoholism, and their attendant brutalities (Brunnström, 1981: Viklund *et al.,* 2015). It is true that Lundbohm had frequented the mining camps that had taken root around the iron mine at Malmberget during his time as a geological surveyor for the government in the 1880's, and it is suggested that these encampments impressed on Lundbohm the visceral domestic reality of mining labour (Persson, 2015).

4.7 City Plan

"Hjalmar Lundbohm created a Model City, which made Kiruna famous both nationally and internationally. It contained a climate-adjusted city plan and also a plan for social development within the city. Now, with the city transformation process, it's time to develop a new model society".
Kiruna Kommun, Press Release, 2010a

It is unclear if Lundbohm's personal interpretation of Lutheran doctrine was part of a personal mission to souse a perceived moral desiccation at Sweden's arctic frontier, whether discerned in the form of Sámi's supposedly "ancient, pagan cult" (Landin in Frank, 1950:11&14), or in the slumlike mining encampments such as the one at Malmberget, a little south of Kiruna (Brunnström, 1982). It is equally as true that the large scale domestic and infrastructural reform Lundbohm proposed stemmed from moralising political portrayals made by politicians about the living conditions of 19th century mining encampments. I can find no written record of Lundbohm expressing his view of Kiruna as a model city against the spectre of civilisational collapse embodied by the mining encampments of the day. But ethnographic accounts, my own included, of Lundbohm's legacy attest to his moral position as the primary driver establishing the City Plan. From Lopez' (2021) ethnography on Sámi exclusion in the spatial dynamics of Kiruna's built environment:

> "As we chatted in his kitchen over a bowl of reindeer meat stew, Helge surmised that Lundbohm's interest in providing culture (music, art), entertainment, and education for workers and their families was not solely about fostering a general appreciation for the humanities, but a means to materialize his "model city" (*modellstad).* Lundbohm, according to Helge, didn't want Kiruna to become "a Klondike" like the first Ore Fields town, Malmberget: a rough frontier town consisting of a mostly male population, social problems (gambling, alcoholism), and rough worker's shacks built out of leftover industrial materials." (*ibid*:115)

And from my own interview with a member of LKAB's city planning team:

Polybus: What happened with Malmberget in the 1980's is like a ghost that hovers over what we do here (in the planning department). Malmberget has always been like this with Kiruna, a ghost that haunts what we do here. It was like this when Kiruna was first built, and it is like this now.

Me: How do you mean?

Polybus: The very first city that was built, the first houses in Kiruna built by Hjalmar Lundbohm, he did that (built those) because he did not want Kiruna to be like Malmberget. He (Lundbohm) did not want all the gambling and drinking alcohol that was happening in Malmberget to happen in Kiruna. That was a personal thing for Lundbohm, he didn't believe in all that stuff that was going on. He needed a strong workforce, a wanted them to have high morals.

The second account by my informant Polybus ties Lundbohm's morality directly to the development and implementation of the City Plan. More so, both are emblematic of a social legacy that plays an active component in shaping contemporary livelihoods and the material future of Kirunabor and Kiruna, respectively. Given the ubiquity of this narrative among both my own and other ethnographer's encounters with informants, it is fair to argue that Lundbohm's legacy is embedded within, and articulated through, a broader folk memory invested in the paternalism of the city's founder.

4.8 Folk Memory in Kiruna, as told through Little Siberia and the Bläckhorn Houses

"Life is a memory, and then it is nothing."
Cormac McCarthy, All The Pretty Horses, 1994

Folk memory is the expression of historical narratives passed among and down generations as a form of oral tradition, often focusing on highly localised events or groups, but most often serving to mythologise individuals within a community. These narrative histories tend towards moral fables that continually reproduce local heritage as the stories shift and alter with their continual retelling (Beiner, 2003), although tending to retain the same core, moral principle. In Kiruna, as previously discussed, stories framing the former LKAB manager and founder of the first settlement Hjalmar Lundbohm as a deeply moral and paternal benefactor are widely acknowledged and still told by inhabitants of the town.

An informant, a woman in her thirties, made a point of telling me the duty the inhabitants have in abiding with the decisions LKAB make in relation to the town:

Atreus: We should do what LKAB ask of us: of course we should! They did all this for us, they built everything for us so we could live here. My grandparents (born in Kiruna in the 1930's) *would tell us* (informant and siblings) *how lucky they were to be born here and not in some other town in the north, without a hospital or a school. Or that they could live in such nice houses back then. All of this came from Hjalmar Lundbohm, wanting Kirunabor to be healthy, to have nice lives. My grandparents would say this also, that Kiruna was Lundbohm's kindness. When I think about what they are doing for us with the new city, I think on what my grandparents told me and think that things could be much worse if LKAB did not care, or what things would be like if they* (had) *never cared.*

Atreus' impassioned account of the conversations had with their grandparents shows how their oral history is embedded within the material conditions which emerged from Lundbohm's City Plan. The material conditions exist beyond mythology, as they either were, or are still now standing. Yet it is the morality, "Lundbohm's kindness," as my informant put it, bound up with the construction of these buildings, becomes problematic as their materiality is more complex than the myth suggests, embedded as it is in the broader socio-political discourses of the time when they were constructed. The layout of the Bläckhorn Houses, specifically designed by Lundbohm's chief architect Gustav Wickman, and the narrative that surrounds those houses today, are instructive when considering the role and power of folk memory in its ability for re-contextualising and re-coding the materiality of Kiruna's built environment over time as a prop for the mythologising of Lundbohm's intentions and legacy in the resettlement of Kiruna.

I am not arguing that Lundbohm's urban design was entirely absent of good intentions. Instead, I am putting forward that where the evidence suggests the building of houses was ancillary to the mine's securing of resources, the folk memory I encountered positions their construction as primarily a demonstration of Lundbohm's compassion and care for the inhabitants of Kiruna.

The company area of the City Plan (Figure 10) included a large housing district known colloquially as Little Siberia. Built on the northern bank of Lake Lombolo, itself sunk into a rich loam of woody marsh on south-eastern margin of Kiirunavaara, Little Siberia, now diminished by the demolition of many, and relocation of a relative few, of its iconic Bläckhorn houses, sits on a flatter plain in the

shallow entrance to the valley between Kiirunavaara and Luossavaara. Here the wind blows seamlessly and is cold without remorse. Stood there in amongst the remaining houses in the winter-spring of 2021, I am reminded of a phrase my uncle's father, a North Sea trawlerman, used to mechanically unfurl on windy days, "That wind'll no go by ya, it'll go right through ya," so trenchantly does the wind come thumping through that part of town. This, even with the mountainous tailings bank built-up along the western margin of what is left of the company area as it stands today.

A retired coordinator of the local high school's engineering module that served as a feeder program for employment at LKAB echoed similar sentiments as those expressed by my informant above, favouring the view of Kiruna as a project of religious, moral, and ethical importance to Lundbohm:

Thyestes: Can you imagine it? Back then, a city up here (in Sápmi)? It would be like heaven on Earth! And what else was here? The slum in Malmberget, or you live in the forest or the mountains like the Sámi. Hjalmar Lundbohm built Kiruna so you didn't have to live like this: he didn't want people to live like this, in slums, without a family or a home. You can see it (Lundbohm's model of Christian morality through family-values) *in the Bläckhorn houses. They were built so that young miners would live with families: they would have families living above them and they could feel what it was like to be part of the family. How could you not want a family of your own after living like this?*

Contrary to my informant's narrative, the written accounts of Lundbohm's personal motives for designing and building a model city indicate little more than a desire to have LKAB's miner's housed in sanitary conditions with access to public services (Persson, 2015, Åström, 1964). Yet, Lundbohm's belief in the family unit as the foundation for Lutheran moral living is evidenced in the schematics of the Bläckhorn (*Inkwell* – relating to their squat and rotund shape) houses.

Figure 9: Four Bläckhorn houses in the Little Siberia area of Kiruna. Houses built between 1901 and 1904 and modified throughout 20th century. Only a relatively small portion of these houses will be relocated to the newly developed city centre, the rest will be demolished. Image courtesy of Kiruna Kommun.

Designed by Per Olof Hallman and Gustaf Wickman and overseen by Lundbohm, the Bläckhorn houses are the predominant buildings in the area known as Little Siberia (Sjöholm, 2016). Built initially in the Company Area (Figure 10) section of the City Plan between 1901 and 1904, and altered continuously throughout the 20th century, Bläckhorn houses were supposedly designed to contain three separate apartments, two on the ground floor which could house a single worker each, and one larger apartment upstairs which would house a family.

Figure 10: Map of the initial City Plan in Kiruna, the coloured sections represent the areas demarcated by the City Plan in 1892, overlaying a map of Kiruna as it stood in 2016. The blue area is the company area, purple is the service and supply town, green is the railway. Illustration: Saeed Ebramhimabadi, source: Sjöholm, 2016.

  LKAB in collaboration with Historiska Hus I Norr AB produced an in-depth – although unattributed – pamphlet, *Bläckhornen B1 – B53* (2017), on the history of the design, construction, and alterations made to the Bläckhorn houses in Kiruna. The pamphlet is heavily illustrated with design blueprints and Wickman's drawings of the exterior and interior layout of the buildings. The first Bläckhorn buildings were built in 1901, four brick houses bunkered into the snow and opulent in their structural stability within the workers area. The remaining forty-nine Bläckhorn houses were built out of timber to accommodate design changes in the roof structure and on account of an adequate supply of timber in the area. What the blueprints and drawings show are houses designed and built to house two families, with a kitchen and bedroom downstairs, and a separate bedroom and mezzanine landing upstairs.
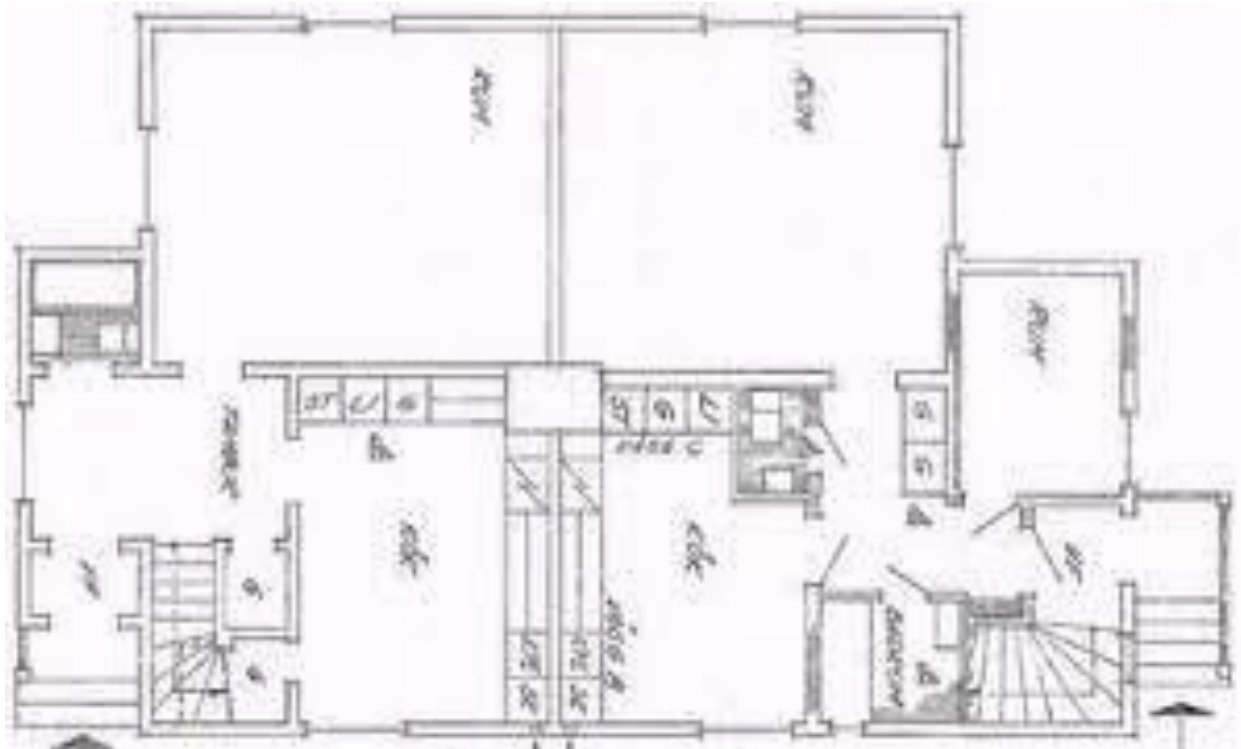
Figure 11: Schematic drawing of ground floor of Bläckhorn house, circa 1920. Source: LKAB/Historiska Hus I Norr AB pamphlet, 2017.
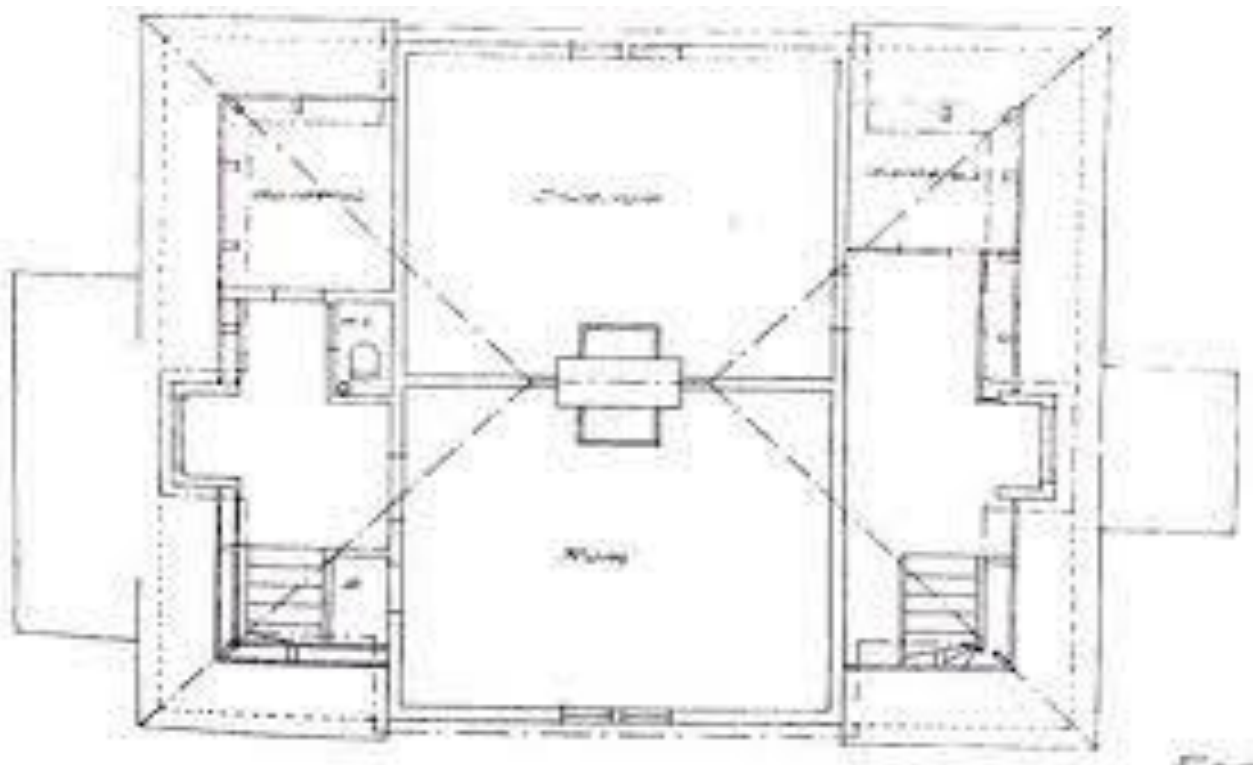
Figure 12 Schematic drawing of the upper floor of Bläckhorn house, circa 1920. Source: LKAB/Historiska Hus I Norr AB pamphlet, 2017.

Although these schematics are from approximately fifteen years after the construction of the first wooden Bläckhorn, little adaptions or alterations, other than the development of indoor plumbing, have been made to the original Bläckhorn

construction. The only indication of the folk memory, or social history, of paternal care baked-in to the structure of the houses themselves was the single kitchen on the ground floor. In itself, this feature means little, but given that workers that took up residence in the buildings would often rent out the upper floors of their homes, the single kitchen would, as a result, often be shared.

It is the shared kitchen aspect of the Bläckhorn buildings which chimes with my informant RC's narrative of Lutheran domestic morality pervading a coercive air of familial care throughout the household. It is this aspect of shared familial space with an individual tenant that adds weight to the validity of Lundbohm's legacy imprinted into the materiality of the Bläckhorn houses: the breaking of bread the cementing of familial relation in the Lutheran Christian context.

4.9 LKAB: Historicism and the City Plan evictions

The City Plan itself is also a site of ongoing historical revision (Overud, 2019). As historians Brunnström (1981) and Sjöholm (2016) have noted, the construction of the City Plan between 1892 – 1912, of which the construction of the *Bläckhorn* buildings and Kiruna Kyrka are both central, may have had less civically orientated origins. Brunnström (1981) claims that the need to construct houses was devised as means of leveraging claims of ownership of the land over competing mining companies, and in doing so securing access to the resource underneath:

> "As early as 1892 LKAB expressed the desire to build houses and make a settlement as the most effective way of defending its claims (to the ore…) the AGM Mining Company(…) had ten years of experience with the mining town of Malmberget. Here the workers had recently protested against the company buying up all the land and creating a company-owned and dominated city. This experience made the AGM Company cautious about building a settlement at that time." (*ibid*:9)

Aktiebolaget Gellivare Malmfält (AGM) was a Swedish owned mining company based in Malmberget with interests in expanding north to mine the ore within Kiirunavaara. Besides national competition such as AGM, Norrland at the time was a hotbed for prospecting mineral mining companies from both the UK and North America (Roberts, 2019). Peder Roberts (*ibid*) contends that international interest in the orefields of northern sweden was so intense at the turn of the 20th century that

national mining interests such as LKAB and AGM would aggressively lobby Swedish politicians to ring-fence Swedish minerals exclusively for Swedish companies. In turn, these politicians would run high-minded electioneering campaigns based on what Roberts has retrofitted as a kind of "Sweden First" policy (*ibid*:19): mining rights privileged for Swedish companies. In a bid to garner votes from their constituents, Norrland was framed as integral to Sweden's progression into an industrial, modernist era.

To facilitate the development of the City Plan and appease the growing political concern of the growth of the slum-like shanty town that housed LKAB's workers, the families and individuals still living in their self-built shacks were deemed by county authorities to be living on the land illegally, as it has been acquired by the mine. Brunnström:

> "In 1900 evictions of the squatters began. By 1903 there was not a single illegal shanty left in the settlement. The first evictions began to take place in connection with the completion of the 'City Plan' which was to be the guide for the development of the land which came under the jurisdiction of the County Administration. The evictions coincide with the completion of LKAB's first housing for workers in the company-owned area. Evictions began in earnest on the part of the landowners: the worker family was fortunate if it could rescue its shanty or parts of it to set up again on land it could buy from the county authorities." (1981:10)

The last sentence above is interesting, as it implies that the tenant-owners of the shacks were reluctant to leave their homes, even given their slum-like living conditions, speaking to a sense of communality, or perhaps belonging, that existed beyond the materiality of their environment. Brunnnström (*ibid*) implies later that the evictions that took place between 1900 and 1903 involved physical force, and that the clearing of the pre-Kiruna settlement was akin to the bulldozing of an entire district. LKAB themselves downplay the evictions, claimed that residents of the pre-Kiruna settlement were happy to move into the structurally superior accommodation the Bläckhorn houses offered (Viklund *et al.,* 2015). Those that could not afford or did not want to move into the Bläckhorn houses were offered plots of land to purchase and build homes anew, to be at the forefront of Lundbohm's experiment to bring Oscarian high-culture and 'civilisation' to Sweden's northern frontier. These plots of land were demarcated and sold as part of Gustav Wickman's revolutionary planning technique –

itself an act of progression in the field of architecture – to have Kiruna mirror the contours of the hills it would be built upon (Sjöholm, 2016).

The implied disinclination felt by the inhabitants of the pre-Kiruna mining settlement to leave their homes in 1900 mirrors the disinclination felt by my informants 120+ years later. Although the contemporary resettlement process for Kiruna is governed by the SMA – codifying into law the requirement of LKAB to pay for any damages caused by their mining activities – the motivating factor for the evictions then and the evictions occurring today is the pursuit of resource accumulation by LKAB. The persuasive narrative deployed by LKAB at the turn of the century – that plots of land would be available for purchase in the new township – is strikingly similar to the means of justification for the contemporary resettlement. As LKAB made the decision to purchase homes at an increased rate within the deformation zone under the guise of allowing for those evicted from said homes to be able to buy property in the new centre. However, as will be discussed in an upcoming chapter, the purchasing of homes at an increased rate by LKAB amounts to little and may operate as a means of preventing evictees from owning property in the new centre.

In both the evictions from the pre-Kiruna mining encampment at the turn of the 20th century, and what LKAB have termed 'evacuations' from the resettlement of Kiruna during my fieldwork, property ownership plays a key role in determining who has access to Kiruna as a site of community and kinship through an ability to dwell there (after Ingold, 2005). Evictions and demolition are key to both processes by which LKAB has facilitated urban development projects. The lack of property ownership for those displaced, either unable to afford a new property in both iterations – plot of land or apartment – of Kiruna (mining encampment and post-City Plan) forecloses the ability to be considered as a social and political actor within the town. What this means, in sum, is that the power to choose who can constitute an actor in Kiruna's cultural, socio-political, and economic relations is in the hands of the mine.

This is the recursive narrative that has haunted Kiruna since its first inception: that the expropriation of land to feed the expansion of the mine will be of futural benefit, in more-than-material terms, for the people of Kiruna. Entwining the construction and expansion of Kiruna with an installation and growth, respectively, of culture, LKAB have fostered a linear narrative of societal progress tied directly with infrastructural and material development and the necessary demolition of what they

deem obstructive to that narrative. It is in this way that LKAB have repeatedly sold the development of Kiruna, both then and now, as a bestowal of beneficiary societal growth in material terms to the inhabitants of Kiruna. The construction of Kiruna Kyrka sets one final historical precedent for this argument.

4.10 Kiruna Kyrka as a means of Tax Relief

In rounding-off this chapter, I wish to return briefly to the construction of Kiruna Kyrka between 1909 and 1912, which signalled the end of the developments made through the City Plan. In the opening section I laid out how the location of the church displaced a local Sámi settlement. Here, I will lay out how, ostensibly, the construction of the church was conducted under a narrative of unification between the settlers and local Sámi villages. Yet, using the archive work of Brunnström (1981), the church's construction is revealed to be a means of securing municipal status for Kiruna, and through this designation, lowering tax rates that would have been imposed on the mine if it were merely part of a township. I will quote Brunnström again at length:

> "The question was whether Kiruna should become a town or a municipal community. In 1903 this seemed to be a simple question, with a majority in favour Kiruna becoming a town, and an application was filed to this effect. Soon, however, LKAB began to raise arguments against this and instead promoted Kiruna's becoming a municipal community, it seemed to the company that it would maintain more freedom that way, in matters of taxation, for example. These differences continued for several years. In 1908 LKAB offered to build and pay for a church, a parsonage, a fire station, a hospital, to install a water system for Kiruna, and to lay down some new streets. The government then made its decision and Kiruna was declared to be a municipal community, to take effect on January 1, 1909 (…) Religious organisations have not played an important role in Kiruna (in relation to the workers organisations and property-owners associations)." (1981:8)

What Brunnström documents above is a dual purpose to the construction of the socially progressive public services that were developed under the City Plan: to provide for Hjalmar Lundbohm's model city while simultaneously leveraging LKAB's capacity to provide services on a municipal level and secure municipal designation for Kiruna. Designated as such, Kiruna as a municipality could lower tax rates on the

industry within the municipality, including the taxes paid by LKAB (Henrekson and Stenkula, 2015).

4.11 Summary

The history of the construction of the church – as well as the fire station and hospital – is framed and told by both LKAB (Viklund *et al.,* 2015) and my informants as one of generous and caring benefaction gifted from the mine to the town. The tension between two narratives of the church's construction serves as an abridged example of the discordant discourses that govern the Kiruna's heritage. The dizygous twin of Lundbohm's benefaction is a history so marginalised as to not be told or met with dismay when it is brought up in conversation. The displacement of the Sámi village to accommodate the location of the church, and the use of the church as a means of leveraging a narrative of governmental capacity on behalf of the mine to secure lower tax rates does not play a role in the public consciousness I encountered while in Kiruna. This narrative belongs to a marginalised historicity, buried by time, and subsumed by LKAB's trumpeting of Hjalmar Lundbohm's patriarchal benefaction. A philanthropy of supposed care, centred on Lundbohm's legacy and perpetuated by LKAB's historicism, is evoked not only as a guiding inspiration for Kiruna's ongoing resettlement, but as its very justification.

But what exactly does this care look like for those living in Kiruna today? This question is at the core of the next chapter. What constitutes the material and social legacy of Lundbohm's paternalistic care, or its lack, within Kiruna's deformation zone, in the year prior to its being demolished to make way for the subsiding ground which will eventually consume it.

Chapter Five

Materiality in Ruination: Spectres in and of the Deformation Zone

5.1 Introduction

"Where there was once a world, there is now dust, which is a world in its own right."

- Michael Marder, Dust 2016

This chapter explores the material landscapes of abandonment created by the deformation zone. In doing so, it follows Colin Sterling's (2021) call for the use of Derrida's (1993) concept of hauntology to be given more consideration in the emerging discipline of critical heritage within urban and post-industrial studies (Edensor, 2005, Winter, 2012, Gentry and Smith, 2019, Harrison and Sterling, 2020, Olsen *et al.,* 2021). Thus, hauntology is used here to move beyond using Kiruna's built environment as mere metaphor for the disassembly of the social dynamics by the resettlement. Instead, hauntology is used to signify the abstract and physically absent socio-political systems as they are made materially present in the decaying physical structures of the deformation zone.

Detailing the level of decay and abandonment in the deformation zone, this chapter argues that the ruination of Kiruna's built environment has given rise to a novel form of articulating socio-political marginalisation signified by material dilapidation. LKAB's attempts at alleviating or negating the lifelessness radiating from the evacuated and ruinous buildings in the deformation zone is shown to cause a warping and telescoping of the experiences of temporality within the zone. Pasts come roaring back into focus, and instead of providing comfort, instead they give a glimpse of lives and livelihoods that were cut short by the expansion of the mine and the resettlement of the city. It is through this disruption of time as a linear perspective that I deploy Derrida's (1993) concept of Hauntology, opening a conversation about the role of palliative curation of buildings (DeSilvey, 2017) to temper this disruption to temporality, and what the observation of a decaying environment can tell us about political economy and care within Kiruna's deformation zone.

5.2 The Deformation Zone

> *"You dream of one thing, but you get quite another."*
>
> Andrei Tarkovsky, STALKER (1979)

From the site of the new railway station, built in 2016, the predicted trajectory of the deformation zone extends south-east and uphill for approximately five kilometres. The predicted line contours the zone inflecting south-south-west, turning away and downhill from the highest point of the foothills that Kiruna is built upon. The deformation zone includes approximately one-third of Kiruna's entire population, and two-thirds of its built environment (White Arkitektor, 2014). Within the predicted parameters of deformation, the zone itself has been divided up into four further zones, each demarcated by a predicted timescale for their evacuation. All this can be read in the map below:
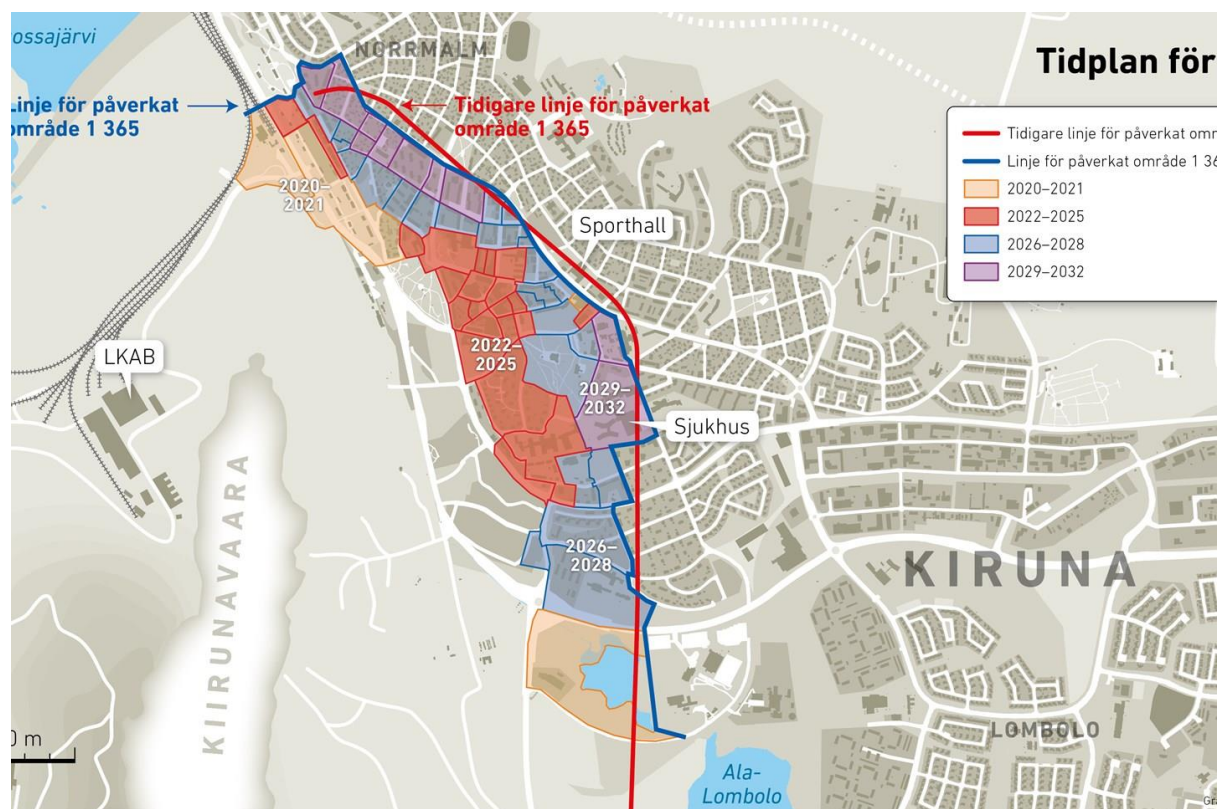
Figure 13: Map of the predicted final fence-line (depicted in red), within which all properties will be purchased by LKAB and evacuated. Oddly enough, although taken directly from an official LKAB brief on the final fence-line proposal, the map is missing both its left and right margins, obscuring some key title information. I have been unable to find a complete copy of the map. (Source: https://www.lkab.com/en/news-room/press-releases/clearer-boundary-for-urban-transformation-in-kiruna/)

References by LKAB to the area enclosed by their predicted fence-lines as the "deformation zone" are increasingly hard to find in their official publications.

Although the term is replaced by overt references to the 'area' – as opposed to 'zone' – of 'city' or 'urban transformation,' my informants, both LKAB employees and not, were prone to referring to the area as either the deformation zone, or the zone of deformation. From the first public announcements of Kiruna's resettlement up to and including 2013, the term deformation zone was used to refer explicitly to the areas on the western margins of the city that would experience heavy ground subsidence as the hanging rock wall that Kiruna sits on is undercut by LKAB's extraction of the ore body below. The term 'deformation zone' itself comes directly from the technics of industrial mining: it is an articulation of the numerical modelling used in geodetic measurement to determine the extent of areas affected by extractive practices beyond the exploited seams themselves (Białek *et al.,* 2020).

A policy document titled *Mining-Induced Ground Deformations in Kiruna and Malmberget* (Töyrä, 2013) gives an in-depth visual guide to the progress of the ground subsidence and deformation in relation to historical depictions of the land- and city- scape of Kiruna. The term 'deformation zone' is used freely throughout. Implied therein is a zone of deformation proceeds a zone of 'fracture,' when fissures become observable in and on the land as a parallactic gradient akin to an accordion's decompressed bellows. None of my informants referred to a fracture zone however, and from their descriptions the deformation zone took on an informal inclusion of the fracture zone. Indeed, there was little trace of the term being used in its traditional, technical capacity among my informants, and the more I encountered the term, the more the deformation zone began to articulate something parallel to 'The Zone' from the Strugatsky brothers' (1972) sci-fi novel *Roadside Picnic*.
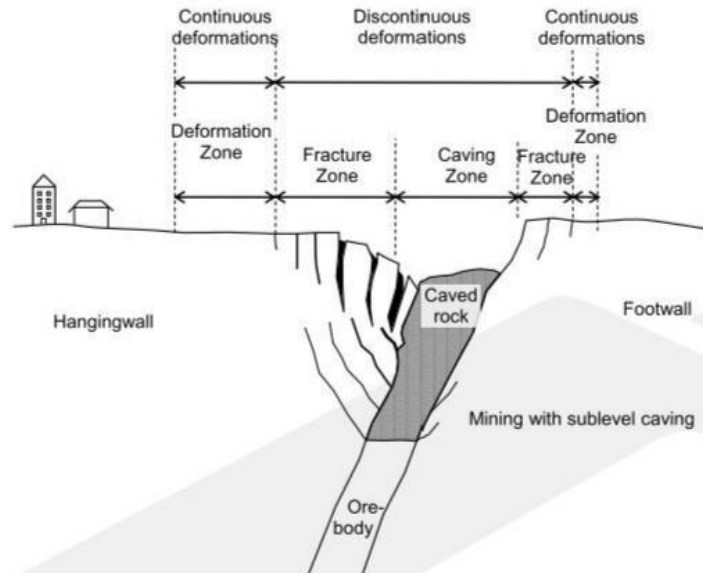
Figure 14: Diagram from the 2013 LKAB policy publication Mining-Induced Ground Deformations in Kiruna and Malmberget naming the different zones of subsidence connected directly to the mining practices of LKAB. The perspective on this diagram is looking north to south, with Kiruna depicted on the left (eastern) bank of the pit. Although not depicted, LKAB's offices, the entrance to the mine, and a processing plant are all located on the right (western) bank.

In *Roadside Picnic* (*ibid*)*,* a mysterious zone emerges at the margins of a former industrial town in which normative experiences of spatio-temporal dynamics are suspended for those that set foot within. Time itself becomes suspended, impossible to negotiate between what is past and what is present. The zone is an abandoned and neglected space in which the material remains of lives enveloped by the zone rot and decay, indicating that the only certainty in the zone is entropy. Although often read as an analogy for living among the disorientating and paranoiac communist socialism of the Soviet Union, *Roadside Picnic* provides a rich and vibrant source of analogy and metaphor for both my own experiences within the deformation zone and those of my informants. The cinematic adaptation of *Roadside Picnic*, *STALKER* (1979) by Andrei Tarkovsky has been noted for its intuitive depiction of the ruinous landscape – physical, social, and domestic – of a post-industrial post-Sovietism (Riley, 2017). Central to both *Roadside Picnic* (Strugatsky

and Strugatsky, 1972) and *STALKER* (Tarkovsky, 1979) is the sense of an inability to comprehend the forces that are driving the shifting social, political, technological, and material environment in which the characters dwell. And indeed, beyond this inability to comprehend is also the underlying premise that there could be little meaningful reason for these infrastructural shifts to be understood in the first place:

> "Picture a forest, a country road, a meadow. Cars drive off the country road into the meadow, a group of young people get out carrying bottles, baskets of food, transistor radios, and cameras. They light fires, pitch tents, turn on the music. In the morning they leave. The animals, birds, and insects that watched in horror through the long night creep out from their hiding places. And what do they see? Old spark plugs and old filters strewn around... Rags, burnt-out bulbs, and a monkey wrench left behind... And of course, the usual mess—apple cores, candy wrappers, charred remains of the campfire, cans, bottles, somebody's handkerchief, somebody's penknife, torn newspapers, coins, faded flowers picked in another meadow." (Strugatsky and Strugatsky, 1972:129)

Here Schuhart, a stalker who frequents the zone, asserts that whatever forces or factors shaped and bestowed the zone upon the industrial town may be too nebulous and powerful to be fully comprehensible. Schuhart's assertion is derived from a belief that ruinous landscape and remnants of former industries and homes are the result of arbitrary decision-making on the part of whatever is responsible for the creation of the zone.

Framing Kiruna's deformation zone as analogous with the Strugasky's Zone is primarily a way to articulate how the decoupling of lived experience and temporality within the zone blurs distinctions between what is real and what is not, what is present and what is absent – or better still, what is made present by the fact of its absence in the landscape – and the spectres that live the margins of the discursive and legible, that haunt the deformation zone. This comparison also draws attention to the power dynamics at play within the deformation zone, posing questions as to what the driving forces creating the conditions within the deformation zone are, and if those living within the deformation zone's boundary can assert a meaningful level of agency over their current domestic lives or their own futures.

5.3 Uncanny Ruination

"The living Present is scarcely as self-sufficient as it claims to be; that we would do well not to count on its density and solidity, which might under exceptional circumstances betray us."

Frederic Jameson, Ghostly Demarcations: A symposium on Jacques Derrida's Spectres of Marx, 2008.

Sitting to the north of a public square jerry-rigged and hoisted out of the cannibalised debris of the former City Chambers, where Hjalmar Lundbohmsvägen and Stationsvägen meet, is an elongated three-story brick apartment block with yellow façade, built in the 1960's and now flaxen in the sun. The temporary junction upon which these apartments look was built to accommodate the deformation-induced closure of the E10 motorway in 2017 and is now little more than pulverised tarmac: a loose admixture of decomposing infrastructure and upturned strata on the verge of being subsumed by the ground deformations. The road serves as the main arterial route through Kiruna and on up to Abisko National Park to the north.

At first glance from the road, the apartment block gives little indication of being in the process of decay. Blinds are unshuttered and curtains drawn-back to allow in the light, lamps sit cold on the windowsills of many apartments. There are several businesses installed in the retail space on the ground-floor, a Chinese take-away restaurant, next door a Thai massage parlour, a shop for funerary remembrance and memorial matters. My entire time in the field, I was only aware of the Chinese take-away being open. A squat blackboard sign advertising 'dagenslunch 69kr' slashed in crude chalk on its dusty surface would sit partially blocking the pavement whenever I passed during the day. The signage absent in the evenings. Even so, I don't recall ever seeing anyone within, nor any informants talking about having eaten there or from there. My field notes attest to this same state-of-affairs, suggesting something altogether anomalous. From March 18th, 2021: "Tried the front door of the Chinese place today: locked. Tried the doors of the massage place and the funeral home (?), both locked. It's odd because the sign is out again. The idea of a lone person, a journeyman in Oriental cuisine, chalking up an obscure menu devoid of options on a clapped-out sandwich board mechanically blocking pedestrians' right-of-way every single day is not entirely out of the question, but it certainly doesn't bear thinking about." Although of course this may also be a

symptom of legitimate health concerns of the owners due to the pandemic: the broader, more holistically intrusive frame within which this research has been conducted. Speculative guesswork aside, there is a performativity in the outward form of the apartment block that alludes to a speculative theatricality of life within.

Turning up from Hjalmar Lundbohmsvägen onto the pedestrianised road that leads into the Meschaplan district, turn a quick left and you can easily set your sights on the rear of the aforementioned apartment block. Pictured below, the rear of the apartment block depicted in delipidated repose, flaxen façade cracked and crumbling to reveal a slate grey concrete interior. The view into the windows from the rear showed an obvious disfiguration of blinds and curtains similar to those on show in the windows on the street-facing side of the building. There were no lamps visible in the windows at the buildings rear. The dense piling of ice is an indicator of the length of time snow had sat there. This factor is indicative of what the municipality considers disused space and their ordinance on suitable sites for the ploughs to midden their burden within the city.

Taking the second point first, throughout the urban and suburban areas of Kiruna there are signposts warning not to dump snow next to buildings, in car parks, driveways and walking routes. It was not uncommon to see the much less populous margins of Kiruna's urban and suburban sprawl, where the city peters out into forest or mountain, lined with cordilleras of white dunes impassable and mute. Since the snowploughs run near constantly through the streets, churning up the snow that falls perpetually on Kiruna's roads and pavements, the sites that are allocated for dumping accrue huge mounds of snow. Taken together with the burgeoning decay of the apartment block, the mass of polluted snow indicated a site recognised by local authorities as absent enough of human interaction to warrant it for the dumping of snow. Yet simultaneously, it was also a site that was required to be uncannily dressed to give a semblance of life within to passers-by.

Figure 15: Rear view of the apartment block at the junction of Hjalmarlundbohmsvägen and Stationvägen. Photo by author, May 2021

The lamps too render the block in an uncanny, spectral light. My informant Henioche told me during the simultaneous dawn and twilight hour particular to a sub-arctic late-November, about the similarly ghoulish appearance Centrum House took on after being purchased and emptied of tenants by LKAB. Centrum House houses Centrum, an upmarket, high-end fashion shop. Centrum's business runs opposed to other clothing shops in and around Kiruna – of which there are not many – that sell high-spec outdoor and survival gear. Centrum has been family run since it first opened, being handed down from an uncle to nephew, and then nephew to his daughter, Henioche. The shop is considered of social and historical significance by both the municipality and the mine, given its construction as part of the original Company Area (Brunnström, 1981). The shop itself first opened in February 1925. A three-story brick building painted in a mustard yellow, Centrum House contains two paintings of young boys in 19th century attire in the internal stairwell found at the back of the building. The boys were painted by Lina Hjört, a prominent historical

character, currently undergoing revision as an overlooked historical figure at the intersection of indigenous culture and feminism at the turn of the 20th century.

Figure 16: View of Centrum House looking north-west. Note the lamplight in the apartment windows above the glass shopfront. Photo taken by author in January 2021

Centrum was one of the first businesses contacted by the municipality to consult being relocated to the new centre when discussions about resettling the town began in earnest in 2004. Henioche took over Centrum in 2017, with LKAB purchasing in 2018. Henioche's father, the previous owner, still visits almost daily, and often helps-out when needed. The upstairs apartments of Centrum were purchased by LKAB in 2016:

HENIOCHE: Did you see the lamps in the apartments above here?

Me: I think so, I didn't pay them any mind if I did see them. Why?

HENIOCHE: They come on automatically. There is no one living in the apartments above here anymore. Not for two years. They (LKAB) put lamps in the windows of all the buildings they have bought that are now empty.

Me: There's no one in there at all?

HENIOCHE: No. They (LKAB) used to put workers in them that were visiting Kiruna, but there is no one there now. My family's old apartment is up there empty, but there is still light in the windows during the winter.

Me: That must be strange?

*HENIOCHE: It is. You think of the times your family would be in there in the winter, with all the lights on all the time: with the heating on and blankets: a real mysigt (*Swedish expression for an atmosphere of cozy-calm*) feeling, you know? But then you think, we never had any lights in those windows, so you think differently about the place, that someone else must be living there, but of course, that is not real either. And they (LKAB) have done this to all the apartments they have bought in the centre here, from the road (Hjalmarlundbohmsvägen) to the tower block there (pointing in the direction of the apartment block perched atop Intersport) and even further now. It is getting so you can't know if there is anyone living in the centre anymore, you have to listen to know.*

Me: Listen for what?

HENIOCHE: Nothing, you can't hear anything anymore: people, cars: nothing. There is no life in the buildings or on the streets. At night especially.

Me: But there are lights in the windows.

HENIOCHE: But there are lights in the windows.

It was with Henioche's rich and instructive description of the apartment blocks within the deformation zone, deeply unsettling in their newfound unfamiliarity. Held within,

the vibrancy of erstwhile life has been replaced by an obfuscating and perversely vacant simulacrum. In this guise I met the apartment block on Hjalmarlundbohmsvägen: the lamplight, curtains and blinds, the sign in the street, the locked doors on the shops. Each and all formed a lingering discordance in me that was hard to shake. Never knowing if the buildings that surrounded me were either inhabited or some obstinate and hollow caricature of life reconfigured my entire notion of place in an ugly and paranoid way. From a built environment that surrounded to one that enveloped, the city became like a zombie, a corpse held upright by some galvanic force, its eyes made to flare out in the dark.

Outlining my paranoia to an informant within the planning offices at LKAB, they expressed that this was entirely the opposite reaction that they wished to create once the mine had started buying up and evicting residents from these apartment blocks.

Chrysippus Well, I feel bad for you. That was definitely not our intention with installing the lights in the houses. We feel we created the opposite feeling though, I have to say. That it is much more 'homier.' You have to understand that it is dark here all winter, and if we did not light the windows, most of the centre would be in darkness: only the streetlights and the windows in the shops would be there.

The paranoid feeling persisted regardless of Chrysippus' rationale for installing the lamps or the homely feeling that LKAB's assurance suggested that they had created, and that feeling was not solely my own. As articulated by my informant HENIOCHE, the rendering of once inhabited and lively buildings mute and absent of life, yet life-like in their outward appearance, did not drive-out the unhomely atmosphere that Chrysippus spoke of. Instead, for those that knew the buildings when they were homes, the attempted abolition of absence created and then recalcitrantly articulated the presence of a sensorially overwhelming abundance of that absence (Trigg, 2006: 2012). Returning to the decaying buildings in which these lights were housed, David Lowenthal (1989) suggests that the temporal ruptures encountered in fragmentary and fragmenting materials, especially those that constitute the familiarity of a lived-in environment, form an "aesthetics of decay" (*ibid*:72). Lowenthal's aesthetics of decay refers to the material conditions in which the past connects directly to the present, causing temporality – in its linear guise – to

telescope in on itself, attesting to the simultaneous passage of time and its re-emergence as a condition of the present.

What the aesthetics of decay describes is a breaching of a past into a present producing the emergence of a new present in which the past cannot be ignored. This temporal disjuncture occurs simultaneously upon encountering the evacuated yet life-like built environment in Kiruna, causing and thus solidifying a sense of dislocation within that environment, both temporally and phenomenologically. The built environment of the deformation zone has taken on, for my informants, what Derrida (1968) termed "différance" (*ibid*:279) the simultaneous spatialisation of time and temporalisation of space. In the moment of experiencing différance, space appears as a tangible, felt, point of purchase for elapsed time, yet time itself is felt as suspended in amongst the materialities of space (Marder, 2011). It is from within this sensation of différance that hauntology emerges within the narratives of my informants, the destabilisation of space as well as time that reveals a precarious boundary between the past and the present which orientates those that experience its centrifugal pull towards the existential (Fisher, 2014). In theory, hauntology defines how experiences and encounters between humans and sociopolitical infrastructures manifest through a temporality that is assertively shaped by the entangling of presences within the absences that they engender (Derrida, 1993). In the concept's subversion of the term ontology, hauntology explicitly incorporates absence to constitute a form of what Caitlin DeSilvey has termed "boundary work" (2017:131) – a conceptual method that attempts to disarticulate semiotics from their material signifiers and forge their rearticulation in relation to the temporality of decaying materials. DeSilvey's examples of boundary work are grounded in theories and practices of preservation and focus on acknowledging ruination as a form of preservation itself (*ibid*). The boundary work that hauntology engages in is to disarticulate conceptions of the present as primarily positivist encounters and rearticulate the conditions of the present as being innately ephemeral and directly relational to past experiences and encounters. From within these encounters emerges a sensation of being haunted by a 'spectre' – the presence-of-absence – of the past. As Katy Shaw puts it in *Hauntology, The Presence of the Past in Twenty-First Century Literature* (2018):

"In dissolving the separation between now and then, the spectre points towards the dual directions of hauntology—the compulsion to repeat the past, and an anticipation of the future. Haunting its own ontology, hauntology draws attention to the ephemeral nature of the present and offers the spectre as neither being or non-being, alive or dead—the ultimate conceptual, and cultural, paradox." (*ibid*:2)

The spectre arises as the emergence of the past into the future, a disruption to the experience of linear time. The spectre "de-synchronises, it recalls us to anachrony" (Derrida, 1993:7), highlighting the intersection of past and present that generates the experience of simultaneous absence and presence among the decaying and abandoned materiality of Kiruna's deformation zone. The emergence of a twofold reality that the spectre represents, in turn facilitates an understanding of the present as always contingent on the past.

5.4 Permeable Boundaries of the Deformation Zone

"Why don't we just... wait here for a little while... see what happens?"
John Carpenter, The Thing, 1982

My conversation with Chrysippus moved on from the installation of the lamps to LKAB's stance on repairing the dilapidated façades like the one on the apartment block on Hjalmarlundbohmsvägen:

Me: Do you repair the damage on the outside of the buildings?

CHRYSIPPUS: If the budget allows. LKAB will pay for repairs to buildings we own if the costs are reasonable.

Me: Reasonable?

CHRYSIPPUS: Yes… but there are a lot of factors in this decision: the age of the building, the cost of repair and the cost of buying the building, if the building is still being used, if the damage is only on the surface. If the damage is deeper, like cracks in the foundations or the insides of the walls and floors are deteriorating, there is little we can do.

The cost-benefit analysis approach which informs LKAB's policy of intervention or non-intervention is akin to a micro-scale (building-by-building) enactment of what coastal engineers and, increasingly, city planners and national and regional heritage trusts have termed 'managed retreat' (see Carey, 2020: DeSilvey, 2012: Morris, 2022). The reconstruction of towns in locations facing less environmental precarity, managed retreat is also the focus of DeSilvey's (2014) chapter *When Story Meets the Storm: Unsafe Harbour*, in which DeSilvey recounts the multiple competing logics and narratives between locals, heritage bodies and herself as a researcher, surrounding the desire and financial capacity to continually rebuild Mullion harbour in Cornwall. Both Carey's policy history (2020) and DeSilvey's (2017) ethnography, however, situate managed retreat as a direct response to climatically driven environmental shifts, primarily the increased likelihood of severe infrastructural damage caused by the augmented frequency and ferocity of storms due to climatic destabilisation.

Although the driver for the shifting environment in Kiruna is not primarily climatic destabilisation, but the geological deformation of the landscape by LKAB's mining practices, the responses with regards to the evaluation of the security and longevity of the built infrastructure are remarkably similar. Chrysippus' outline of LKAB's stance on building repair chimes with two experiences I had in the field, one concerning Centrum House, owned by LKAB since 2018, and the other with my rented apartment in Kiruna, not currently owned by LKAB, and as of the conclusion of my fieldwork in August 2021, it remained unclear if LKAB will purchase prospectively due to ambiguities caused by the proposed final fence-line to be constructed between 2028 and 2032 (see Figure 13 above).

In the winter of early 2021 the ceiling in the backroom of the Centrum clothing shop collapsed under the weight of water accrued in the floor joists by a burst pipe in one of the evacuated apartments above. On entering the shop one Monday morning at the tail end of January I was met by four men in dense-looking high-vis jackets and trousers with the LKAB logo emblazoned in reflective material at various points on the luminous green-yellow textile of their uniforms. I was approached by an informant to come and have a look at what had happened. The backroom of the store is used primarily as an outlet for the off-season clothes that Centrum fails to sell before new collections arrive. The floorplan of Centrum is in a U shape – only if the sinusoidal curves were geometric right angles – with walls knocked-through to

create a continuous space. The entrance sits in what would be the trough of the U, to the right of the entrance upon entering the shop is the feminine sections, the gents on the left, with the outlet at the left-tip of the U. The bulging malignancy of the damaged wall cast a dark shadow-like stain underneath the exposed pipes of the collapsed ceiling panels. I was informed that the ceiling had come down sometime between close of business on Saturday and when they opened that morning. The men in high-vis clothing were engineers and a member of the city planning office from LKAB.

Informant: The water came from one of the apartments upstairs. They (the engineers from LKAB) don't know how long it has been leaking for and there has been no one upstairs to know either.

Me: Is it badly damaged?

Informant: We don't know yet, they are doing an inspection right now. Hopefully it is not too badly damaged and we don't have to move out sooner than we want to.

Me: They would move you out because of water damage?

Informant: Yes, they have moved others for less. If the water has been running upstairs for months we wouldn't know, and that would mean the building would dangerous and maybe it would not be worth the money to repair it.

Here my informant is referring directly to the cost-benefit analysis that LKAB would apply to the damage done. Fortunately for those that rely on Centrum, both for income and as a social hub of the deformation zone, the damage was deemed by LKAB to be not extensive enough to warrant an evacuation of the building, and therefore foreclosing on potentially months of potential business while it is re-housed, either in the new centre or in another building owned by LKAB.

There are two fundamental and overlapping drivers of the damage done in Centrum House: the lack of occupants in the upstairs apartments to notice the leak and notify the appropriate authorities, in this instance LKAB, and an overarching policy of allowing the breakdown of the materials of which LKAB owned and

evacuated properties are composed. The neglected repose of the upper apartments which lead to the collapsed ceiling draws focus to the absence of the former occupants. This absence is made present through the realisation that they are now no longer there to notice the degradation animating the internal infrastructure of Centrum House.

The power dynamics at play between the owners, employees, those that use Centrum as a social hub, and LKAB are amplified in the incidence of the water damage. The decision-making process that would determine whether Centrum House would continue to be occupied, or whether it would be evacuated and left to succumb to the hydraulic action of the burst pipe is indicative of a broader interstitial space created by the temporal dynamics at play in the deformation zone. Those that occupy the buildings purchased by LKAB to facilitate the resettlement process are unable to navigate the indeterminacy of their living and working conditions without direct intervention from the mine. The physical conditions of the built environment within the deformation zone directly inform the preconditions for living within that zone. The deformation zone in Kiruna then, appears as a kind of raw nerve of environmental determinism: a landscape directly affected by the actions, policies, and decision-making processes of a single company that manipulates the zone.

This nerve is no less exposed at the boundaries of the deformation zone, generative of yet more indeterminacy that I experienced first-hand. According to the latest maps produced by LKAB and the municipality and distributed through Kiruna Anonbladet, the local free, weekly, community newspaper, the proposed fence-line detailed in the section above was to run directly through the garden to the west of the property I was renting for the duration of my fieldwork. Although, the scale of the map upon which the fence-line is rendered makes it hard to determine if the fence would be in the garden or riven through the south-west corner of the building. The building itself is a three-story wooden farmstead built in the 1920's, divided into three separate apartments with an adventure-tourism business situated in the basement. Huge icicles, easily over a metre in length formed throughout the winter at the corners of the building, a residual effect of the design that sloughs accreted snow from the roof.

Figure 17: View of the apartment building I stayed in during the length of my ethnographic fieldwork. This is a westward perspective looking east, with offices situated in the basement on the eastward side. The building is situated at a junction on Gruvvägen, the former main road that ran from the mine at Kiirunavaara to the mine at Luossavaara and divided the former managers area from the workers area of the original City Plan. Photo by author, taken early February 2021.

In April of 2021 I was informed by the landlord that mysterious damp spots had streaked the walls of the offices below my apartment and that he needed to check throughout the building for any unreported water damage. The source of the damage was a radiator valve in the second-floor apartment that had burst in September 2020. Oddly enough the water had not soaked our walls or ceiling but had pooled underneath the floorboards of the north-east facing room. The leak was quelled by the occupant of the upstairs apartment readily back in September, which didn't make much sense at all. It is true that accusations involving buckets of water mercilessly dropped and not properly mopped up were levelled by my landlord, and at points the whole thing had an air of an insurance issue, but there was no denying the extent of the water damage to the business below. Once the air had cleared between my landlord and I, on one of his final inspections of the damage, the topic of renovation of the building or its sale came up:

L.L: I might need to replace the floorboards and take a look behind the walls to find out what happened. It doesn't make any sense for the water to be below and not here. This work will have to be done over the summer so the apartment will be ready for when you are moving out and new people are coming in.

Me: Okay, what would that mean for us (my partner, dog, and myself)?

L.L: Well, you might need to move out earlier than you wanted. The damage seems quite extensive. But it might not be worth repairing also… That all depends on whether the mine want to buy the property and I won't know that for certain until a few years from now.

Me: Can you get compensated for any renovation work you do to the house?
L.L: I don't know, really. I'm not sure. They (LKAB) pay 25% above the market price, as you know, so if the renovation helps the market price then, yes, I will get some of it (the expense of the work) back. But no, I don't think they pay directly for any work that you do. It is not like I can sell the place either. If I sell before LKAB offer me the money then somebody else (the buyer) gets the 25%. That is if LKAB will buy (the house), I don't think they know if they will buy yet. Maybe they will just see where the fence goes and if it goes through the house they will need to buy it.

What this exchange highlights is the extension of LKAB's influence on my informants abilities to make decisions relating to their domestic and work spaces beyond the properties that the mine has already purchased or the buildings that exist within the deformation zone. The indeterminacy of the line on the map, its resolution in direct relation to the ever-emerging, constantly updated data on the speed and direction of subsidence. The spectrality generated by the simultaneously neglected and theatrical materiality of the deformation zone breaches the pre-determined zone itself: the boundary becomes unruly, breaching the terms upon which it was rendered and defying how it is governed. The proposed fence-line appears as what Aalders (2020) has termed a "ghostline" (*ibid*:xi), a demarcation on a map usually calculated through the use of advanced sensing technologies and imposed from the

top down onto a landscape, producing spatio-temporal uncertainties and immobility, both physical and cognitive, on the ground the ghostline haunts.

Relating this back to the conversation with my landlord, the uncertainty lay in the inability to know whether the repair and renovation of the apartment was worth carrying out if the building would be later purchased and demolished by LKAB. LKAB's policy of paying 25% above market value also hobbled his thoughts of selling the place to any alternate buyer, as if a buyer was found, they would inevitably make more on the sale of the property to LKAB. Further still, this uncertainty was transposed from the landlord to me, as the upheaval of finding a new place to stay, if there even were apartments available to rent, or if I would have to cut my fieldwork short, emerged in short shrift.

This uncertainty operated in concert with sensations of immobility engendered as any potentialities for the immediate near-future were rapidly upended, reduced, or redirected in some unknowable direction. Immobility in this instance is not only the lack of the physical capacity to move, but the lack of an ability to perceive of desirable futures where there was once an imaginable future, the fulfilment of which could be more readily planned towards. This definition situates immobility in relation to Ingold's "dwelling perspective" (Ingold, 2011:10), which considers that cognition exists as a thinking-through of ideas in relation to the environment in which one cultivates their life. In-concert with a dwelling perspective, Gell's concept of "temporal maps" (Gell, 1992:239) formulates that an ability to conceive of obtainable potential futures allows people to cognitively map a trajectory towards those futures. Which begs the question: what happens when those trajectories are upended in some way? Ann Game (1997) suggests in her essay *Time Unhinged* that moments of rupture are, by necessity, moments of social and temporal disruption, often rooted in physical displacement. Within these ruptures, any expectations about the future collapse in on themselves: "in the moment of suspension, everything is contingent. And possible" (*ibid*:127). Yet, Game's stance here ignores the interplay of social, political, economic, historical, and technological infrastructures through which her contingency is constructed. In Game's formulation, the power dynamics that have caused the rupture are ignored in favour of placing the onus of navigating the disruption solely on the individual's ability to shift their perspective towards an acceptance of the situation. Experiences from the field suggest that the power

dynamics behind the rupture are not passive, but actively foreclose upon multiple futures while rendering other potentialities insurmountable.

The rupturing of the pipes gave rise to a rupturing of the envisioned routes on the temporal map through which the landlord comprehended the financial future of his apartment block. Planning for the future of the building as a valued and valuable financial asset, although an increasingly unstable imaginary given the precarity of the property in relation to the unpredictable fence-line, allowed my informant to make decisions in the present. Without this capacity to work towards a conceivable future through the imperilling of the apartment block as a financial asset, the building became a disaffecting object, telescoping the future into the present at the margins of the deformation zone. Caught up in this alienating disaffect was my own ability to find the anchoring point of short-term domesticity I had once had, and further envisioned for myself, while working in the field. What occurred was a "loss of self" as Game (1997:122) and others have framed it (see Geismar *et al* (2022) and Ringel (2018). In such a situation the potentiality of multiple unforeseen futures emerges, allowing for myriad prospective selves to be produced.

Yet the overwhelming feeling for both my landlord and I was of helplessness in the face of a future near entirely outside of our control. Mulling it over, perhaps it was the tyranny of choice: without having to rent this place, I could rent another, perhaps better place: more space, greatly enhanced view out over the forests. But the reality of that is somewhat different. For one, the rental market in Kiruna was stagnant with few rooms or apartments available. Those that were available were grotesquely over-priced. Plus, we were still deep in the grip of winter-spring, so the only other selves opening up to me were either homeless and frozen, or packing-up and cutting the fieldwork short at six months, depending on my landlord's decision on the apartment. In turn, my landlord's decisions, as discussed previously, were quite severely limited.

What the example of the apartment block shows is the unruly disposition of the deformation zone. The delineated perimeter of the deformation zone is not a demarcation of LKAB's capacity to influence or ultimately retain jurisdiction over the affective space that the deformation zone engenders (De Matteis, 2022). It is, in fact its opposite. The house – my apartment – at the margins of the deformation zone provides some evidence as to the ungovernable temporalities emergent in direct relation to the glacial tumult of the encroaching fence-line, adding yet another

dynamic to the uncanny temporal disruption engendered by my informants in the deformation zone. The unruliness of the deformation zone simultaneously articulates the entangled socio-temporal disruption and material ruination of Kiruna and LKAB's inability to contain this phenomenological turmoil to their predetermined site. The rupture's growth to subsume experiences outside of the deformation zone is a nod to where the infrastructural logistics of resettlement planning meet the on-the-ground experiences of those being resettled. Moreso, an unruly boundary asks the question: where, when, and for whom, does LKAB provide maintenance against the encroachment of decay?

5.5 Dust, Decay, and Maintenance

"Death is ordinary. Behold it, subtract its patterns and lessons from those of the death that weapons bring, and maybe the residue will show what violence is."
— William T. Vollmann, Rising Up and Rising Down, Some Thoughts on Violence, Freedom and Urgent Means, 2005

In the corners of the interior sill of the windows in my apartment could be found thick layers of argent soot and ash accrued over a period of days or weeks. It would build up unnoticed until a thin silver-grey patina would become visible. Mostly the noticing would occur through finding smeared constellations of the particulate matter on clothing you had worn while opening the windows to let in fresh air. This act too performed to clear the atmosphere within the apartment of dust, now mixed with the ash and soot. Where this pulverised debris came from was no mystery, as dust from the mine would frequently wash over the town if a westerly wind blew (see Figure 18). But the question remained: how did it get into the apartment through the closed and well insulated windows? I made enquiries about this with my informant HENIOCHE:

Oh that? Yeah that happens. We (HENIOCHE and HENIOCHE's partner) stayed in an apartment in town a few years ago. We had a small toilet, no windows or anything like that. It had a small vent in the roof. We would have to clean these black streaks from the roof (of the toilet) all the time. I knew it was dust from the mine because I am from here, but I was surprised that it could get into a room without a window.

Figure 18: View of light refracting on a cloud of dust, travelling west to east, emitting from the ventilation fans in the hoistroom of the mine at Kiirunavaara. This picture is taken from the north, facing south-west. Kiruna is situated to the south-east of this photo, out-of-shot behind the slope of the hill. Photo taken late-September, 2021, by author.

No clear answer still, but at least there was testimony to the invasive trespass of the dust and soot into my apartment. While in Kiruna in 2016 I was living with a Finnish doctor who, over dinner one evening, described to me his day working in the clinic tending to the recent influx of refugees that had been housed in Kiruna. The doctor explained that the refugees had a deep suspicion of the dust that was in the air, it was the root of all problems, both medical and not. He explained that perhaps this was true, but more so, that perhaps the inhabitants of Kiruna no longer noticed the dust, had grown used to its prevalence, its engraining itself into and onto both the bodies and the buildings of the town. Anthropologist Jessica Rolston-Smith noted in her book *Mining Coal and Undermining Gender* (2014) that the omnipresent dust of the mine would permeate the skin of both the miners and those that lived in the communities adjacent the mine. In this light, the flesh becomes a latticework of both organic bodily materials and inorganic mineral particulate, incipient in the firmament over town and mine alike. Richardson and Weszkalnys (2014) cite Rolston-Smith's

(2014) ethnographic work as an example of how "resource exploitation is a process where bodies, technologies, infrastructures, and substances become entangled, throwing the porosity between human bodies and their resource environments into sharp relief" (2014:20). The dust and soot on the sill are a particularly stark reminder of Richardson and Weszkalnys' (*ibid*) proposition. Dust is the material articulation of the entanglement of broken-down bodily substances and an ambient marker of the temporality of domestic life, mixed with the remnants of pulverised bedrock from which Kiruna's iron ore is extracted.

As the philosopher Michael Marder (2016) makes clear in his object lesson on dust, it is an intrinsic material component of both life and death: the particulate veneer through which the external world is encountered, its presence around us the amalgamation of the constant decomposition of self and the environment, and therefore irreducible (Nieuwenhuis and Nassar, 2018). Dust is material evidence of time as macerator, "as a sign for the destruction of the past and for the surviving remnants of the present" (ibid:42), it is the past made spatial. As amalgamated residual materials of multiple decaying bodies and objects, dust is also a material in its own right. As such, dwelling on dust's ubiquitous presence can inform a discussion on deeper entanglements between my informants and ruination in Kiruna's deformation zone.

Dwelling on dust, as the residual constituent matter born of the decay of materials, both human and not, lends itself to exploring a broader question: why focus on the normative, ubiquitous nature of decay? As anthropologist Ghassan Hage writes: "Given that everything is decaying all the time, with the exception of ethico-religious or philosophical reason… making a point of spelling out that "things are decaying" seems banal… Thus, the question arises: what kind of experience of decay makes "decay" into our consciousness?" (2019:3). In the deformation zone, decay is evident and in increasing abundance in the majority of the built environment as the zone is sporadically evacuated leading up to its final enclosure behind the fence, scheduled for August 2022. Decay, of course, is built into entropy, the second law of thermodynamics. That everything necessarily tends from a point of cohesive semblance towards an erosion that accumulates as disorder and chaos is one of – if not the – principle state of being in the universe. In *Curated Decay* (2017), cultural

geographer Caitlin DeSilvey delineates between decay and entropy as two distinct but deeply entwined and potentially contradictory concepts[9].

For DeSilvey, entropy is not only a move from order to disorder over time, but also the increase in potentiality within and between the systems that are breaking down. DeSilvey (*ibid*) quoting Don S. Lemons *A Student's Guide to Entropy* (2013):

> "Perhaps, as some have suggested, entropy can best be described as possibility, rather than through reference to chaos and disorder: "Entropy is an additive measure of the number of possibilities available to a system… As the constraints that inform a living organism dissolve, the entropy of the organism increases… Yet even in the death, new possibilities are sown." (2017:11)

The contradiction between entropy and decay that DeSilvey (*ibid*) outlines hinges on the perception and function of entropy beyond its traditional interpretation as a universal law of cascading disorder of and within ordered systems. Framed as possibility, decay as observable, experiential entropy opens up broader analytical frames from which its processes can be observed and engaged with. From this shift in perspective, entropy can play a key role in understanding material decay as a social phenomenon. The suggestion here is that:

> "(a) focus on entropy allows us to look to the processes by which worlds are assembled and to accept that any given system, be it a granite chimney stack or an artwork, has the potential to unfold along multiple trajectories: what may appear as erasure on one register may be generative of new information on another. An attentive relation to material systems and their histories involves following trajectories of change and transformation rather than arresting them" (2017:12).

What DeSilvey is arguing for here is that observation of decay as an active forefront of entropy allows for the processes that underpin what is being observed to be investigated from socioanalytical perspectives. The "trajectories" (*ibid*) of which DeSilvey speaks have their roots, relational causes and effects, in the social,

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[9] Contradictory not least on account of the structuralism of entropy as a concept and decay's capacity for post-structural social analysis (Bailey, 1990: Simmel, 1965).

political, economic, and technological systems that reify entropy as decay in an environment.

Entangling the physicality with the sociality of dereliction broadens the scope of what systems dust and decay can be used to interrogate, alluding to an ecology of ruination in and of the landscape. By this I mean that ruination, dereliction, the processes of decay that give rise to the ubiquity of dust upon a world, can be registered as fluid, shifting between and amalgamating organic and inorganic networks in decline between internal systems enmeshed with their externalities. Returning to Hage (2021), he advocates entwining decay as an external phenomenon with the internalisation of its logics by framing decay as two co-productive processes: "endo-decay, where things decompose from the inside, and processes of exo-decay, where disintegration is caused by external environmental factors" (ibid:6). Hage goes on to warn, however, that division of decay into these two sub-categories does not contain each classification neatly, given that "the two processes can often be entangled in the making and unmaking of social processes" (ibid). Instead, highlighting this (false) dichotomy between internal and external draws attention to how decay is conceptualised and encountered, and what this can tell us about the dynamics that are productive of decay.

Violeta Schubert (2021) evidences both Hage's (2021) and DeSilvey's (2017) assertions about the dual nature of decay in what she terms the "rhetoric of Fated Subjectivity" (*ibid*:21) of communities living among the increasingly derelict villages of rural Macedonia. Fated Subjectivity here refers to an internalisation of the dilapidated buildings and run-down infrastructure through and upon which her informants live. Schubert's argument centres around narratives of abandonment engendered by the ruination of the surrounding environment, "in other words, leaving some histories, experiences, or categories of people to decay" (*ibid:*21). Living in this state of "perpetual decay, their 'fate,' compels non-engagement and passive conformity to the will of the powerful" (*ibid*). This conformity is articulated in a rhetorical colloquial vernacular by her informants that expresses a personhood bound-up with the entrenched decay of their surrounding environment.

At the core of Schubert's analysis is the inquiry into the role of maintenance and the power dynamics bound-up in the questions that arise from confronting a built environment in pronounced states of decay. Namely: who is responsible for this decay? What is the underlying premise that facilitates and furthers the physical, and

therefore social, processes of decay? What maintenance is performed to aid those that live within the disfigurement and ruin of their surrounding environment?

5.6 Maintenance as Charity Work

Addressing the questions raised in the paragraph above, the first two as they pertain to Kiruna are relatively easy to answer. LKAB, in their purchasing and evacuating of apartment blocks and houses within the deformation zone had deemed those buildings beyond a reasonable cost to maintain. This decision was enforced by the buildings' future as pulped debris. Hence LKAB's responsibility. I met a former consultant (F.C) on the original 2004 design drafts for the new centre one morning in Café Safari. A two-storey wooden building painted yellow and constructed in the vaunted Kiruna-style, Café Safari was built in the 1920's and is now chipped and flaking in a weather-beaten constellation of structural failings. Although not from Kiruna, F.C had moved to the town in the late 1980's, working as a civil engineer with the municipality. He had briefly worked for LKAB in the 1990's, before becoming an independent design and planning consultant. At Café Safari, F.C reframed LKAB's role in Kiruna away from its historical origins and proposed future as a 'fossil free' steel producer:

F.C: LKAB are not a mining company anymore. That have not been that since they started to develop this new city. What they (LKAB) do now is real estate. They are a real estate business above all else in Kiruna. They buy up the buildings, they dictate the (housing) market here, and you will pay rent to LKAB in the new city: much higher than you pay here and now. And they (LKAB) are not a friendly landlord to have. They will not maintain your house if it does not suit them, and the closer we get to the move, the more it does not make sense (to LKAB) to fix your house if it is damaged. If they have the money to build a new city, which everyone knows they do, then they have the money to fix your house, not simply evacuate you to another house which you will have to move from again soon after (moving in).

F.C ties the profits LKAB make from mining the ore, the profits that are driving the evacuation of the deformation zone, directly to what he frames as LKAB's choice to not intervene in preventing the festering of the built environment within the deformation zone. My informant also provides an answer to the second question

posed previously: that the underlying premise that facilitates the rot within the deformation zone is the economic necessity of ensuring and accelerating the rate of extraction from the body of ore underneath the city. The point I am making here is that although LKAB have the profits to continue maintenance of the buildings they own in the deformation zone, regardless of the cost, they choose to deliberate behind the cost-benefit analysis as, I suggest, a means of securing their profit margins.

As such, the capacity to maintain the domestic spaces which the mine has purchased, both those evacuated and those still occupied as either households or businesses, falls under the rubric of acting in an economically rationalist manner. By that, I refer back to the discussion on the cost-benefit analysis of repair versus price-paid for the building. But as F.C contends, this approach appears little more than a false premise for LKAB's refusal to spend money maintaining their properties within the deformation zone. My informant pointed to LKAB's public claims of year-on-year profit growth since 2017, after the I iron markets crashed on account of China buying up steel mines crippled by labour shortages on account of an Ebola outbreak in west Africa in 2014 (Lewis, personal correspondence, 2016). F.C's claims regarding LKAB's increasing profit are backed up by their quarterly interim financial reports. The report for Q4 in 2017 evidences LKAB's highest delivery volume of pelletised steel since the production of pellets was made their primary output in the early 2000's. The increased volume of delivery amounts to just north of 3.1MSEK (million Swedish crowns, approximately 250,000GBP) for that quarter (LKAB Interim Report Q4, 2017). LKAB again recorded record sales in the second quarter of 2021, when my conversation with F.C was taking place. LKAB's interim report for Q2 of 2021 states:

> "For the second quarter in a row, operating profit at LKAB is at a record high. I iron ore prices rose further during the quarter and demand for LKAB's products remains good. These results strengthen LKAB's position as it leads the transformation of the iron and steel industry towards a sustainable future. Net sales for the second quarter increased by 98 percent and amounted to MSEK 14,748 (*apprx.1.1MGBP*). Operating profit increased by 386 percent to MSEK 9,161 (*apprx. 724,000GBP*). (LKAB Interim Report Q2, 2021:1, *italics and currency conversions added*.

Although these figures and statements are made directly by LKAB in their public interim financial reports, the funding set aside for the resettlement is accrued and disbursed separately from the sale of iron ore on the I market. It is worth noting that LKAB's publicising of their growth in their local quarterly magazine Framtid, which I read while in the field, did not make a case for the complexities of their profit margins in relation to financing the resettlement. This is something I raised with my contact in the PR offices of LKAB:

P.R.: I was not here at the beginning of the process…

Me: In 2004?

P.R.: …yes exactly. But my colleagues have said that we used to try and communicate exactly how everything would be paid for. But people didn't want to know, they just wanted to know that the money was there and that we had the money and that that (the money) wasn't an issue. So, during the public consultations we (LKAB) would speak about it less and less.

My Informant's claims to LKAB's financial strategy, with regards to repairing the damaged buildings in the deformation zone may be misguided, but not entirely misplaced, given the lack of fidelity on behalf of the mine.

Reviving the theme of maintenance and the arresting of decay, both physical and social, in the deformation zone, I asked F.C. if there was anything put in place, by either the mine or the municipality, that tended to the ruinous atmosphere of the deformation zone:

F.C.: Yes, there is a charity that is trying to keep the city centre alive: putting on events or decorating the parks here and there: putting on the ice festival and things like that. They are called StadsLiv, have you heard of them? They are good. They engage with the people still living in the centre, try to keep a sense of pride in between everything.

The charity and NGO StadsLiv were concerned with mediating a future through organising projects that helped to retain Kiruna's inhabitants' interaction with and within the deformation zone. StadsLiv filled the gap created by the mine's cost-

benefit induced lack of community care in the deformation zone. Playing what they viewed was a necessary social role that both the municipality and mine had failed to fulfil, Stadsliv were the only organisation actively occupying public space in the deformation zone, where other organisations and businesses were leaving.

5.7 Earthquake and Evacuation: disasters in the making

In *Anticipating oil* Gisa Weszkalnys' (2014) evidences how the prospect of massive incoming investments in oil and its attendant infrastructures in Sao Tomé and Principe (STP) creates a mode of mediating for the future that she terms "anticipatory strategies" (*ibid*:221). Anticipatory strategies in STP take the form of the en masse mobilisation of state-run, private investment, and non-governmental organisations that flooded into the country in their attempt to profit from the extraction and procession of the untapped oil deposit. The influx of these organisations is "designed to enhance the robustness of state and societal institutions and to allow them to cope with any economic vagaries that might come their way. In this sense, anticipation (en)acts disaster in advance" (*ibid*). In others words, the proliferation of institutions within STP operate with the intention of maintaining local, public bodies as they transition into an oil-rich future, prospectively. A such, incoming organisations must frame the future as precarious, and pragmatically prone to failure, often using the problematic 'resource curse' narratives (Weszkalnys, 2008, 2011), hence Weszkalnys's assertion that the temporal dynamics of maintaining political, social, and economic infrastructure in STP retrofit a narrative of "disaster" (*ibid*) from a potential future into the present.

Of course, there are a few situated differences between the influx of organisations into a site of prospective resource exploration and exploitation and the site of a one hundred-plus year-old iron mine with a largely secured[10] future, yet these differences, especially when it comes to themes of anticipatory strategies and maintenance, are instructive. Weszkalnys' work in STP continually asks how disasters are framed and what exactly constitutes this framing to give the term disaster its meaning (2008, 2011, 2014). In relation to the social dynamics of planning infrastructure, Weszkalnys suggests that the process of extraction itself is the conversion of "geological disaster into a fungible commodity" (2014:230). At the

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[10] Seated safely within a paradigmatic narrative of technocratic faith in the future, more in an upcoming chapter.

core of this interpretation of disaster is the question of how disasters are thought, and as such acted upon: are they "natural or social events… hybrid, or as in fact generative of precisely those kinds of distinctions?" (*ibid*).

In Kiruna, there was little talk of the resettlement being a disaster in the making. Indeed, when the question of the resettlement's disastrous potential was asked, most would shoo the question aside and refer explicitly to LKAB's managerial capacity and financial dominion. Another common refrain was to a history of Kirunabor as adaptable and amenable to the mine's needs, most notably the post-war (re)constructions and the demolition of the Ön district in the 1960's (see Brunnström *et al.,* 2015). Instead, the term disaster resonated most unfalteringly with the earthquake that occurred in May 2020, three months prior to my arrival in Kiruna.

The Earthquake occurred at approximately 3am on the 18th May, 2020. That morning I woke-up in my house on the outskirts of Gothenburg to the news. A family member that also lived in the south had text me asking if I had heard the news about what had happened in Kiruna that morning. I had not, and I was startled to find Kiruna the leading news story in the national press. Aftonbladet ran with the headline "Jordskalv I Kiruna – kraftgaste I Sverige på tolv år" (Earthquake in Kiruna – strongest in Sweden in twelve years) (Fernstedt and Westin, 2020)[11]. Sverige's Television (SVT), Sweden's national broadcasting company, ran with the news on both its morning and evening news programs. Perhaps more the folly of instant reporting more than anything else, but little investigation of the causes, beyond expression of the dangers of mining generally made after such events occur, were made by these media outlets. By the end of May there was little headway made in any form of media inquiry into the causes of the quake, and the reporting by national outlets such as SVT and Aftonbladet came to a close. It was unclear what had happened structurally to the mine: the only thing certain was that thirteen people were in the mine at the time, and all made it to the surface uninjured. As a direct result of the seismic event, LKAB have slowed production rate to 85% of pre-quake levels, with little sign of re-establishing pre-quake rates in the near future.

In early August 2020 LKAB published its analysis of the seismic event, confirming publicly the causes that triggered the event, and detailing what occurred

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[11] Later, on the 26th of May, Aftonbladet returned to its true tabloid form and began leading with headlines such as "Hotet från underjorden: lät so matt en bomb exploderade" – Threat from the underworld: it was like a bomb exploded.

in the mine shafts during and as a result of the seismic activity (LKAB, unauthored report, 2020). The report states that the seismic event likely emerged from the collapse of a rock pillar that supported an area of the underground mine known as Block 22. The collapsing pillar triggered a large-scale rock failure over an area of several hundred metres. The report cites that the underlying causes were five-fold: a narrowing of the support pillars on account of an expansion of the shaft in Block 22: the complexity of the geology immediately above the pillar generated increased stress: disparity in the depth between Block 22 and Block 26 – Block 22 collapsed onto/into Block 26 – on account of a difference in the rate of excavation and extraction in each block: the use of transverse sub-level caving as a excavation technique was relatively new, meaning the advantages inferred by this method had not yet taken shape, elevating the level of stress in the rock wall in Block 22: and finally, higher stress in the rock walls that surround the underground transport infrastructure (known as galleries) of the mine (*ibid*). In short, once the pillar collapsed causing Block 22 to cave into Block 26, the seismic activity exploited the high stress areas already prevalent in the geomorphology of the surrounding rock wall.

Of these five underlying causes of the earthquake, it was the third, a disparity in excavation rates between Block's 22 and 26, that an informant gave as the primary reason for the repercussive seismic activity that resulted. The informant in question was a civil engineer (C.E.) who had worked for both the municipality and LKAB. C.E. explained to me that his job was to calculate how the impacts of the detonations underground would affect the rock wall upon which Kiruna sits. C.E walked me through the different technical aspects of the differing vibrations that can inform the extent and direction of ground subsidence in the deformation zone. We spoke over Zoom on one the first truly warm days of the year in May 2021:

Me: Do think that the resettlement could harm Kiruna?

C.E.: I don't know. It is hard to predict what will happen in the future. Right now things are okay, and we are always keeping a check on everything we can. That's what my job is, and a lot of others at LKAB are doing this too. That is why the earthquake was so unfortunate, that we did not see it coming. Now something like

that can really be harmful for Kiruna. People really felt it here, so if it (earthquake) was stronger, maybe it would have damaged some buildings also.

Me: Can you tell me more about the earthquake? From what I read in the media it didn't seem that bad.

C.E.: Yes? Well, it was big. Maybe not in the public media, but in the mining world it was huge news. Yes, that (the earthquake) was really bad, we are lucky that no one was hurt, that it was not a much bigger disaster than it was.

At this, I asked C.E some questions about probable causes for the earthquake that I had heard from both interlocutors and colleagues based in Earth Sciences, namely about the potential for shockwaves to travel faster in saturated soil and rock formations, giving a nod to the savage temperature increases recorded in Norrbotten since the 2018 heatwaves.

C.E.: No, we know that water in the surface levels cannot reach down to where the earthquake started. It was a few different things, but the most likely one (to trigger the seismic activity) was that we (LKAB) had not been communicating clearly what was happening on the different levels. We knew that excavation in one area (Block 26) was happening faster than the area above it (Block 22). Which is so stupid, so so stupid of us. But we have learnt that lesson now, and we (LKAB) are not taking any chances by speeding up the (excavation) process again. We cannot risk another event like that: we are so so lucky that no one died.

The first thing I wish to note about this exchange is that in my initial question, the harm I ask about is ambiguous, leaving the exact meaning, whether the harm is physical, social, personal, economic, or a mixture of all four is left up to my informant to decide. This ambiguity also then necessarily foregrounds any attribution of blame for the harm or damage caused. In relation to the question posed earlier regarding framing disasters in the making as conceived of predominantly as either physical or social (Weszkalnys, 2014), C.E opted to frame the notion of harm as predominantly physical and refers explicitly to the earthquake of May 2020. However, it is perhaps fair to assume that in their role as a civil engineer whose full-time occupation is

measuring and anticipating the of physical relationship between the mine and Kiruna, the earthquake springing to mind when harm is mentioned is to be expected, a prisoner of circumstance. But others, when asked a similar question regarding potential harm, damage, or comparable disastrous qualities of the resettlement would fall back on a perceived implication of physicality. M. a woman in her early thirties that works within the deformation zone responded to the question:

There will be more damage done if we were to stay here. You know the ground is moving away from us (subsiding) every day. The only danger would come if we were to stay living here where the mine will be.

One last, from an elderly man whose name I missed as he interjected into an interview I was conducting in Centrum:

It is becoming more and more dangerous to be here in Meschaplan (within the deformation zone). They are evacuating buildings all the time here because they are unsafe. Soon we will all need to be evacuated.

The potential detrimental effects of the resettlement are played off against the dangers of living within an area in which the ground is constantly subsiding at an increasingly fast pace, and where LKAB were emptying the buildings rather than maintaining them.

Both the resettlement and the danger of another earthquake hastening the evacuation of the deformation zone fall within the rubric of LKAB's planning and management strategies. Articulating the procedures of the extraction and procession of ore and the resettling of a city as equivalent – albeit a false equivalence – to each other was a common refrain among interlocutors. Statements such as, "if LKAB can be such a successful mining company, then building a city will be easy for them," a sentiment said to me by an older resident of the deformation zone, were paraphrased by a few others, tying back into the narrative of paternalistic care and Kiruna's origins as a model city.

5.8 Palliative Care of the Deformation Zone

The second point of instructive departure between the anticipatory strategies evidenced by Weszkalnys (2014) in STP and the resettlement in Kiruna is the near total lack of NGO support for those living within the deformation zone. Where Weszkalnys (*ibid*) showcases an influx of institutional support in STP in the form of NGO's "campaigning for transparency in the resource sector" (*ibid*:222), the resettlement of Kiruna has seen no such influx. In the STP example, pressing industrial, political, and financial bodies for transparency is a means of attempting to ensure that funds from local oil wells are distributed equitably among communities in STP. In Kiruna, the issue of transparency is rarely questioned, as LKAB is state-owned and publishes its quarterly financial statements online. Yet, as a result of this apparent accountability of the state, Kiruna has undergone no influx of NGO's representing community interests during the resettlement, an inverse of STP's influx, instead relying on the municipality as a voice for their concerns.

Pre-pandemic, LKAB and the municipality would host monthly joint townhall meetings on the progress of the resettlement and any concerns that Kirunabor might have about the construction of the new centre or the conditions of the current centre. As these townhalls were cancelled, instead of being moved online, during the coronavirus pandemic, I, along with anybody else, was unable to attend any. However, as my informant Ismene, a resident of the deformation zone that also works within the deformation who is in their mid-forties told me, the attendance numbers at the townhalls had started to dwindle after the former city chambers was demolished in 2017:

ISMENE The meetings that LKAB would have with us (Kirunabor) in the old stadshuset (city chambers) had a lot of people at them. People were interested back then.

Me: When was this?

ISMENE At the start, so maybe 2007 or 2008, somewhere around then. The meetings would be busy, everybody wanted to know what was to happen, when it would be happening. And the meetings started to get really busy when things started to happen. Like when Ullspiran (the first apartment blocks to be demolished) was to

be taken down, this must have been 2014 or 2015. But then the number of people (at the meetings) would drop again. And after the stadshuset was taken down, then it was like people had lost interest. It was like the biggest thing had been done, and now the move was real, so there were no longer any questions to ask. But yes, then of course came the pandemic, and now we (LKAB, the municipality, Kirunabor) don't talk to each other. It feels like since the stadshuset came down that things have really been left to themselves here (Meschplan/deformation zone)

Ismene went on to tell me about the aforementioned StadsLiv, set-up in the wake of the demolition of the former city chambers. Stadsliv's mission statement on their website reads:

> "This is Stadsliv Kiruna:
> Stadsliv works to create a happy and vibrant city. Everything we do is for Kiruna, to keep Kiruna a creative, inclusive, inspiring and happy place, regardless of whether you are Kirunabo (local) or a visitor. Together with Kiruna residents, we create life in the city centre and ensure that there are wonderful meeting places for everyone.
>
> Throughout the year we plan and arrange various events. The events are free and for EVERYONE (*cap's in original*) thanks to our financiers and partners who support our work. We do the work together for a vibrant Kiruna and a happier city." (Bergman and Jonsson, website accessed 2021, *author trans.*).

Stadsliv emerged to address absence in the provision of community care on a social level created by the local municipality and LKAB's lack of facilitating such care. Although it stands to note that both the municipality and LKAB are core funders of the charity's work, along with a local real estate company Kiruna Bostad AB (KBAB) and a host of other local and regional bodies. Recognising the need for local events and the creation of spaces of public inclusion and interaction – even on a short-term basis – within the deformation zone, StadsLiv have been attempting to address general feelings of unease and isolation that have been voiced to them by Kirunabor experiencing a growing discomfort with how the resettlement has affected the city in general, and more particularly the deformation zone.

I met with one of Stadsliv co-managers JOCASTA throughout my time in Kiruna, spending some weeks in the spring of 2021, in between local COVID restrictions, helping out with various Stadsliv's projects. The charity is indeed small, run near entirely by its two managers, JOCASTA. and E2., with voluntary help for their friends and families. One morning in early April, JOCASTA and I sat down in the kitchen of Stadsliv's offices, located on the second floor of a commercially depreceating shopping centre, a single cramped thoroughfare between eery, half-fulfilled shopfront window displays and vacant premises. A Chinese buffet restaurant had taken over a failed branch of Pinchos – a popular Scandinavian tapas restaurant that does not hesitate to credit-check its customers due to its over-wrought, app-based ordering and payment method – at the entrance to the centre, making use of the remnant décor and furniture and going so far as to rearrange the large, light-bulb inlayed 'PINCHOS' sign to read simply, brazenly, 'CHIN.' Over coffee, JOCASTA and I discussed various aspects of the role that Stadsliv fulfilled in Kiruna, which, as it turned out, centred mainly around attempting to keep some semblance of life and community spiritedness in the increasingly muted deformation zone. HENIOCHE – my informant that described the disorientating effect of the lamplight in the deformation zone – had once told me that "there is no pulse in the centre anymore. The pulse is now down at COOP and ICA." COOP and ICA are two chain supermarkets located south of Malmvägen, the arterial road playing substitute for the rerouted E10, in the industrial district of Kiruna. On relaying this to JOCASTA, they said enthusiastically, "Yes, this is it exactly. There is no pulse anymore… Of course, people don't want to go outside with corona(virus) and everything, but things have been quiet in the centre for a few years now." Watching the city empty of its of living, organic, walking and talking component giving rise to a bodily analogy is an intuitive one to make. But the bodily aspect took on a greater meaning when asking JOCASTA what Stadsliv's plans are for the future:

What we (Stadsliv) really want to do is to be able to use the empty buildings to house some art shows or something. Ideally, we would maybe use the buildings themselves, have people come together and paint them in different colours or use graffiti to tell some stories from Kiruna. Maybe tell some stories that people haven't heard before. E2. And I just think that those buildings are such a waste, and they make the centre so uninviting, so why not use them? Paint them up in bright colours,

or in any colours and use them in some way so they are not just sitting there. Maybe in that way we give the city some life before it is torn down.

What JOCASTA is aiming to achieve by bringing the buildings directly into a practice of engagement with locals is akin to what Caitlin DeSilvey has called "palliative curation" (2014: 2017: 2020).

Situated within the theoretical context of critical heritage studies (Harrison and Sterling, 2020, Olsen *et al.,* 2021), DeSilvey's (2014, 2017) palliative curation is a means of reckoning with ruination (DeSilvey and Edensor, 2012) in which site of investigation "expose(… themselves) as compromised and incomplete (…) It is a space of possibility—possible 118epicted118ng as well as coming together" (DeSilvey, 2017:116). Ruination then contains a dual possibility and can be used as a lens to view Stadsliv's desire to realise potential projects among the dilapidation of the deformation zone and engage affectively with materiality. The buildings' degradation becomes not merely representative of physical conditions within the deformation zone, but acts as a proxy for the economic, social, and political conditions through which living conditions within the deformation zone were sustained prior to the zone's ruination. Using palliative curation as a branch of critical heritage allows for the role of memory to be integrated with the work of mourning. The act of mourning is central to palliative curation. As a mode of consoling the self in times of loss and precarity, mourning is an active pursuit and ritualised practice connected directly with the observation of objects that embody and act as a proxy for the non-discursive aspects of the lost relationship (Miller and Parrot, 2009, Silverman *et al.,* 2021).

In *Precarious Life: The Powers of Mourning and Violence* (2004), Butler uses mourning as a conceptual suspension through which a Self/Other binary is dissolved. In the following extract, Butler opens-up a discussion about what, socially and personally, is at stake when loss is articulated, speaking to entwined emotional and social attachments between humans.

> "When we lose certain people, or when we are dispossessed from a place, or a community, we may simply feel that we are undergoing something temporary, that mourning will be over and some restoration of prior order will be achieved. But maybe when we undergo what we do, something about who we are is

revealed, something that delineates the ties we have to others, that shows us that these ties constitute what we are, ties or bonds that compose us. It is not as if an "I" exists independently over here and then simply loses a "you" over there, especially if the attachment to "you" is part of what composes who "I" am. If I lose you, under these conditions, then I not only mourn the loss, but I become inscrutable to myself. Who "am" I, without you? When we lose some of these ties by which we are constituted, we do not know who we are or what to do. On one level, I think I have lost "you" only to discover that "I" have gone missing as well. At another level, perhaps what I have lost '"in" you, that for which I have no ready vocabulary, is a relationality that is composed neither exclusively of myself nor you, but is to be conceived as the tie by which those terms are differentiated and related…" (Butler, 2004:22)

The suggestion here is that when a human-human relationship breaks down and is lost, what is also lost is a part of ourselves. Yet, using the idea of palliative curation to reframe Butler's position through the lens of materiality and critical heritage studies, the dissolution, in loss, of a Self/Other binary can now incorporate human-nonhuman relationships among my informants in Kiruna.

Reconceptualising Butler's position here highlights two interlinked and underlying conditions of life within the deformation zone. Firstly, that my informants' notions of their own personhood are entangled with, and distributed among, Kiruna's physical landscape. As such, any loss of this environment has the capacity to be felt deeply and personally, and therefore require mourning. Secondly, Butler sets her context for loss as violence-based displacement. In doing so, the question of what constitutes violence regarding human-nonhuman relationships are made central to interpreting the conditions of Kiruna's resettlement.

5.9 Summary

In highlighting the disjuncture between LKAB's alleged care for the inhabitants of the deformation zone, and the ruination of the material conditions within the zone, this chapter infers a continuation of the narrative tensions of Chapter Four. By this, I mean that the care the mine professes for the town is little represented by the evidence the materiality presents. Here, the materiality of the deformation zone speaks to the corporeality of economic and political neglect of the zone and its inhabitants.

Ending on the implication that Kiruna's resettlement process is a form of structural violence provides the foreground for chapter six to dive deeper into the definition and role of violence in realising the mine's expansion. Focusing on the formulation and deployment of the development plan through which the resettlement occurs, chapter six continues the attempt to identify the care for Kiruna's inhabitants that LKAB profess to incorporating explicitly into the generation of the new centre.

Chapter Six

The Plan

6.1 Introduction

In framing the ruination of Kiruna's deformation as a direct product of cost-benefit mode of development planning in relation to the resettlement, I point towards the mode of infrastructural analysis through which the resettlement plan operates. Indeed, the plan from which the resettlement stems and through which it is negotiated and enacted is called the "detailed comprehensive plan" (DCP) (*fördjupad översiktsplan*)" (Kiruna Council, 2006, 2014, 2018, 2021).

The resettlement plan is defined as part of Sweden's Planning and Building Act (2010), the framework legislation that organises spatial and planning aspects of land-use on three governmental scales: national, regional, and local/municipal. State bodies such as the Swedish Transport Agency (*trafikverket*), the Swedish Environmental Agency (*naturvardsverket*) and the Swedish Energy Agency (*energimyndigheten*) are the three key actors through which the state organises the use of land in Sweden.

As such, it is necessary to foreground the role that planning bureaucracies play in the deployment of Kiruna's resettlement. As Laura Bear and Nayanika Mathur note in *Remaking the Public Good* (2015), bureaucracies are the networks through which public interests and desires can be made into political and material realities, yet they harbour an equal, if not deeper, capacity to make political decisions more opaque and obscure to the public they ostensibly seek to serve. Hannah Arendt first developed the notion of bureaucracy as a means of implementing structural violence away from any effective means of interrogation and accountability in her book *On Violence:*

> "In a fully developed bureaucracy there is nobody left with whom one can argue, to whom one can present grievances, on whom the pressures of power can be exerted. Bureaucracy is the form of government in which everybody is deprived of political freedom, of the power to act: for the rule by Nobody is not

no-rule, and where all are equally powerless we have a tyranny without a tyrant." (1970:84)

David Graeber (2015) takes Arendt's case for bureaucracy as a mode of tyrannical rule and operationalises it to show the extent to which capitalist bureaucracies serve explicitly to render rote decision-making non-transparent, noting that transparency in practice involves the creation of yet more bureaucracies to account for the paperwork that is seen to render transparency. In the Swedish context of social democracy, bureaucracy as a governmentality and means of impeding public access to the processes of development has been evidenced by anthropologist Benedict Singleton *et al* (2021). They argue that Swedish institutions retain a strong ability to reinforce or delimit power asymmetries through the distributed power of Sweden's socially democratic model of governance. This occurs, Singleton *et al* (*ibid*) note, through the (re)production of norms and values that are either included or excluded in policy documents. However, the complexity of negotiations by which the documents are produced, and the trade-offs made to produce them disparage public participation, leading to a favouring of plans that produce financial growth (see also Boholm, 2013, Abram 2014). The couching of Kiruna's resettlement plan within the complexity of the broader Swedish state bureaucracy is key to my informants' feelings of alienation from, and rejection of, the decision-making process by which the resettlement takes place. This alienation and rejection work's in favour of LKAB's ambitions to accumulate resources through the expropriation of the deformation zone.

What follows is an examination and analysis of the in-built opacity of Kiruna's resettlement plan as it is encountered by my informants, and how this opacity works in favour of the political economy of LKAB at the expense of my informants living within the deformation.

6.2 What is the plan?

"The community in Kiruna has throughout its period of operation, been dependent and characterized by the obvious proximity to industry, in this case the mining giant LKAB. The old expression in the ore fields that – when LKAB has a cold, well then the whole community sneezes, has taken on a new and visible meaning due to the changed conditions in Kiruna."

Curt Persson, Kiruna – industrial society in change, I: Norrbotten Museum, 2005

The detailed comprehensive plan (from here, DCP) was drawn up and signed off by Kiruna Municipality in 2006, two years after the public announcement of the resettlement. As design historian Jennie Sjöholm notes:

> "The detailed comprehensive plan (fördjupad översiktsplan), approved by the local authority in 2006… stated 'it is technically possible to move almost all types of buildings. That means it is fully possible to move larger buildings such as the Town Hall, the church, Bolagshotellet and Hjalmar Lundbohmsgården' (Sjohölm, 2016:49).

At root, the DCP lays out an approximate timetable of effects from the ground deformations and how the municipality will respond to them. Kiruna Council's published overviews of the agreement (Kiruna Kommun, 2006 and 2008) deal explicitly with the mechanics of the resettlement: which areas will be affected – focusing particularly on transport infrastructure: the railway line and E10 motorway – in relation to geological disruption and the financing of the resettlement. The DCP also outlines various alternative paths the resettlement can unfold along, such as different potential locations for the new centre, options for which buildings should be preserved as built heritage – both local and national – and what form this preservation should take, i.e reconstruction or relocation, in-part or wholly?[12] These

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[12] Sjohölm's (2016) reading of the processes and mechanisms by which heritagisation is assigned or stripped from Kiruna's built environment are instructive. Sjohölm uses archive material from Kiruna Kommun's meetings with LKAB and public consultations regarding the resettlement to tease out how the plan operates at the nexus of local and regional politics, private investment, state interests, the materiality of Kiruna's built environment, and the act of ordaining a collectivist historicism through processes of heritagisation.

portions of the plan act as built-in grey areas designed with the intention of allowing revisions to be made over time and are grounded in a historical-geographical rendering of materials, meaning, and economic and welfare security as an urban development plan.

What Kiruna Council's own records document is a long-term plan continually revised and renegotiated. Acting as a kind of living contract, the resettlement plan is designed to address the complexities and unforeseen circumstances that may arise from undertaking such an unprecedented and largescale industrial development project that would affect urban and social infrastructure. Central to these negotiations and revisions is the status of buildings within the deformation zone that are regarded, both locally and nationally, as cultural artefacts. Indeed, Kiruna itself was listed as a site of national industrial heritage, in part on account of the City Plan's architectural innovations and the model city the plan sanctioned (Sjohölm 2016). Bound up within these negotiations and told through the way in which heritage status is firstly given, and then revoked are the power dynamics between those within a nexus of public and private, state and local, actors and the legal and economic obligations through which they are governed. The Swedish Minerals Act (1992) has a primary role to play here in establishing legal obligations and determining the economic obligations the mine must fulfil in order to expand. The SMA is a legal ruling made by the Swedish parliament that ensures that any and all damage done to public infrastructure and private property through resource extraction must be compensated financially by the mining company. What the SMA does, in theory, is bind LKAB to pay reparations for any damages done to Kiruna through the continuation of their mining practices. In practice however, the SMA does not stipulate how the value of heritage objects is calculated or the number of payments that must be made for repeated damage to the same piece of infrastructure.

LKAB's decision to pay for the construction of an entire city centre complicates the implementation of the SMA as a state sanctioned mandate in relation to Kiruna's resettlement. A case in point that demonstrates the exploitable grey areas of the SMA in relation to the resettlement is the debate surrounding the construction of a new railway station in the centre of Kiruna's new development.

Figure 19: Visualisation of Kiruna's new city centre made as part of White Arkitekter's competition winning Kiruna 4-Ever city design and architectural plan. The new railway station can be seen on the right of the image, located in the heart of Kiruna's new centre. Image courtesy of White Arkitekter (2014)

6.3 Contested Infrastructures

> *"Neither cities nor places in them are unordered, unplanned: the question is only whose order, whose planning, for what purpose?"*
> Peter Marcuse, Not chaos, but walls: postmodernism and the partitioned city, 1994

In 2014 the architectural firm White Arkitekter submitted the above image as part of their winning proposal to design Kiruna's new city centre. White Arkitekter promised an "unparalleled opportunity to transform Kiruna into a vibrant, low impact and economically diverse urban hub for current and future generations" (Sjöholm, 2016) via a self-contained, enclosed new centre. White Arkitekter's Kiruna 4-Ever design was itself an exercise in projecting a past recursively into the future by echoing Ralph Erskine's 1958 Ecological City design[13]. Erskine's plan never fully realised, but design illustration and schematics were commissioned by LKAB in the boom

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[13] Erskine said of his design: "Both houses and cities must unfold themselves as flowers do in the summer sun, but also like flowers should turn away from shadows and cold northern winds, providing the warmth of the sun and wind protection to the terraces, gardens and streets. They should be totally different from those buildings with columns, cities with porticos and sunny streets from Arab villages and southern Europe, although very close considering their main goal: help people keeping their body temperature at comfortable 35º. We would not be interested in forms wile studying these southern villages, but surely about their inventiveness and art by which the solved different problems, the beauty they achieved" (Maudsley, 2020).

years during and after the second world war (Konstmuseet I Nord, 2020), and have been referenced as a source of inspiration for Kiruna's new centre by White Arkitekter (2014).

Figure 20: Ralph Erskine's illustration of his arctic ecological city, designed on behalf of LKAB as they sought to expand the town during the 1950's in the wake of a boom period facilitated by the sale of iron ore to Nazi Germany during the Second World War. Note the high-sided apartment blocks that ring the margins of the city, enclosing the interior and protecting it from high winds. This feature is key to White Arkitekter's design. Source: ArkDes Collections, (1986)

Being a city contained by high-rise apartment blocks that envelope an open-plan centre, as White Arkitekter demonstrate through their illustrations, is dependent upon transport infrastructure that permeates the boundary from city interior to exterior. The train station, symbolic of the first significant migration of mine workers north into the orefields (Viklund *et al.,* 2015), being in the centre of the new city was key to this line of architectural thinking and city planning.

However, due to the railway line running along the immediate eastern edge of the mine's former open-pit, and as such the site of the first ground deformations encroaching eastward from the mine, the railway line and the railway station were

among the first pieces of infrastructure to be demolished. In 2015 the railway line was dug-up and re-routed around the tailings pond on the western edge of Kiirunavaara, so that it now entered the city from the north. The railway station was evacuated and eventually demolished in 2016, an act which drew some criticism from Kiruna's inhabitants that wanted some of the building preserved:

> "The County Administrative Board decided to repeal the protection of the railway station (County Administrative Board of Norrbotten 2011a). The decision was motivated by two factors: first, the estimated risk of moving the full volume of the building and second, the calculation that dismantling and rebuilding the railway station would be unreasonably costly compared to the heritage values of the building. The heritage values of the Kiruna railway station were assessed in comparison with other listed Swedish railway stations: there is documented knowledge about historic railway sites and a representative selection is protected, according to the County Administrative Board" (Sjöholm, 2016:56)

A new, make-shift temporary station was erected using four cargo containers, insulated and with windows installed, at the foot of Luossavaara.

As my informant in the public relations offices (PR) of LKAB made clear, LKAB paid for the re-routing of the railway line and the construction of a new station, both outside of the deformation zone and therefore stable and safe to inhabit for the foreseeable future. PR was a man in his late-thirties who had moved to Kiruna in 2008 to join the mine's public relations team. LKAB's argument was that they had, as such, freed themselves of the obligation to pay for any further development relating to the railway line or a new station:

PR: *"We have already paid once for a new railroad and a new station, so really we should not have to pay again. Besides this, the decisions about the where the railway should go and where a station would be are between the railway authority (Trafikverket) and the municipality, and we paid the municipality the money to make these decisions, it is not our (LKAB) fault if they spend all the money on something they don't want."*

These sentiments were echoed by LKAB press officers in local news reports, "What now remains for LKAB to pay is for the current investigation regarding the location of

a new railway station, provided that the scope of the investigation is within reasonable limits" (Sternlund, 2020).

Although the disagreement between the municipality, LKAB, and Trafikverket seems, as of summer 2022, to be resolved, the tension between the three reveals an exploitable loophole in the SMA ruling which LKAB sought to take advantage of to protect their financial margins. The palimpsestic layering of complexity within Kiruna's resettlement plan is shown here to harbour the capacity for LKAB to enact nefarious legal circumventions that reinforce the mine's dominating political economy within Kiruna (Carter *et al.,* 2015).

6.3 Temporalities of the Resettlement Plan

"Maybe when people longed for a thing that bad the longing made them trust in anything that might give it to them."
Carson McCullers, The Heart is a Lonely Hunter, 1940

Yet, LKAB's initial opposition towards paying for a new train station also meant the public airing of the mine's capacity for self-interest during the resettlement. Kiruna's inhabitants, especially those living within the deformation zone, responded to LKAB's display of self-interest during the next government election. In 2018 Kiruna elected its first chairman of the municipal board from the Centre Party (*Centerpartiet*), moving away from, and to the political right of, the Social Democrats the town had repeatedly elected over the past one hundred years.

In 2018 Gunnar Selberg's campaign for election ran on a ticket that painted LKAB as having only the state's interests at heart. That LKAB were not taking into account the considerations of the residents of Kiruna going into what would be the most crucial period of the resettlement, the evacuation and relocation of the inhabitants of the deformation zone was key to his election strategy. Once in office, Selberg positioned himself as a tough moderator and publicly-minded arbiter in the resettlement negotiations. However, it quickly became apparent that Selberg was far from an able politician and negotiator, resorting to social media to report on council meetings with LKAB. These reports were often twisted representations of what had occurred, biased in favour of Selberg, painting himself in either a heroic light, or steadfast stoic martyrdom: some of my informants had taken to calling Selberg "Kiruna's Trump."

I raised the issue of Selberg's ad hoc and performative approach to an informant within LKAB's planning offices, this department was in near daily contact with the municipality and would engage with local council members over the planning and implementation of the resettlement.

Me: Do you worry about how Gunnar Selberg publicises your discussions on social media?

Pl.O: No, we do not worry about him. We know what we are getting into when we have meetings with him. In the meetings he's actually very agreeable too, so sometimes it can be strange to read what he says after our meetings.

Me: So, what he writes, if he is criticising what you are doing, doesn't have any impact on what you are doing? I mean, you don't have more people asking you what you are doing or why you are not taking care of things in Kiruna now or anything?

Pl.O: Maybe there are some more people that say to us, 'you don't know what you are doing: you are not listening to Gunnar when he says this and that,' but we know that they don't have the full story from Gunnar. In the meetings themselves, if Gunnar tries to get us to give him more money because he feels we are not taking care of something we just hold up the master plan and say that everything is in here: it is all agreed already with his predecessor and is in here: 'if you care to read it, please do and you will see.'

Me: I thought the municipalities had final say on decisions about development projects?

Pl.O: Well, they do and they don't. First of all, this plan was signed off in 2014 and there has been little revisions since, but nothing major like what Gunnar wants, especially with money. And then, yes, of course the municipality has the last word, but we all have to agree first. The regional council, heritage board, the transport agency, the workers unions, and then the municipality can say, 'okay we can go ahead,' or, 'no, this is not good enough.' It is a little more complicated than how you

put it, and it is a long process. We started the negotiations in 2004 and the plan was signed in 2014, but we are still making little adjustments to it today.

As my informant PI.O notes, the process by which infrastructural development projects are green-lit by municipalities in Sweden is a long and complex process, involving multiple actors, both private and public, including consultations with labour unions, local and regional councils, state heritage, transport, water, and environmental protection agencies. The duration of the formation of such plans, especially large-, verging on mega-, scale development projects, as my informant explains, is often a function of the complexity of obtaining consensus agreement among all parties.

Anthropologist Simone Abram (2014) discusses the complex disparities that occur between economic, bureaucratic and experiential temporalities when both public and private actors are brought together with the aim of redeveloping urban infrastructure within the context of Swedish state social democracy. As Abram (*ibid*) notes, the focus of the private sector within development plans privileges neoliberal time, meaning the maintenance or intensification of the velocity of commodity exchange, the primary driver of which being financial growth within the I marketplace (see also Gunder, 2010, Baeten, 2012a &2012b). As neoliberal time permeates from LKAB's need to keep pace with the I iron market across Kiruna's local party politics and into the public sphere through the resettlement plan, direct clashes between public expectation, municipal capacity, and private directives occur. As my informant notes, all three of these aspects have been skewed, either emphasised or downplayed, for dramatic effect by local municipal chairman Selberg. Still – and perhaps even more-so – each of these clashes remain central to a conflict between the linear temporality of planning by private sector actors, and the non-linear, phenomenal aspects of development projects as they are encountered on-the-ground by the public.

Conflict such as this is also indicative of what Carter *et al* have termed a "planning palimpsest" (2015:1), the layering of multiple actors through institutional projects that become embedded in and articulated through the material forms the plan proposes and builds. Furthermore, a palimpsest layers conflictual encounters, experiences of, and motives for, development planning into a single planning document, the temporality of which is predicated on the imposed linearity of the

neoliberal marketplace. It is this tension between the linear, singular notion of temporality within development plans, and the non-linear, multiple overlapping temporalities of the public and private actors the plan engages with, that shifts the resettlement of Kiruna from being a component of a complicated system, to being the product of a complex one (*ibid*).

6.4 Complexities of the Resettlement Plan

"A complex system is not the same as a merely complicated system… [which] responds to a stimulus… in a linear and predictable fashion (…) Its components form a self-organised network, which responds to pressure in spontaneous and non-linear ways"

George Monbiot, Regenesis, 2022

Complexity in planning, as it relates directly to the Swedish social democratic state, can be multiplied and compounded through its guiding principle of finding consensus among each actor throughout their overlapping and disjointed needs and wants from the development project. Åsa Boholm (2013) details the complex entanglements between state governance, private finance and the public as they attempt to create a consensus plan within Sweden. It is from this political-economic context that Boholm coins the the term 'hypercomplexity,' using it to describe the multiple negotiations, trade-offs, agreements, sacrifices and renegotiations through which consensus agreement much be reached.[14] A proposed plan will undergo renegotiation at various stages, through conception, development, implementation and construction. At each stage the variegated temporalities of each actor must attain a semblance of resolution for the project to continue. In relation to the resettlement of Kiruna, Sjöholm (2016) describes in detail the processes by which Kiruna's former city chambers was stripped of its heritage status which ultimately led to its demolition to make room for the expansion of the mine. The convoluted process is key to underscoring the complexity of how Kiruna's resettlement plan plays out, and how its inner workings are rendered 'invisible' (Hanafi, 2009, 2013) to Kiruna's inhabitants, allowing for LKAB to foreground their interests in the negotiations.

What Sjöholm (2016) lays out is a process of urban development that occurs across multiple private, public and political scales – local, regional, and national –

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[14] The term "consensus" in Swedish governance however has no clear definition, and as Abram (2014) shows, local municipalities often hold the balance of power in development planning.

that is enacted through Kiruna's DCP. It is important to note that the majority of the deformation zone in Kiruna is has been awarded national heritage status (*ibid,* 2020):

> "National interests are designated by the national agencies, such as the National Heritage Board, and then supervised at the regional level by the County Administrative Boards. The local authorities are responsible for specifying in which way they will protect national interests through comprehensive plans. However, if the comprehensive and detailed development plans fail to comply with the Planning and Building Act, or to maintain the national interests, the County Administrative Boards can reject the local authorities' plans (…) (There are) six sets of stakeholders with power in (the) development of public space: land and property owners, regulatory bodies, designers, communities, long-term managers and users over time. A stakeholder's influence depends on their aspiration and the skills of parties involved, which change over time within any development project." (*ibid*:22)

The discussions and interactions outlined by Sjöholm above occur at the level of the boardroom: behind closed doors and although conducted by public administrative bodies, away from direct participation by the public themselves. In Kiruna, the decisions that stem from discussions at the local level, between private and public stakeholders are passed up to Norrbotten's regional council board, housed in Luleå, approximately 400km south-east of Kiruna. Once agreements are made there that take into account national policies on such matters as heritage sites, environmental concerns, building materials, for example, then the decisions travel back through the same bureaucratic system for debate by authorities at a local level again. This goes on continuously until consensus is reached. Over time – the time necessary to accrue enough of a consensus before the plans can enter the next stage – the public can lose not only interest, but also the ability to know just exactly what stages the planning processes are at. In the context of Swedish consensus planning, it is important to note, as Abram's (2014) does, that

> "Swedish municipalities have a monopoly over municipal planning. As one municipal planner explained: 'The whole legal apparatus is built on the principle that, quite simply, the local society decides over conflicts', but this definition does little to illuminate how 'local society' is constituted. Local politicians claim a privileged ability to understand local society holistically and thus to represent collective interests" (*ibid*: 138).

In theory, local municipalities articulate a finalising control over the procedure of planning, positioning themselves as a collective body of actors ordained by public vote into a position of authority, assigned to negotiate and deliver a more inclusive, consensual plan.[15] Yet in practice, this may not be the case, and especially so when it comes to the resettlement off Kiruna.

The alienation of the public came up throughout multiple interviews with informants, especially those living within the deformation zone, engendered by the complexity of the intra- and inter-scale administrative bureaucracies through which Kiruna's resettlement plan has been devised. Most poignantly was my interview with Ismene, a woman in her early fifties that works within the deformation zone. ISMENE is originally from Malmberget but moved to Kiruna after the expansion of the open-face Admiral Pit on the outskirts of Malmberget forced the closure of her parents' business and completely devalued their home prior to the mandating of the SMA as policy. It wasn't until going back through the transcriptions of my interviews with ISMENE that I realised she never mentioned LKAB by name, always referring to the mining company as 'them,' or 'they,' indicative perhaps of the emotional wake left by LKAB's decision to expand the Admiral Pit at the expense of those whose lives were cultivated along its margins.

*Me: Do you keep up with what is happening with the resettlement? Did you go to any of the meetings LKAB used to run at the old city chambers (*stadshuset*)?*

ISMENE Yes, I would go to the meetings: not all, but some. I would try to keep up with what was going on, when such-and-such a building was to be moved or what was happening with the railway or the roads. But it became harder to do so (stay informed)*, not only because of COVID, but in general it was hard to know what exactly was happening.*

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[15] The notion of local municipalities holistic knowledge of a city or region (as totalising concepts) is problematised by Pink's (2008) paper on sensory sociality. As towns and cities do not have fixed social boundaries, real-time social demographics tend to fluctuate, and are generative of, and constituted by, porous social dynamics. Through this dynamic porosity comes a multitude of ontological, phenomenal and temporal divergences and convergences, highlighting local municipalities' only ever partial ability to know and therefore "mediate (these) divergent representations, techniques and rhythms of human and nonhuman time" (Bear, 2014:6).

Me: What was making it so hard to keep up?

ISMENE At first everything was so slow, nothing seemed to be happening but there was always meetings. They (LKAB and municipality) *would put things in the newspaper asking for our opinions on how things should be done: to come to such-and-such a meeting and tell them what we wanted.*

Me: When was this?

ISMENE This is around 2005 or 2006, that's what I remember anyway, that's when it started. And it seemed like every week they would ask us what to do with the new city. So we would go to the meetings and they would be busy. But nothing seemed to be happening. Everything was so slow: for years nothing happened. And when they came back to us, it was as if they had not listened to what we had asked (of them) *at all. By the time everything is happening, like the city chambers are coming down and all the buildings are being bought up and you are being asked to sell your home and move, you can't do anything about it. It is like the wheels are already moving and you have to be onboard or else you are left behind.*

Me: Is that how you are feeling now?

ISMENE I don't know: yes and no. I have seen this before so maybe it is a common feeling for me. It makes you wonder if you have any power at all in their decisions, and why they would be hosting such meetings if they weren't going to listen to what we had to say. Like maybe they didn't learn anything after Malmberget. It makes me think that they (LKAB) *have all the power: I know they have all the power, they have always had the power to do what they like here.*

Among charting the disaggregate temporalities of consensus planning outlined previously by Abram (2014) and Boholm (2013), and an inherent pessimism common to those experiencing the on-the-ground effects of planning processes (Campbell *et al.,* 2013), my informant ISMENE centres on questioning how the

hierarchal structures of deliberation and governance are composed in relation to Kiruna's resettlement.

The question that ISMENE raises over who is in control of the planning process and its implementation is one of political economy, given the outsized role of LKAB in not only the local economy, but regional and national GDP as well. LKAB is Norrbotten County's largest private employer, with approximately 4,000 members of various communities (Sjöholm, 2016) working in different branches of the mine's operation: vehicle mechanics, geologists, cleaners, receptionists, office workers, tour guides, public relations, train drivers, the business ecosystem stretches far and wide.

Mining companies are unable to initiate and direct the planning process, as this must be done through local municipalities. Therefore, collecting environmental impact assessments (EIA's), convening public and trade union consultations, and the selection of architects and construction companies are all in the hands of the local municipality. The ramifications of the SMA's legal ruling marks a deepening of the legal distinctions between who funds the plan, and who enacts its procedures[16]. What this means for the resettlement in Kiruna is that, again and in theory, the majority of the decision-making power lies with the municipality. As my informant in LKAB's public relations office put it, "we are bound by the Minerals Act. We must pay for every building and road that we put at risk. And we are happy to it pay it, as long as it is already in the agreement with the municipality." And yet, as another informant claimed, a former consultant (FC) on the original design plan for the new Kiruna back in 2004, LKAB have been far less than passive than they claim to be.

During the end of my interview with FC, and being sat publicly in a small café in the deformation zone, a person at the table (PT) next to us, who had been listening in and as it turns out, knew FC from a previous role within LKAB, leant over to give us their input on the resettlement:

PT: Excuse me, sorry, I just want to say that from my experience, the municipality has been unreasonable in the past. They can't expect so much money from LKAB and then demand more when they want it.

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[16] The SMA was made law in 1991, which, as was suggested to me by an informant within LKAB, was likely a direct result of the financial loss suffered by the inhabitants of Malmberget on account of the destruction caused by the expansion of the Admiral Pit on the margins of the town throughout the 1980's.

Me: You mean with the railway station?

PT: Yes, for example, that. But they (municipality) *do this in meetings all the time, 'we need more money for this, and more money for that,' when LKAB is already paying them so much money.*

Me: Can LKAB refuse to give them (municipality) *money? Can't they* (LKAB) *refuse to move the town altogether and just pay for the damages the mining will cause?*

FC: (laughs to himself, saying this as much to PT as to me) They (LKAB) *have done that in the past, they have threated to not move the town unless they get what they want a few times. But I can't say more.*

LKAB's hard bargaining techniques, although only briefly mentioned here by my informant FC, have been well documented in the council archives, which keep a record of the discussions between mine and municipality. LKAB would often allude, and at other times explicitly state, that they viewed Kiruna as existing as an extension of the mine's property. In a meeting in 2004, then LKAB CEO Martin Ivert claimed that "75% of the areas that will be affected already belong to LKAB. From that viewpoint this is not so dramatic," (Alfredsson, 2005:8) in response to Kiruna's then mayor Kenneth Stålnacke stating publicly: "Kiruna must not become the new Malmberget," (Salomonsson Juuso, 2004:34) Ivert was referring to LKAB's historic claims to the land upon which the company town was first built during the City Plan (see Chapter Four).

Both the interview at Café Safari and the archived statements from LKAB attest to the skewed power dynamics present throughout the open-ended planning phase of Kiruna's resettlement. To evidence how these power dynamics play out on-the-ground in Kiruna, and how they are made obscure by the planning process itself, it is necessary to turn now to a case study from on the restaurant SPiS, situated within the deformation zone.

6.5 Spatio-Cide

"A city which belongs to just one man is no true city"
Sophocles, Antigone, 441BC

Situated behind the bus station and less than five minutes-walk from the site of the former city chambers is the hotel, hostel, delicatessen, and restaurant SPiS. In English, 'SPiS' translates to stove, but the word more closely relates to those cast iron ranges built into the walls of 19th century homes, serving as both a cook-site and heating system, and as such, a hearth. It is a name that SPiS more than lives up to, being a restaurant that is locally owned and run. It was a place I was consistently recommended to visit by my informants, and a business that took an active part in the community. The owners would run weekly competitions between other local businesses, asking two to curate their own burger which people could purchase and eat every Wednesday and then vote for their favourite on social media in a winner-stays-on format: while I was there, the police stomped every competitor for a five-week period with a simple but rich bacon and cheese number. I have a personal history with SPiS, starting back in in 2016 when plans fell through with a potential informant and I arrived in Kiruna in mid-April with nowhere to stay. I have vivid memories of stumbling off a rail-replacement bus into six-foot snowdrifts whipped-up by a serrating wind after a near thirty-hour journey with no place and to stay and no prior experience of a sub-Arctic winter-spring. SPiS was the first place I found that looked open, and they set me up with a bunk in their basement hostel. I spent most of that week hunkered in the bar area of their restaurant, very well taken care of, speaking warmly with the staff, and meeting a mix of locals, nationals, and foreigners, while waiting patiently for news of a place to stay.

As of May 2021, the owners of SPiS were notified by the municipality that they would not be able to relocate to the new centre. The inability for SPiS to relocate, along with other flagship local businesses meant that their current premises would be bought by LKAB without a new place to move to, forcing the owners to relocate outside of Kiruna. The owners of SPiS took to Facebook in late-May 2021 to announce publicly that they had just been told the failed outcome of an appeal they made to the municipality and LKAB to be included in the new centre, to which there was an outpouring of support and a measure of grief at the loss. SPiS is owned and run by two men, in their 40's, both with the same name. J1 is a large, squat, jocular and talkative, his friend and co-owner, J2, is his opposite: quiet and of medium build. I sat down for an interview with both in the new conference room they had just renovated in the basement, two-days after they had made the post on social media:

Me: Why did you decide to post your video on Facebook so quickly after you had heard you would not be moving to the new centre?

J1: Well, it has not been so quick, as you say. In reality we have been trying to get an answer from LKAB and the municipality about when we would move for five or six years now. Since 2016 at least. But, we have also been in discussions with the municipality about what is happening for longer than that, maybe since we first opened SPiS in Kiruna.

Me: When was that? Can you give me a bit of the history of SPiS?

J1: Of course: we opened first at the airport, inside the airport terminal, on 1st January 2012. We were just small back then, but we had plans to move to the centre when we could. I think we have always been popular with the locals, so being out at the airport did not matter. In 2014 this place was a Chinese buffet restaurant and hotel, and they were looking to sell so they could move. This building was perfect for us, we had been looking at it since we came to Kiruna with SPiS because it has everything we need: the big kitchen with the special ventilation (for wood-smoking ingredients) *and the big delivery door at the back so we can take in things for the delicatessen. It was really a perfect fit for what we wanted to do with SPiS, so we made the owners an offer and they said we had to take the hotel and hostel as well, so we said 'okay' because we wanted this building so bad* (laughs)*. We knew when we bought it that we would have to move with the city when the time came, so when we had moved in and had everything set-up we went straight to the municipality so we could know what to do, when they would start to move things and how we can be a part of that.*

Me: When was this?

J1: This is in the end of 2015, maybe January or February 2016 was when we first spoke with the municipality about the move. But you know, they were never straight with us about the move. I said this in the video, LKAB and the municipality were not straight with us about the move. They said that 'of course we want you in the new centre, you are such an important part of Kiruna,' so we thought that we (would) move with the other stores here. We went to the meetings they had with the stores and listened to their plans to include everyone in the new centre: how we would get a

deal on rent for a little while there. We would go to them to say what we needed to move there and they would say 'later later', 'yes you will be in the new centre,' 'yes, you are included, don't worry,' but it was hard to know if they were listening to us.

Me: What were you asking them?

J1: We needed to make sure that they would build a building for us with special specifications like we have in this building. We need special ventilation, and the big refrigerators you seen for the beef and the pig in the delicatessen, and the delivery door so we can take deliveries for the store.

Me: So, you were being told that these things would be built for you?

J1: We were told that 'yes, that would be taken care of,' but we never got to see any of the designs or the plans until they were finished and they would come to us and say 'look, this is where you will be,' and we would tell them that it is not right for us, that we can't move into there the way it is.

Me: How long did this last?

J1: They didn't solve it: it is the reason why we made the video. They came to us with the latest plans and said 'these are the final plans, we don't have time to change them again, do you still want to move?' and they hadn't prepared anything for us so we told them that we cannot move to the new city.

Sari Hanafi's "spatio-cide" (2009, 2013) is relevant here in the concept's capacity for articulating structural forms of neglect and slow, incremental violence as "crimes committed on drawing boards and by buildings and infrastructure" (Weizman, 2017:133&134). As Hanafi (2009) puts it, the term spatio-cide is designed to address the misleading typology of 'low intensity conflict,' as it relates to Arab-Israeli relations concerning the occupation of Palestine. This typology is misleading, Hanafi suggests, on account of the lack of capacity it gives to addressing "space and land: dispossession, occupation and destruction of (…) living space" (*ibid*:106), which in the context of Israeli occupation, often occurs as part of planned 'development'

projects. The primary conceit of spatio-cide is that it is a wilful targeting of land, not of people, as a means for circumventing accusations of direct, physical, expropriating violence by an occupational force.

Hanafi's spatio-cide emerges from the explicitly violent, deeply contentious, and overtly conflictual nature of the Israeli occupation of Palestine. The concept is, however initially politically situated, useful for illuminating an integral aspect of the structural violence at work in Kiruna's resettlement. Primarily, spatio-cide as a means of infrastructure development and the territorial expansion it demands. Enacted by socially disenfranchising communities, "spatio-cide (as) policy is the potentiality of a structure of juridicial-political delocalisation and dislocation" (Hanafi, 2009:106). Delocalisation and dislocation – a detachment of the decision-making process from Kiruna as a political locality – occurs at the level of the boardroom and seeks to reduce or make invisible the demands and concerns of the communities it acts upon through both physical distance and the labyrinthine bureaucracies of development planning. This form of structural violence must be viewed as a form of "environmental violence" (Weizman, 2017:118) nonetheless. As Weizman notes of Rob Nixon's work on the asymmetries and power imbalances of environmental destruction, environmental violence is slow and "occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an additional violence that is not typically viewed as violence at all" (Weizman, 2017:118). As the title of the concept suggests, this violence is perpetrated against bodies and psyches as proxy of the environment, speaking to the vulnerability of people entangled with place.

The history J1 gave me of continually seeking confirmation that he and his business would have the adjustments made to secure space in the new centre highlights what Hanafi termed "institutionalised invisibility" (2009:107). The rendering 'invisible' of the violence and its perpetrators via its containment in, and expression through, a bureaucracy which disburses accountability throughout its network is the primary practice of spatio-cide (after Arendt, 1970, Graeber, 2015, Gupta, 2012). By obscuring the act of violence, spatio-cide renders the victims of that violence hard to discern. This logic follows both Doreen Massey (2000) and Steve Hinchcliffe's (2000) formulations of domination and violence as definable only in relation to, and therefore entangled with, its subjects and victims. Given that the logic of development does not afford an ethical primacy to nonhumans (Harris Jr. *et al.,*

2019, Foltz, 1995), and as such does cannot ascribe this broad category victimhood, violence performed in the guise of demolition of the environment further obscures the act itself. Once the act and the actions are sufficiently masked, Hanafi (2009, 2013) argues, the annihilation of the environment is followed by its repossession by those that initiated the violence. In Kiruna, violence is rendered invisible through the through the resettlement plan, as illustrated by LKAB's acquisition of the building SPiS was housed in.

Over the course of a roughly ten-year period, J1 and J2's questions about their role in the resettlement and requests to know more about the premises they would be relocated to were routinely ignored by both LKAB and the municipality, indicating a wilful disregard for their concerns in favour of appropriating the land their business sits atop. The culmination of the assurances that J1 was given over the course of those years was to have his concerns rendered invisible, as made evident by the finalised architectural plan for the retails space in the new city centre that lacked the core components that SPiS needed to operate as it does currently.

The potential for J1's requests to be incorporated into LKAB and the municipality's plan eroded over time. SPiS's requirements for making the move, requirements the municipality had nominally supported over the course of nearly a decade diminished with each successive iteration of the infrastructural, architectural, developmental plans for the resettled centre. As such, SPiS's ability to exist in the new centre was never realised. It was not made clear whether the design requirements for SPiS were never passed on, lost among, or quietly dropped in institutional/epistemological translation between municipality, mine, architect, or construction contractor. Yet, the rendering of SPiS as invisible, and as such, the needs of its proprietors the same, is clear in the restaurant's absence in the plans, and going forward, the restaurants absence from the built environment of the new centre.

6.6 The Plan as Virtual Object

"There were reactions. Some people found the balloon 'interesting'. As a response this seemed inadequate to the immensity of the balloon, the suddenness of its appearance over the city: on the other hand, in the absence of hysteria or other societally-induced anxiety, it must be judged a calm, 'mature' one."

Donald Barthelme, The Balloon, 1966

The case study of SPiS's alienation from the planning process and their lack of agency in determining their future within the new Kiruna speaks to the resettlement plan operating as a temporally orientated means of controlling and organising the city's development. Baxström (2013) argues that the role of development plans is primarily to operate as a tool of coercion: "a virtual object in the present" (*ibid*:61). As Baxström contends, the role of the virtual object is to "bind subjects to the conditions of the present within the desires and limits asserted by the institutions seeking to dominate contemporary life" (*ibid*:62). That the plan is not required to be a definite image of the future, only a variable image that the plan itself projects, is central to its ability for producing an increased political-managerial capacity in the present. An apparition of the future made present, the motive of the plan is to render development as an immaterial object superimposed upon the materiality of the present cityscape.

Furthermore, Baxström's conception of the plan invokes a particular historicism, taking a chosen narrative and projecting it onto and into the future. In Kiruna's case, this is the industrial historicism of civilisational development at the colonial frontier. Holding to this historicism, the resettlement is framed as progress, reifying a linear, development friendly, model of time. It is from within the plan as a mode of diminishing the agency of those within a site of development that, I suggest, Hanafi's spatio-cide operates. Factoring in Boholm's (*ibid*) conceptualisation of Swedish development planning infrastructure as hypercomplex adds volume to the capacity for Kiruna's resettlement plan to enact spatio-cide, allowing for the expropriation of residents of the deformation zone, and the annexation of their homes and businesses to allow for increased resource accumulation. As J1 told me:

Actually, we felt quite glad when they told us that we would not be able to move with the city. It was like all the stress of having to wait and hear what would happen and if we would go or not was lifted. So, we are quite relieved to finally have a decision

made. We can always make SPiS somewhere else, and this now gives us a chance to move if we want to. We are realising now that our future is maybe not in Kiruna anymore.

6.7 Summary

Through charting the capacity for the DCP to obfuscate the processes by which Kiruna's resettlement is negotiated and managed, I identify a capacity for slow, environmental violence within the plan. At its core, chapter six demonstrates how Baxström (2013), Boholm (2013) and Hanafi (2009, 2013) articulate the formulation of a specific, mine-friendly future in Kiruna. Often market-orientated and premised on creating societal betterment through improved material infrastructure, LKAB's future – premised on a contentious past (Chapter Four) and a turbulent, destabilised present (Chapter Five) – is realised at the expense of the futures sought by those that cultivate their lives in the deformation zone. In Kiruna, the concepts of hypercomplexity, the plan as a virtual object, and spatio-cide play in symphony to keep the inhabitants of the deformation zone in a liminal state of unknowing, while the mine continually develops its extractive ambitions for the bedrock upon which my informants live, guided by a finalised and finalising DCP.

How the state of liminality I propose, facilitated by the covert violence of the plan, facilitates the delimiting of future imaginaries by my informants is the focus of Chapter Seven.

Chapter Seven

Capitalist Realism in the Zone

7.1 Introduction

"*Speak silence so that silence does not speak, so that it does not make world*"

Gilles Grelet, Theory of the Solitary Sailor, 2022

Throughout the previous chapter, Kiruna's resettlement plan was shown to facilitate a covert, structural form of slow violence being enacted against my informants living within the deformation zone. This violence was articulated as a continually deferred future, perpetually diminished by the municipality's lack of meaningful action to fulfil their stated obligations on resettling a local business. Using Mark Fisher's (2009) argument centred on Frederic Jameson's observation, "it is easier to imagine the end of the world than it is to imagine the end of capitalism" (Jameson in Fisher, *ibid*:9), the following chapter articulates this statement as the socio-economic reality underpinning the delimited future imaginaries of my informants. In Kiruna, I locate the capital-R Real of Capitalism in the bureaucracy at the core of the development and deployment of the DCP. Bureaucracy, as well as acting to give voice and implement the needs of a voting body, is reframed as a means of enacting covert, structural violence against informants whose homes and livelihoods stand in the way of the mine's expansion, making absent their beliefs that counter that of LKAB's in the present, and their physical presence in the new centre in the future (after Graeber, 2015, Gupta, 2012). Primarily, I engage with how this absence occurs through the inability to voice concerns about the resettlement at a meaningful level within the dense bureaucratic infrastructure of the DCP.

As Hannah Arendt tells us in *On Violence* (1970), violence is inherently unpredictable. Its form and substance, its mode of delivery and the ways and means by which it is deployed and upon whom it is received are so amorphous as to render it akin to a coercive political or economic environment than a gene-deep, structural condition of biological certainty. Arendt's insight was made in response to Frantz Fanon's (1961) naturalisation of violence as an organic means, "a libidinal drive

natural to all human beings and capable of being channelled for good or ill," (Frazer and Hutchings, 2008:106) by which the emancipation of colonised peoples can be achieved. But violence's capacity to provide insight, especially when read in relation to Graeber's (2015) and Gupta's (2012) articulation of bureaucracy as the rote, daily violence of late-capitalism, has been instructive when taking Kiruna's resettlement into consideration at the level of planning and governance.

Acting as covert, structural violence, the bureaucracy inherent in the DCP is examined as a means of delimiting the ability to imagine and enact one's future. Central to this inquiry is the role of technocracy in Swedish governmental decision-making, the Capitalist Realism it engenders, and how this has led to the derealisation of those that problematise LKAB's positive view of the resettlement as non-viable actors in Kiruna's future. The opening section below charts the history of resistance in Kiruna to managerial shifts at LKAB that put the needs and rights of the miners – and by extension, their families – behind those of the mine's financial growth. The history of vocal, physical dissent in Kiruna in direct relation to LKAB's activities is necessary as it underscores the near total lack of anti-LKAB or anti-resettlement discourse I encountered among my informants. I argue that it is within the disparity in disputation between the wildcat strikes of the late-1960 and early-1970's, and the celebration of the resettlement that the emergence of Capitalist Realism emerges in Kiruna.

7.2 Technocracy and the Emergence of Capitalist Realism in Kiruna

"Alas," said the mouse, "the whole world is growing smaller every day. At the beginning it was so big that I was afraid, I kept running and running, and I was glad when I saw walls far away to the right and left, but these long walls have narrowed so quickly that I am in the last chamber already, and there in the corner stands the trap that I must run into."
"You only need to change your direction," said the cat, and ate it up.
Franz Kafka, A Little Fable, 1931

This section details a history of the implementation of technocratic management at LKAB during the 1960's and the resistance by which it was met by the miners and local communities, stoking national resistance against Sweden's broader implementation of technocratically rationalist governance (Lundberg and Tydén, 2010). This history of resistance is contrasted with a lack of resistance at the technocratic, market rationalism that governs the resettlement of Kiruna today, and

asks, what are the underlying factors for this change (after Goddelier, 1966, Gorz, 1989). To address this issue, I return to the case of SPiS, to unpack how the fallout of the denial of the restaurant's inclusion in the new centre impacted other businesses in the deformation zone.

After my interview with the owners of SPiS I dropped in on my contacts at the high-end clothing store Centrum to gauge the measure of the news about SPiS. In Centrum I found informants HENIOCHE and ISMENE already in discussion about SPiS at the shopfront till. The news had spread throughout other businesses within the deformation zone quickly, the fallout of the decision and what it may mean for other businesses that had once been told by the municipality that they were central to the transition metastasizing malignantly throughout the zone. My informants, business owners and service personnel were spooked. SPiS's rejection from the new centre had a spectral quality among my other informants, the story rendered opaque their capacity to envision a future, one that seemed now closer and yet less tangible than before.

An impromptu three-way interview took place, with HENIOCHE responding to my question instantly, cutting me off before I could finish the sentence to tell me that she had convened an emergency meeting with the association of business owners in the deformation zone, an association that was established in 2017 after the first buildings were torn down and LKAB's focus shifted onto purchasing in the Meschaplan.

HENIOCHE: I called around after reading the Facebook post (by the owners of SPiS) *because of course it was a shock to learn about what was happening. We* (the association) *have already met once this week, yesterday, to discuss what can be done. I am going to another meeting in an hour, and then we will have another meeting in a day or so.*

Me: Who else is attending the meetings?

HENIOCHE: Other business owner here in Meschaplan, J1. And J2. Will be there this afternoon, and Gunnar Selberg will be there too. It is good to have him on our side, he is a business owner here too, so the news has affected him too. LKAB will

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hopefully join to discuss, but that is not certain, they will meet us at the next meeting though, that is for sure.

ISMENE I am not so sure that these meetings will do anything. They (LKAB and the municipality) *have already decided that SPiS will not be in the new Kiruna, I don't think we can change their minds with these meetings.*

At this point HENIOCHE excused herself to go to her office to prepare for the meeting. ISMENE and I continued, picking up on where ISMENE had left off.

Me.: What do you think it would take for the municipality to change its mind?

ISMENE We need the miners. We would need the miners to stand up for us and say that this is not okay. But of course, they would not do this, they need the mine more than us perhaps. Things are not like they are in the 1960's…

Here ISMENE is referring to the wildcat miner's strike that emerged from the implementation of overtly technocratic managerial policies at LKAB. The strike quickly escalated into a 57-day walk-out at LKAB-owned mines. The dehumanising and alienating consequences of LKAB's adoption of technocratic managerial measures which motivated the strike were partially documented by Sara Lidman and Odd Uhrbom in their 1968 ethnography *Gruva* (Mine):

> "We are feeling locked out, insulted, alienated, reprimanded, controlled, weighed and measured, in short we feel as if time is passing us by without giving us access to a meaningful social existence, where the work could be the most valuable part. Right now it is seen as a necessary evil. Our whole existence could be more humane." (*ibid*:63, Hjelm trans. 2020)

These comments were made by Statsföretag AB (*State Company, Aktie Bolag),* a national wealth fund that operated on behalf of the Swedish state, after they purchased LKAB, bringing the mine effectively under state control (Söderholm *et al.,* 2017)[17]. The strikes themselves are attributed in no small part – after wage

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[17] Statsföretag AB were privatised and dissolved in the 1980's after an economic crash in the 1970's

reductions in boom years 1962 – 1967 and the installation of punch-cards to monitor break times – to the publication of LKAB's 31 Theses, an organisational manifesto published by LKAB and distributed to its employees in the late-1960's. The document was designed to justify LKAB's move towards enforcing stricter time-keeping and more formal disciplinary measures on the mine's labour force. The manifesto claimed that it was operating towards "a strategy for inclusive growth. The objective is to increase prosperity to the benefit of all, while safeguarding the autonomy and independence of citizens," via "a labour market that that facilitates adjustment to change, a universal welfare policy and an economic policy that promotes openness and stability" (Ministry of Finance, undated:1).[18]

The theses were defended in Swedish parliament after their publication, resulting in a broader national interest in the supposedly rationalist dictum apportioned out to the miners at LKAB by Statsföretag AB. The strikes were 148epicted in the national press in the scotopic light of the anti-Soviet Swedish media of the time as communist infiltration designed to disrupt the Swedish Model (Hedin, 2015)[19]. Locally, however, the strikes had massive support, with demonstrations in Kiruna on the 13th and then the 16th of December 1969 recording between 3,000 and 5,000 people in supporting attendance (*ibid*).

Claims as to the success of the strikes vary, as the miners returned to work in the orefields fully by the end of September 1970 after negotiations waned from the miners desire to address the technocratic dehumanisation they saw inscribed into the new management model laid down through state ownership, to securing pay increases (*ibid*, Hjelm, 2020). Yet the strikes at LKAB had also triggered similar wildcat action and broader protests as a means of pursuing direct democracy by environmental groups and a newly emerged feminist left throughout Sweden, some of which was not resolved until the mid-1970's (Fransson *et al.,* 2019). As a direct

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[18] "The tasks of the employees and their place in the organisation "must be accepted as decided in the best interest of the company" (thesis 13). An "efficient leadership is to lead by governance and not by example" (thesis 15). A manager "must show complete loyalty to superiors" (thesis 17), "identifies himself with and supports every decision made within the company" (thesis 18), "must be ready to change opinion in support of a senior manager" (thesis 20) and "exercise their leadership so that non-managers only have to follow given orders" (thesis 29). It's not hard to understand why so many clerks decided to support the strike!" (Hjelm, 2020)

[19] Both Hjelm and Lidman, the two primary sources for the material there is on the strikes, are and were, respectively, members of the Communist Party in Sweden. Lidman gave speeches at Lund during the stikes in favour of the walkouts and urging for more of the same throughout Sweden (Hedin, 2015).

result of the outbreak of wildcat strikes, themselves a result of the strikes at LKAB, the Swedish Trade Confederation, known as LO (*Landsorganisationen I Sverige*), implemented new labour laws, including the Employment Protection Act, the Co-Determination Act, the Workers' Protection Act, the Work Environment Act and the Trade Union Representatives Act (LKAB, 2019).

The strike of 1969 is still viewed as a point of pride in Kiruna, commemorated by artworks hung in public spaces such as the city chambers and in sculptures throughout the town. Informants and interlocutors would also mention the strikes with pride, commenting on how actions taken by miners in Kiruna had borne broader changes in labour conditions throughout the country that are still upheld today.

Yet, when asked why informants that are unhappy with the resettlement, and who assure me they are not alone in this sentiment, why there have been no protests about it, they each relate the same reasons: that the mine is too powerful, or that if the mine fails the town will fail. My informant ISMENE continued her explanation on the lack of protest by framing things in the emergence of individualism, and the power of capital to facilitate that individualism:

ISMENE … the people are not the same, they are too focused on themselves and where they will get their money from. And the mine is not for us, for those of us who want to stay, it is for people who want the money. And what are we to do? They (LKAB) *are owned by the state, it is like the state telling us that we are not welcome here, in our own homes.*

Me: Is that not enough to encourage people to protest?

ISMENE Apparently not, or you would see it, they would be out in the streets here (gestures outside the shopfront window into the public square).

And so, the question arises: why the lack of visible, audible, collective resistance in the face of resettlement? My informant within the LKAB's ETEOCLES offices suggested that it is on account of how good LKAB has been to the people of Kiruna historically, eliciting an ancestral debt bestowed upon Kiruna under Hjalmar Lundbohm's paternalism, constituting a kinship bond beyond the individual financial concerns voiced by ISMENE

In the summer-spring of 2021 environmental activist Greta Thunberg joined other Extinction Rebellion members in a sit-in/blockade protest of the increased logging conducted by national and international timber companies in the old-growth forests in Norrbotten. These protests spurred my PR informant to make a comparison:

ETEOCLES: You see the protests that are going on at the minute? They are happening all around here, but they are not happening here (in Kiruna). *Why do you think that is?*

Me: I couldn't tell you.

ETEOCLES: It is because LKAB has taken care of the people of Kiruna. We have them always in the front of our minds whenever we do anything. Of course we cannot please everybody, but that is also not a realistic way to go about things. This is why we try to treat everyone who is losing their home fairly, why we pay the reparations of 25% on their homes.

Setting the invocation of reparations aside for the time being, what both ETEOCLES and ISMENE are attesting to, albeit from two different positions, is what the late political theorist Mark Fisher termed Capitalist Realism (2009), the internalisation of market logics and rationalisations of market capitalism ingrained from abstract neoliberal policies into an ontological position. To clarify, by this I mean that neither ETEOCLES nor ISMENE can conceive of the inhabitants of Kiruna envisioning an alternative future outside of the economy or living conditions indebted to the mine.

This is, at root, how Fisher defines Capitalist Realism, as the inability to imagine any alternatives to the futures that capital provisions for. Referencing Frederic Jameson's quote "it is easier to imagine the end of the world than it is to imagine the end of capitalism," to describe the political economy of late-capitalism, Fisher adds that, "the widespread belief that not only is capitalism the only viable political and economic system, but also that it is now impossible even to *imagine* a coherent alternative to it" (2009:2). Returning to ETEOCLES's quote above, his line "we cannot please everybody, but that is also not (…) realistic" cuts surgically to the heart of the amoralising technocracy of the cost-benefit analysis in Kiruna's

resettlement. As Fisher (*ibid*) points out, the Real of Capitalist Realism is contingent on the fact that suffering is baked-into the binary system of wins-and-losses that forms the core of capitalist logics. As suffering and loss are inherent to the functioning of, and taken-into-account by, that system, any position that may suggest that steps be taken to not only limit suffering, but circumvent it all together, are deemed a "naïve utopianism" (*ibid*: 16). In LKAB's refusal to circumvent any potential suffering or loss caused by the resettlement as "realistic," they reveal the trenchant hubris of their claims to what exactly constitutes the Real. In essence, ETEOCLES, as representative of the views of LKAB, established a false binary by claiming that the mine's position is fact – there will always be loss – and any other position is solely ideological. The capacity to determine such metaphysics as what is capital-R Real and therefore rational, and what is ideological and therefore irrational, is indicative of two things in Kiruna: the asymmetrical power dynamics between the mine and the inhabitants of the town, and the temporal dynamics by which futures are decided either for or against.

The asymmetry of power between the mine and the people of Kiruna, especially those living within the deformation zone, is at its most pronounced in its guise as a binary logic between rationality and irrationality. The rationality of which my informant speaks, is of course, economic rationality. Defined by philosopher Maurice Godelier (1966), economic rationality is the means by which individuals and corporations both seek to optimise their productivity, minimise their expenditures to provide maximal levels of satisfaction, and provide the means for stable futures forecasting. In short, Godelier labels this an "effectiveness" (*ibid*:8) of returns. In *Rationality and Irrationality in Economics,* Godelier articulates a fundamental question, which for my purposes here, undermines the positioning of rationality as Real by LKAB when he asks, "effectiveness for *whose* profit is being aimed at in a given instance?" (*ibid*:10, italics in original). What Godelier is pointing to here is the deeply context dependant and value laden nature of the notion of economic rationality. As a concept, it can only be defined in relation to its opposite, irrationality, itself another context dependant concept (see also Gorz, 1988).

In relation to Kiruna, and to the functioning of Capitalist Realism within the town's migrating contours, the persuasiveness of this rationality among my informants plays a direct role in the absence of resistance or protesting of the conditions within the deformation zone caused by the resettlement. The default

response to any line of questioning on the desire of my informants to move with the town was commonly met with a slight variation on the refrain, 'what choice do I have?' or, 'it is the sensible thing to do, without the mine there can be no town.' Perhaps more unsettling still were the responses when I asked if my informants could imagine life in the new centre, if they were able to picture what their day-to-day would look like after the resettlement: 'I can't tell you that: I do not know.' A woman in her late-fifties told me, "that is not for us to decide, the mine will decide what the days ahead look like." Here is the failure of imagination which the Capitalist Real produces, a foreclosure on the capacity of my informants to determine for themselves what their future may resemble, their reasoning bound-up on resignation to the economic rationalism of the mine.

7.3 Temporalities and Contested Futures

"All that is solid melts into PR"

Mark Fisher, Capitalist Realism, 2009

The temporal dynamics of Capitalist Realism are underscored by this ability to foreclose upon futures deemed not primarily economically viable, which is simultaneously read as ideologically unsound. The futural aspects of Kiruna's resettlement can be seen as a tension inherent to the logics of capital: the accumulation of land and resources to maintain market velocities in contest with the legitimacy of access to the land and its resources (Block, 1986, Habermas, 1975). Legitimacy, in the case of Kiruna, is bound up in Hjalmar Lundbohm's paternalistic legacy operating in-kind with the need to secure the juridico-economic right to expand the mine via the "reparations" (LKAB, 2010) required to be paid by the SMA.

The temporalities at play here consist primarily of the historicism of LKAB as the paternalistic vessel for Lundbohm's ideology of Lutheran benefaction. LKAB and the municipality promote here a historical discourse in which the colonialist overtones are muted and subtracted in favour of an industrial heritage of civilising the frontier. The ubiquity of this historicism in Kiruna prefigures conceptions of Kiruna's future via its insistence on LKAB as not only the financial, but cultural lifeblood of the town. It was hard to find any other narrative that was not resignation, jubilant or otherwise, to that of the mine and municipality: to trust implicitly the will

and capability of the mine to deliver Kiruna's future[20]. During my time in Kiruna there was only one other narrative, made semi-official by its brief reportage in the local paper (Kirunabladet, November 2021), that posed a threat to the future of LKAB, and as such, the town: the potential collapse of mining operations at the Kiirunavaara mine within the next twenty years.

The crux of the problem, as I discussed with Jo, my informant within the civil engineering offices of LKAB set up to plan, monitor, and administer the technological aspects of the resettlement, is that of Kiruna being the deepest underground iron-ore mine in the world (Jones, 2020). In essence, as the underground pit deepens with each level of the ore body blasted into and carved out by the excavators, LKAB are unsure how the ore body will react given the increasing atmospheric pressure relative to the pressure within the ore body. This is the greatly reduced technics that my informant was kind enough to breakdown for me.

Jo.: It is a big concern for us here at the mine, for my colleagues in the engineering departments especially. We have predicted that we will run into difficulties with the depth in ten or fifteen years: around 2035 we will likely go beyond 2km depth and that has never been done before so we really, really, do not know what will happen. But the right people, people at the very top, are doing what they can now so that we do not have to stop mining.

Me: What kind of things are they doing to help (prevent potential closure)*?*

Jo.: They are putting more money than before into new mining technologies, funding the development of new machinery that will hopefully overcome any of the problems we will face.

Me: Is the testing with automated machines that is going on at the minute part of this? The robot dogs from Boston Dynamics that are in the mine right now?

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[20] It is interesting to note the shift in narrative that has taken place since fieldwork conducted for my Masters thesis in Kiruna in 2016. Then the predominant narrative that competed with that of the mine and municipality was that Kiruna would not be demolished and yet LKAB would continue to operate at the then rate of extraction. An oxymoron that delivered more by way of rumour-mongering and entrenching grievances with the mine than articulating a viable future for the town and its residents.

Jo.: They just left the mine actually, they were only here for a few months. But yes, they are part of it. Their role (the robot dogs') *is mainly to monitor the stability of the mine, which of course will be very important going forward.*

Me: What will happen if the mine has to close? If the technology does not meet the requirements of the mine in 2035?

Jo.: (There is a deep prolonged sigh) *That is very hard to say. Of course if the mine closes then Kiruna will not be able to continue for very long either. The national economy would be deeply affected, all of Sweden would be affected, maybe the EU too.*

Me: What would happen to Kiruna? I mean, LKAB are spending all this money to build a new city to keep on mining, so what would happen if LKAB suddenly has to close the mine as the new city opens?

Jo.: It is a difficult question, I cannot really think what will happen to Kiruna. But, you know, we are building the new Kiruna to exist long after the mine closes. With Kiruna the way it is now, we would not last long without the mine, but in the new Kiruna, we can make more opportunities for more businesses to be here, to move here and not rely on the mine. Kiruna right now is still quite industrial, we must build the new Kiruna if we are to move beyond that.

I followed up this line of questioning about the potentially short-lived future of Kiruna's new centre by asking if there were plans related to the decommissioning of the mine at Kiirunavaara, but my informant only made non-committal noises and opted not to answer questions that framed the orebody as a potentially stranded asset.

There are a number of key points that I wish to draw-out from my interview with Jo., each of which fall under the broad banner of contesting the future laid out by LKAB and the municipality. The first of which is the stability of the orebody at depths beyond 2km below the surface substrate. The unknowability of how an orebody will react to contemporary methods of extraction, the geological uncertainty coupled with the unknowability of what the technological capacity of extractive

infrastructure will be by the time LKAB breach this depth, was a little publicised yet potentially debilitating problem facing both the mine and the town. However, the company's insistence on increasing the rate of extraction, even in the face of the ongoing denial of the Swedish High Court to grant LKAB the ability to increase their rate (Jones, 2022), speaks to a hubristic, technocratic faith in industrial development.

Sweden's management of the COVID-19 pandemic highlighted the state's readiness to defer to experts, technocrats from outside of the Swedish political establishment with no direct decision-making capabilities (Bylund & Packard, 2021). The admission of my informant, and the reportage in the local paper, of the trust placed in technocratic expertise to provide the rote means of a liveable future, echoes as a model deployed by the government more generally. Bylund and Packard (*ibid*) go on to argue that the deferral to technocratic logic displayed by the government is a "self-defeating (…) tyranny of experts" (*ibid*:1303) that directly undermines any claims to legitimate governance by the state. Bylund and Packard's premise is that technocratic decision-making does not readily apply to conditions on-the-ground, creating problems for those that live in the wake of the implementation of those decisions (after Easterly, 2014). Bylund and Packard (*ibid*) along with others (see Ribbhagen, 2013, Andersson *et al.,* 2022) argue that the implementation of technocratic decision-making as policy creates an epistemological gap between those that design the policy, those that implement it, and those upon whom it is implemented. This epistemological gap, they argue, creates and then solidifies socially stratigraphic boundaries, creating a hierarchy premised on a particular form of applied knowledge that can serve to dismiss other forms of knowledge, experiential or embodied for example. Further to this, the implementation of depoliticised decision-making has, since the economic crash of 2008, increasingly favoured the economic rationale of minimising expenditure and maximising return (Christensen & Mandelkern, 2021).

7.4 Automation and Spot as Trojan Dog

"the lie was the weapon and the plot was empty"
Charles Bukowski, Let It Enfold You, 1996

Which brings us to another key point from the interview above, the future of automation at LKAB's Kiirunavaara mine. In September 2020, as part of LKAB's Sustainable Underground Mining (SUM) project, the mine served as a site for the testing of Boston Dynamics – foremost in the field of automated robotics production – quadrupedal robot Spot, designed to measure the density and stability of rockwalls within the mine (Moore, 2020). Spot's advantage, Boston Dynamics claim, is that, having no respiratory system, Spot is immune to the toxicity levels present in the mining shafts immediately after blasting. The increased velocity with which Spot can retrieve data relating to the safety of the pit means the faster the excavation of the blasted rock and ore can begin.

Spot is part of a wider move LKAB is making towards automating the extractive infrastructure of the machinery within the underground pit. As a press release by LKAB from 2020 states:

> "New technological solutions are needed as mining proceeds to ever greater depth. Above all, the future mine will place higher demands on automation and digitalization. This is a prerequisite for mining a greater depth in the Kiruna mine." (LKAB, 2020)

The ongoing automation of the mine at Kiirunavaara is part of a multi-industry collaboration in which LKAB, ABB, Combitech, Epiroc and Sandvik are working together to meet the demands of mining 2km below surface substrate (Moore, 2020)[21]. The LKAB press release ties the ongoing of automation of formally human-operated mining machinery, such as the Sandvik LHD621underground loader and the recent testing of wireless blasting technology (Moore, 2022), as part of a historical legacy of innovation away from artisanal mining methods (Viklund *et al.,* 2015), the overtones of such developments being that automation is something the mine rightfully deserves to bestow upon itself.

The earthquake caused by the downward collapse of one mining shaft into another at the Kiirunavaara mine in May of 2020 appears to have accelerated LKABs move towards automation. As a couple of my informants from within LKAB put it to me, the earthquake forced LKAB to not only decrease the rate of extraction, but also provided an opportunity to increase expenditure into safety mechanisms in the mine.

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[21] This initiative is conducted under the SUM project, which is odd, given the fact that having to developed technology that allows mining to commence at untapped depths is a clichéd example of unsustainability of extracting resources.

And following the premise set by LKAB's adoption of Spot, if the thing that operates in the mine isn't technically alive, then it can't technically be maimed or killed. Physical safety is the foremost premise for the automation of industrial processes generally (Haleem *et al.,* 2021), and mining processes specifically (Jonathon *et al.,* 2014, Ralston *et al.,* 2017).

However, as urban studies scholar and design critic Adam Greenfield (2018) demonstrates in his book *Radical Technologies*, automation, linked directly to digitisation, has often acted as a kind of trojan horse[22] that primarily serves to create unemployment while consolidating wealth among managers and CEO's. Introduced by employers under the guise of increasing safety levels along production lines, automation is simultaneously implemented to raise production rates and decrease labour, and labour-adjacent (i.e, administration) costs. Automation achieves this by reducing the number of employees required to operate machinery, this in turn drives down administration costs less human-related admin duties (for example, pay) are needed. This, of course, is an over-simplification, but this outlines the base mechanics by which automation serves to disempower and displace labour within an industry.

As social anthropologist Benedict Singleton and others (Singleton *et al.,* 2021) have documented, increasing the rate of automation coupled with digitisation for industries in rural counties in Sweden, of which Kiruna is considered one, is part of the Swedish government's *National Strategy for Sustainable Regional Development Throughout the Country 2021 – 2030,* a strategy premised on a technocratic rationale to boost production rates to generate nationally competitive rural economies, of which mineral extraction is one. Singleton *et al* (*ibid*) argue that this strategy is likely to have multiple detrimental effects, one of which being the out-migration into larger towns and cities of the low-skilled labour workforce of which these rural economies primarily consisted of. This prompts the question: who does this strategy benefit, the inhabitants of these rural communities, or the economy their labour flows into?

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[22] It is interesting to note that Volvo created an advert to promote their incorporation of Google digital automation technology into their electronic cars that compared critiques of the move towards automation to critiques of the introduction of the seatbelt in the 1950's. In doing this, the advert creates a false equivalence: a seatbelt is not datamining you under the guise of improving safety.

It is here, at the intersection of national technocratic policy decisions, industry automation is where the locally inclusive futurescape that LKAB has continually proposed emerges as disingenuous at best, and oxymoronic at worst. LKAB have repeatedly made statements, both publicly in press releases, journalistic publications (Sjöholm, 2016) and privately during my interviews that the resettlement of Kiruna is as much about moving the current inhabitants as it is about moving the town. Yet the current model as laid down by the *National Strategy for Sustainable Regional Development Throughout the Country 2021 – 2030* and actively practiced under the guise of increasing worker safety within the pit at Kiirunavaara is to automate the jobs that current residents of Kiruna mostly fulfil, that of on-site, in-pit miners. As my informant in the PR department and I discussed:

ETEOCLES: The point of the new centre is to attract people to stay in Kiruna. As it is, we have a lot of fly-in/fly-out workers here. And that model is not sustainable, for us as a company or for the environment. I have a colleague here that flies in from Spain every two weeks: he is here for two weeks, then he goes away again, and comes back. He does not like to stay here, his family don't want to come and live here. So, we want to build a city where people want to stay, to bring their families and they will want to stay as well.

Me: Are any of the miners fly-in/fly-out?

ETEOCLES: No, they mostly come from either the city here or the places around the city. LKAB is the biggest employer in the county, most of them are machine operators or mechanics that fix the machines. They are, perhaps not so traditionally anymore, but they are mainly the miners here at LKAB, those working underground in the mine with the trucks and the explosives.

Me: Will those employees be affected by the automation that LKAB is investing in?

ETEOCLES: Some of them will, yes. But not all. We will still need remote operators for the vehicles, and mechanics to maintain them. It is maybe not perfect, but it is what the future looks like for us at LKAB, we must keep up with the technology, and LKAB has always done that and been innovative as well.

Here then is our second mode of contesting the future laid down by LKAB, that the logic of increasing automation does not fulfil the remit of securing jobs for the people of Kiruna going forward into the settling of the new centre.

The jobs that are actively being sought for fulfilment by LKAB are prospected for internationally. As the journalist Richard Orange writes about attaining a workforce to usher in Europe's Green Transition via tech jobs in Sweden's northern counties, "it will be harder to appeal to southern Swedes (…) among whom northerners have a reputation for being obsessed with hunting, snowmobiles and snuff tobacco, and for being literally less than monosyllabic, dispensing even with the word "yes" in favour of a sharp intake of breath" (2021). Orange outlines that Norrbotten stands to gain an in-migration of around 100,000 new people for the jobs produced by the supposed 'greening' of multiple industries. Orange's reportage here chimes with what my informant ETEOCLES tells me and furthers the implication that they make: that the new Kiruna may be being built with a mining-heritage laden material reference to the Kiruna currently being demolished, but the new centre itself is unlikely to house those inhabitants LKAB profess to wanting to make the move with the town. Instead, the new centre Is primed to attract a professional class of office-based IT workers from Europe and elsewhere.

Another means of contesting the vision of Kiruna's future that LKAB has actively deployed lies in an interrogation of the payment of 25% above market value for every property purchased by the mine within the deformation zone. Namely, the framing of these payments as reparations for the loss of a business or home caused directly by the resettlement of the town. In their *Annual Sustainability Report 2010* (LKAB, 2010) LKAB account for "payments made up until the close of 2010 for the urban transformations and reparations for infrastructural impact in Malmberget and Kiruna amounting to more than SEK 1.9 billion (…) In closing the accounts for 2010, LKAB made a provision of almost SEK 3 billion towards the urban transformations."

7.5 Reparations

"The point here is that reparations are not reserved for the unimpeachably virtuous and cannot solve the problems of human morality, and this have never been, nor should it have been, the criterion for past reparation efforts"
Ta-Nehisi Coates, We Were Eight Years In Power, 2017

The additional quarter of the building value paid by LKAB is classed within the 2010, and subsequent yearly economic overviews published by the mine, report as compensations made as a mode of pre-emptive restitution for the loss of business and/or home as a result of underground industrial expansion that goes beyond the financial rulings set out by the Swedish Minerals Act. As two of my informants within LKAB, and one former planning consultant put it to me, LKAB does not need to be making these additional payments, but they do so in understanding of what is being sacrificed by the residents of Kiruna. My informants within LKAB that shared this sentiment both went on to say that the payment is also made to encourage displaced residents of the deformation zone to resettle in the new centre, attempting to generate an equality of financial opportunity and access in a tacitly acknowledged understanding that housing prices in the new centre are more expensive than in the former.

The conversations in which the term "reparations" was actively used by my informants were conducted in English, and the annual reports all written in English, with no translation conducted on my part or any note of translation made on the documents, so it is safe to take the term at face value in the knowledge that LKAB are actively pointing towards a contemporary understanding of that term. I will argue here that the deployment of such a term underscores the legacy of displacement and resettlement that is LKAB's dominant mode of land and resource acquisition in Kiruna.

In traditional western parlance, to make reparation is to make amends retrospectively for historical injustices, commonly framed within the context of the North Atlantic slave trade and the indentured chattel slavery of black communities in the United States of America (Coates, 2018, Franke, 2019, Táíwò, 2022). In each case above, reparations are a base means by which the generational legacies of systematic dehumanising, alienation, and industrial-scale violence against specific, ethnically identified Others can be addressed and made part of a contemporary consciousness that links today's relative abundance of wealth and things immediately relatable to the annihilating indifference of past generations. Past failures to acknowledge injustices such as these, Franke (2019) and Coates (2018) argue, inform, and reinforce the political, economic, technological, and social structures that underpinned the motives that first gave rise to the violence

reparations seek to address, and continue to do so today. As philosopher Paul Saint-Amour notes, "reverse engineering contemporary trauma can illuminate how the present can be haunted by past expectations. Thwarted expectations can become encysted in our histories thereby impairing self-understanding and commitment in the present" (Amour, 2015, in Franke, 2019:32).

If the purpose of reparations, then, is to address and redeem fundamentally colonial legacies, LKAB's use of the term as a pre-emptive is novel, and indicative of a partial acknowledgement of the colonial legacy and ongoing colonial practices. At root, LKAB's policy of delivering 25% of the total sales value of property within the deformation zone to ensure equal access to the higher priced housing of the new centre is a return to the logic that the ownership of property grants the right to a continued personhood under the banner of Kirunabor.

The delivering of the reparations *ex ante* also operates as a means of stymying any potential critique that may be levelled at LKAB for not provisioning for current residents to move into the new centre. Again, the sentiment that LKAB are going above-and-beyond the remit of the SMA ruling also runs in their favour. It is hard to discern how much Corporate Social Responsibility (CSR) and Public Relations (PR) related optics management has gone into the development of LKAB's *ex ante* reparations. LKAB cannot force inhabitants to make the move to the new centre, so financially incentivising that move is the primary option available to the mine. Yet interrogating what those reparations look like *ex post* reveals the reparations to be lacking in the fulfilment of their own premise, i.e, providing the financial capacity to move to the new centre.

Ex ante versus *ex post* as they pertain to the reparations being paid out by LKAB are a question of proportionality: do the reparations paid by the mine allow for the purchase of property in the new centre when Sweden's proportional tax on the total sales value of the property is factored in? Using the tax regulations laid out by The Swedish Tax Agency (*Skatteverket*), I have run a quick calculation: reparations payments of 25% over the total sale value of property within the area directly affected by the resettlement, of which there are approximately 3,000 occupied buildings (LKAB Press Release, 2020), will cover the sales tax imposed on the sale of property in Sweden, but will only leave approximately 3% of the reparation payment in real terms. The Swedish Tax Agency set a tax rate of 30% applied to 74% of the total sale value of a home, and 90% of the total sale value of a business

as of 2022. Calculating tax using the terms laid out on The Swedish Tax Agency's website, taxation of this proportion grants 21.9% of the total sales value to the tax agency.

The inconsistency between what LKAB claims to be paying in reparations to those whose homes they purchase and the actual value of that payment in real, after-tax, take-home terms is not something that has gone unnoticed among my informants, with one elderly inhabitant telling me: "The 25% only covers the taxes we have to pay when we sell our homes, so yes, we break even, but we still cannot afford apartments in the new city. If they wanted us there, they would pay us at least half (of the total sales value of their home)." Taking this into consideration, the reparations speak to a means more of deflecting criticism away from LKAB's displacement of residents than to restitution of any potential financial or emotional fallout from the resettlement. Further still, the provision of an equal opportunity to purchase property in the new centre appears now as disingenuous on the part of the mine: a false choice where no choice exists. This places the responsibility on not purchasing a property back onto the displaced, centring the decision not to move to the new centre as one beyond the financial: a mode of denying access to those within the deformation zone who wish to continue to be a part of Kiruna, but can no longer afford to do so.

Property rights, as discussed previously, are the cornerstone through which rights are, and historically have been, granted by the Swedish state in relation to the settling of the northern frontier and access to its resources. The inability to retain a personal identity that is produced via the political, material, and social entanglements produced through living in Kiruna via ownership of property within the new centre, is acknowledged by LKAB to be more than a financial loss by their use of reparations, as opposed to, say, 'compensation.' This action by LKAB demonstrates that the logic of reparation is bound-up with the logics of colonialism, and their use of the term is not accidental but is inextricable to the alienating disenfranchisement that is at the forefront of the act of displacing a community.

It is unclear who exactly this public relations move is designed to gaslight. As my informant pointed out, inhabitants of the deformation zone seem keenly aware just how far LKAB's reparations payment will go if looking to purchase a property in the new centre. Instead, while signifying the mine's willingness to incentivise Kiruna's current inhabitants to resettle in the new centre, the reparations also operate as a

perfunctory ameliorative that has the effect of co-opting inhabitants into their own displacement while simultaneously offering a viable negation to any public pushback against the resettlement that may arise. The premise of the *ex ante* payment of reparations impresses as a core function of Capitalist Realism, "subordinating oneself to a reality that is infinitely plastic, capable of reconfiguring itself at any moment" (2009:54): attesting to the fungibility of even the most personal and stabilising aspects of everyday life such as one's home and community. The plasticity of this reality in Kiruna is contingent on the whims and desires of the mine, acting in the explicit interests of safeguarding and growing the Swedish economy, functioning to enclose the new centre away from those being displaced.

Chapter Eight

Zonecoming[23]

8.1 Introduction

In the late-summer of 2022 I returned to Kiruna briefly to observe how and if my frayed and loose threads of inquiry had knitted themselves together in my absence. Approximately twelve months after leaving the field, I was pleasantly shaken by how ideas and theories I thought had become augured symptoms of the writing process were made manifest through the material and social conditions I encountered in the town.

Drawing on the final week of fieldwork conducted in August 2022, during the last days before Kiruna's newly termed 'old centre' was placed beyond public access, behind the fence-line erected by LKAB that denotes what is town and what is now LKAB's property, I knit together the patchwork of ethnographic data articulated in the chapters above. Although the historical aspects of the colonialism described in Chapter Four is harder to discern directly from my return to the field, the displacement and expropriation by which it operates and of which it is composed is implied throughout my re-engagement with Chapters Five, Six, and Seven. To that end, Chapter Five is recounted through the increased perceptibility of the haunted and haunting nature of Kiruna's old centre, now apparent and apparitional, in its new guise as evacuated ghost town. The structural violence of Chapter Six is reiterated through my return to SPiS, focusing on the restaurant's new location on the outskirts of Kiruna's resettled centre. And finally, the delimited of future imaginaries of Chapter Seven are told recursively through the materiality of the new centre, its emptiness, and what the contrast between how an indigenous past is framed and told and the industrial heritage inherent in the retrospective materiality of the resettlement.

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[23] I had toyed with the idea of leaving this section blank, or including no conclusion at all, a method-in-the-practice approach to articulating the power of absences, and thier operation within set contexts.

Here, I evidence the success of LKAB's expropriation of the land upon which Kiruna's former settlement is located. Using the same methods and approach to the field as when I conducted fieldwork between 2020 and 2021, LKAB's implementation of a slow, structural violence via the obfuscating bureaucracy of the DCP to prefigure the town's future is evidenced in the built environment of the new centre. Interviews with my informants that remained in Kiruna detail how LKAB's cost-benefit analysis allowed them to bastardise the complexities of dwelling into a simplified, reductionist financial equation. How LKAB's economic accounting for the inhabitants of Kiruna was generative of a persuasive, enveloping, and internalised ontology of the Capitalist Real, haunted by denials of the past, and the failures of the future.

8.2 Zonecoming

"It's weird to feel like you miss someone you're not even sure you know."
David Foster Wallace, Infinite Jest, 1996

Upon my return in August 2022, the temperament of the zone had shifted. The temporal destabilisation I had experienced and that had been relayed to me by informants during my initial fieldwork was no longer palpable. Instead, the zone, in the final stages of evacuation, stood in dumb repose.

The apartments and homes in the zone had been evacuated months prior, some on schedule, others ahead of their planned time as a result of expected, but still surprisingly accelerated, ground subsidence. There now appeared a much greater level of care in the zone: people in LKAB high-vis jackets dotted throughout, helping what businesses remained pack stock and furniture into LKAB marked vans. My informant HENIOCHE spotted me from the now barren windows of Centrum, milling around aimlessly in the warm and dappled sunlight of the quietly uninhabited Meschaplan district. I stopped by, but HENIOCHE was unable to speak as she was being interviewed by national press. Her father told me the move was going well, "LKAB had been a big help," and they were excited to open the new store in the coming weeks.

Besides this encounter, I did not meet anyone else in the zone. The shops that were closed looked like they had been for some time. I took this opportunity to sit on a bench that looked down one of the shopping thoroughfares and out over lake Luossajarvi and onto the Kebnekaisemassif. Near total silence. The deformation

zone was now a ghost town, its haunted nature gelatinised from apparition to apparent. Ventilators still hummed in the empty apartments above the shops, amalgamated debris of building, person, and mine alike percolating into these former homes on air suffuse with dust, accruing mutely. With LKAB now in full ownership of the evacuated buildings, there would be no occupants to sponge the soot away.

The lack of care embodied by the zone's ruination was now total and the cost-benefit analysis used to govern the material conditions of the deformation zone was no longer of any concern. The only arrangement now needed by the zone was for the wrecking ball and bulldozers that would soon clear it of any lingering structural matter. The futures that LKAB had foreclosed upon were now elsewhere, time and extraction having won out over what decisions former occupants had wished to make.

Whatever pulse that remained in the zone was drummed out by the wind in a wavering metallic clang of an outworn flag hoist upon its stanchion. By now the silence was getting to me, so I decided to take a walk up to my old apartment on the predicted future perimeter of the deformation zone. When I arrived, I was greeted by scaffolding on the outside wall, erected over the entranceway. This then meant that my former landlord had taken the decision to repair and maintain his property. Whether he had made the decision based on a newly confirmed proposed fence-line by LKAB, or other advice from the mine or the municipality, or had resigned himself to the need for the buildings upkeep regardless of LKAB's plans, I would never know, he had not replied to my emails since I left his property in 2021. The presence of the scaffolding suggested that whatever ruptured temporality and loss of self (Trigg, 2012, 2016, DeSilvey, 2017, Game, 1997) the damaged pipes had laid claim to had been deferred. My former landlord now asserting what agency he could over his direct environment. The conjuring of Fated Subjectivity (Schubert, 2021) pushed back, destined to coalesce in some other form, in some other future.

Walking back into the deformation zone I saw a huge mural being painted on the side of the sportshall. This mode of palliative curation (DeSilvey, 2014, 2017) having been what the charity Stadsliv had been actively seeking the last time we spoke, I was delighted to see the charity's two co-managers standing next to a huge hydraulic platform, looking up at an artist with a cannister of spray paint in each hand.

Figure 21: Centrum House during the last week before the former settlement was closed to the public. Photo by author, August 2022.

Figure 22: Stock and furniture stacked up outside of the Kvadrat Interior Design shop in the Meschaplan. Photo by author, August 2022

Figure 23: Shuttered and closing shops and restaurants in the deformation zone. The sign in the window reads: "Warehouse Emptying!" Photo by author, August 2022.

Figure 24: Shuttered windows and gated entranceways at midday on a Tuesday in the zone. Photo by author, August 2022

Figure 25: Notes expressing thanks to customers and dates that stores will re-open in the new centre. Image haunted by the spectre of the author. Photo of the author, August 2022.

Figure 26: Scaffolding denoting repair work on former apartment house. Photo by author, August 2022

8.3 Murals Were Not Part of The Plan

On approaching the mural, I was delighted to be given a big wave and a welcoming smile from my informant JOCASTA By this point the hydraulic platform was ascending up towards the mural, the artist adjusting their facemask with one hand, lightly holding the support rail with the other, an indication that they had done this kind of thing before. JOCASTA and I stood watching the artist work and talking for a while, before jumping in JOCASTA's campervan to take a tour around Kiruna to visit the other artists working on various murals throughout the city. On asking JOCASTA if any were in the deformation zone[24], she replied, "No, we couldn't bring LKAB 'round to the idea (of public murals in the zone). But they did contribute a little money along with others, then we went to ArtScape and they agreed to help us." ArtScape are a business that responds to calls by various communities throughout Sweden that wish to use abandoned and/or ruinous areas of built environment as a canvas

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[24] Although on the border between public property and deformation zone and earmarked for demolition, the sportshall is still owned by the municipality.

for free, public street art. Stadsliv's collaboration with ArtScape involved hosting six international artists in Kiruna for several weeks while they planned and painted their murals.

Figure 27: Mural on the sportshall, painted by ArtScape artist in residence. As seen from the main road. Photo by the author, August 2022.

The murals were designed in response to workshops held with the public in Kiruna and centred on what the canvas of the building would allow practically. From ArtScape's website:

> "Artscape is preparing a mural project based on the people of Kiruna's collective memory. Through interviews, hundreds of stories and anecdotes have been gathered. A selection will feature in a book of memories, and from those pages the chosen artists will find their inspiration for six new large-scale murals that will adorn Kiruna from August and onwards." (https://artscape.se/projects/kiruna/)

In total, ArtScape were commissioned to paint six large murals on various buildings outside of the deformation zone as shown on the map below.
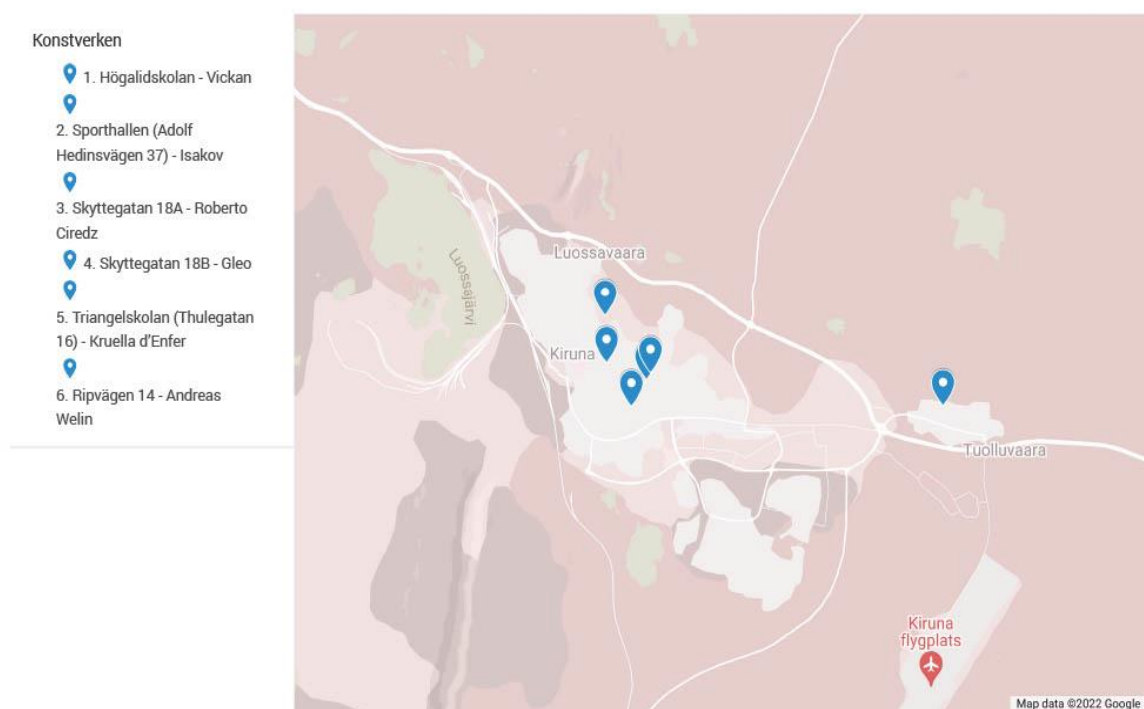
Copy of ARTSCAPE 2022 KIRUNA

Konstverken

1. Högalidskolan - Vickan
2. Sporthallen (Adolf Hedinsvägen 37) - Isakov
3. Skyttegatan 18A - Roberto Ciredz
4. Skyttegatan 18B - Gleo
5. Triangelskolan (Thulegatan 16) - Kruella d'Enfer
6. Ripvägen 14 - Andreas Welin

Figure 28: Map of ArtScape mural installations. Note, all are outside of the deformation zone (unmarked). Image curtesy of ArtScape, 2022.

Over the remaining three days of the trip, I spent the majority of my time with JOCASTA and the artists and organisers from ArtScape, observing the progress of each mural.

Through this observation, the murals' ability to command attention and conversation was clear. Of the six murals, variously depicting reindeer, or cold white light in monochromatic gradient, one in particular stood out in relation to resettlement, painted on the side of an apartment block in Tuollavaara, a suburb of Kiruna directly adjacent to the new centre. The artwork in question depicted a young man in short-sleeved shirt, carrying a Bläckhorn building above his head. The dirt on the young man's face implying that he is a miner. The look on his face is forlorn, but hopeful. His gaze turned over his left shoulder, as if walking towards something, some future space that he may occupy. Stood in the buildings shadow, JOCASTA told me that this was her favourite of the six. When asked why, JOCASTA responded "because it

is a reminder that we are here, the people of Kiruna, and that we are the ones that built those houses and we are the ones having to move, not the ones who are making the decisions."

Here, my informant is referring to the inclusion of the murals as memorial devices, a means of Kiruna's inhabitants to remain within the narrative of Kiruna's resettlement (after Keenan, 2017). According to JOCASTA, these murals symbolise how Kiruna's inhabitants have shaped, and continue to shape, the social and historical worlds of which the town is constituted. JOCASTA goes further to suggest that it is those that have been actively ignored or worked against by the DCP that fill these worlds with meaning. In the evening of the same day, Stadsliv's managers drove the artists and ArtScape's directorial staff up to the top of Luossavaara, the former pit site diagonally opposite and to the north-east of Kiirunavaara. There, we built a fire and talked about the process of commissioning the murals and how the buildings that would be used were selected. According to ArtScape's artistic directors, the commissioning process is entwined with the selection process, both relying heavily on being granted permission to use the buildings which would be appropriate for the artist and the town. As such, a director confided in me,

our business, at our level, is mainly dealing with landlords. That's what we do all day, speak to landlords, negotiate with them: what do they want – which is money, usually – and what do we want.

Which begged the question of the negotiation process with LKAB, to which I was told:

LKAB were the most uncooperative company we have dealt with. They didn't want us here, really. But we persisted. There were some buildings we wanted to use, like the old Scandic hotel opposite the mine (in the deformation zone) *but they wouldn't hear it. We pitched so many ideas to them but they were unresponsive. Finally we were able to settle on the buildings we did: we were able to agree on the concessions needed to make the artwork happen.*

Figure 29: Mural on the side of an apartment block. Photo by author, August 2022.

Figure 30: Mural on the side of a school. Photo by author, August 2022.

The concession that LKAB insisted upon was that ArtScape be vocal about their project avoiding any critique of the resettlement by stating in no uncertain terms that the murals were as much a celebration of Kiruna's future than a memorialisation of the past. Indeed, the project's blurb quoted above goes on to read:

> "The participating street artists are internationally renowned and chosen specifically to work with the sensitive nature of the project – Kiruna is experiencing a very dramatic transformation. But within the retrospective grows a new beginning and ARTSCAPE 2022 KIRUNA is all about looking lovingly in both directions. Let's celebrate the new Kiruna!" (https://artscape.se/projects/kiruna/)

Figure 31: Mural on the side of housing block, Tuollavaara. Photo by author, August 2022

After my discussions with the artists and directors of ArtScape, the role I suspected that LKAB's cost-benefit approach played in managing the deformation zone calcified: what the cost-benefit analysis of Kiruna's materiality does is boil the

liveability of an environment down to rote functionality. Aesthetic preferences and their capacity to reflect the lives of my informants in the zone were never factored into the analysis of a building's lifespan. Were Stadsliv and ArtScape see Kiruna's built environment as deeply entwined with the lives and livelihoods of its inhabitants, LKAB do not. Instead, the mine acted to reduce the complexity of dwelling within a built landscape down to a binary, disentangled relationship: occupant and material substrate.

The boiling down of social complexity by the cost-benefit analysis appears in stark contrast to the obfuscating hypercomplexity (Boholm, 2013) of the palimpsestic (Carter *et al.,* 2015) DCP. As a decision-making process, LKAB's cost-benefit analysis is also in temporal opposition to the slow violence of the DCP (after Nixon, 2011). While the DCP keeps my informants in a liminal state of unknowing, actively disenfranchising those that wish to participate through its opaque bureaucratic structures (after Gupta, 2012, Graeber, 2015), the cost-benefit analysis operates as a finality: a means of reactionary decision-making, reifying and enforcing LKAB's power to evict and evacuate residents at short-notice: the whetter tip of the DCP's slow knife.

The temporal disparity between the slow, structural violence of the DCP and the quick, reactionary violence of cost-benefit justified eviction, applies also to the imposition of the DCP as a virtual object (Baxström, 2013). As the case study of SPiS demonstrated, the owners' requests for inclusion in the planning of the new centre were so routinely ignored by LKAB and the municipality that the ability to resettle their restaurant diminished over time. Here, Hanafi's spatio-cide (2009, 2013) and Baxström's plan as a virtual object (2013) were shown to operate in symphony, governing who has credibility and power to change the plan, and how that plan's futural orientation presides over the social capacities of the present, respectively.

And yet, the dynamic between the two concepts also highlighted the power asymmetry at the heart of Kiruna's resettlement. This asymmetry lies in the creation of a liminal space through the finality of the plan. As my informant PI.O stated, "we just hold up the master plan and say that everything is in here: it is all agreed already." The plan of which the virtual object is composed is always already finished, finalised. The liminality that Baxström (*ibid*) argues for is only present for those experiencing the on-the-ground effects of the plan. For those installing the plan in

Kiruna, it exists largely in a finalised state, and as such the options on-the-ground, supposedly liminal, also exist in a delimited, finalised state.

How the state of liminality imposed upon SPiS had played out during my year away from the field was of a central interest during my return to the field. As such, I stopped by the restaurant for my lunch, before heading to the airport on my last day.

8.3 Museum of Dwellings

> *"'Home,' he mocked gently.*
>
> *'Yes, what else but home?*
> *It all depends on what you mean by home."*
> Robert Frost, Death of the Hired Man, 1914

On my way to meet JOCASTA. and some of the artists for a lift to the airport and seeing that the restaurant was still open and serving its usual lunch buffet, I decided to stop by SPiS. Inside, everything was the same: the delicatessen fully stocked, their glass-fronted meat hanging fridge sated with the inhumation of marbled carcasses, pendular in suspension under the airconditioned current of the room. The restaurant was quiet for a Friday lunchtime, and the waitress confirmed that things had slowed down since the evictions and evacuations had begun in the deformation zone.

I ordered the gnocci with locally caught salmon and the waitress and I got to talking about what happened in the aftermath of SPiS's rejected attempts to be included in the new centre. As it turned out, the owners of SPiS and Kiruna municipality reached a compromise on a new premises. Although SPiS will be relocated, they will not be part of the new centre. Instead, their resettled location will be in the industrial estate opposite the new centre, about ten minutes-walk from the rest of the shops, bars, and restaurants. The building that was found in the industrial estate was the only one that LKAB were willing to modify to fit the aforementioned needs (Chapter Six) of the restaurant and deli. As a result, SPiS would not be moved in time for the grand opening of the new settlement at the beginning of September 2022, but about a month afterwards. In hope of opening their doors in time for the tourist season. I was told that the owners are looking forward to the move, despite the hurdles of distance and temporality, and are hopeful about making the new location profitable.

Here again, in SPiS's continued rejection from the new centre is the leveraging of technocracy's amoral decision-making process. The cost-benefit analysis under which the plan continues undisturbed, ushering in the material future it promises, minimising LKAB's expenditure on the resettlement. The contestation of the future of SPiS in Kiruna's new settlement was resolved. Although only partially, and topographically. The restaurant's future was still in a precarious financial position. Given that the new premises was outside of the main shopping and leisure thoroughfare of the new centre, where the "pulse," to quote my informant HENIOCHE, of the new city was designed to thrum. The consoling finality of SPiS's rejection, attested to by J1. over a year previously – "*we are quite relieved to finally have a decision made*" – was once again a tempestuous temporal liminality. Only time would be able to tell if SPiS would be able to minimise their losses, maximise their profits, and exist within the Capitalist Realism (Fisher, 2009) of Kiruna's resettlement.

I could see the new site for SPiS from the window of the hotel room I had occupied for the week. The distance between it and the new centre seemed far indeed, especially when taking into account the warehouses and strewn debris of the industrial site which stood, and which will continue to stand, between the restaurant's new location and the resettled centre.

Figure 32: Kiruna's new centre, showing city chambers with clock tower in the foreground, apartment block in the background. View from hotel window. Photo by author, August 2022

The new centre was devoid of the palpitations of commercial life. Instead, the centre reverberated with the whirl and clank of ongoing construction work. During the day, high-vis jackets abounded in the enveloping grey of the tiled granite slabs and latticed brickwork. All monikered with the italicised LKAB logo, the jackets belonged not only to construction workers, but also to the journalists and visual merchandisers that had flooded into the new centre to facilitate its grand opening. Although the opening was only a few days after my return visit, the new centre was remarkably empty of shops, café's, restaurants, and other businesses during my time there. The large supermarkets and other chain stores by the industrial district remained the locus of Kiruna's foot traffic.

Walking among the portions of the resettled centre that weren't closed-off for construction, the historicism of Hjalmar Lundbohm's paternal legacy was evident in the materiality of the newly built environment. The bell tower (pictured above) from the former architectural award-winning city chambers had been rehomed, standing prominently next to the new city chambers. Replete with the artwork transposed from

the old building, the city chambers hosted an exhibition space for Konstmuseet i Nord (Art Museum of the North). Holding a permanent display of Sámi art in the space, the exhibition was framed as representative of indigenous heritage and tradition in the region. The doorhandles that grant access to the building are made of two carved reindeer horns and bowed birch wood moulded together by the artist Lars-Levi Sunna and based-on a traditional shamanic Sámi drumskin design (DuBois, 2022). The doorhandles, along with the other sculptural craftwork of Sunna's that the city chambers contains, have been relocated from the former city chambers deep within the deformation zone.

      In a boulevard adjacent to the new city chambers sits the new library and town hall. The detailing on the outer panelling of the building was not immediately obvious, but once noticed, the reference to the old centre was clear: the oxide red overlain slats of Kiruna Kyrka's reptilian façade were here rendered in matte black. The new centre appeared then as itself an exhibition space. A grand open-air living museum dedicated to the legacy of Lundbohm's City Plan. The disparity between the representations of heritage highlighted the continual, ever-present tension between the two historicisms I encountered throughout my fieldwork in Kiruna. The contrasting nature of the framing of these histories, one as preserved museum artefact, to be observed as a relict would be, and the other as a vibrant living future, was stark and unsettling. Clear through this presentational framing was the power asymmetries that prefigured Kiruna's resettlement: the celebration of a history which necessitated industrial expansion and economic growth to produce the paternalism of Swedish social democracy. And the other, marginalised narrative, which suggested that that same history is one of displacement and expropriation of land, the homogenisation and denigration of cosmological and livelihood practices, facilitated by the reifying of statehood by property ownership.

Figure 33: Community centre with new library, Kiruna's new centre. Photo by author, August 2022
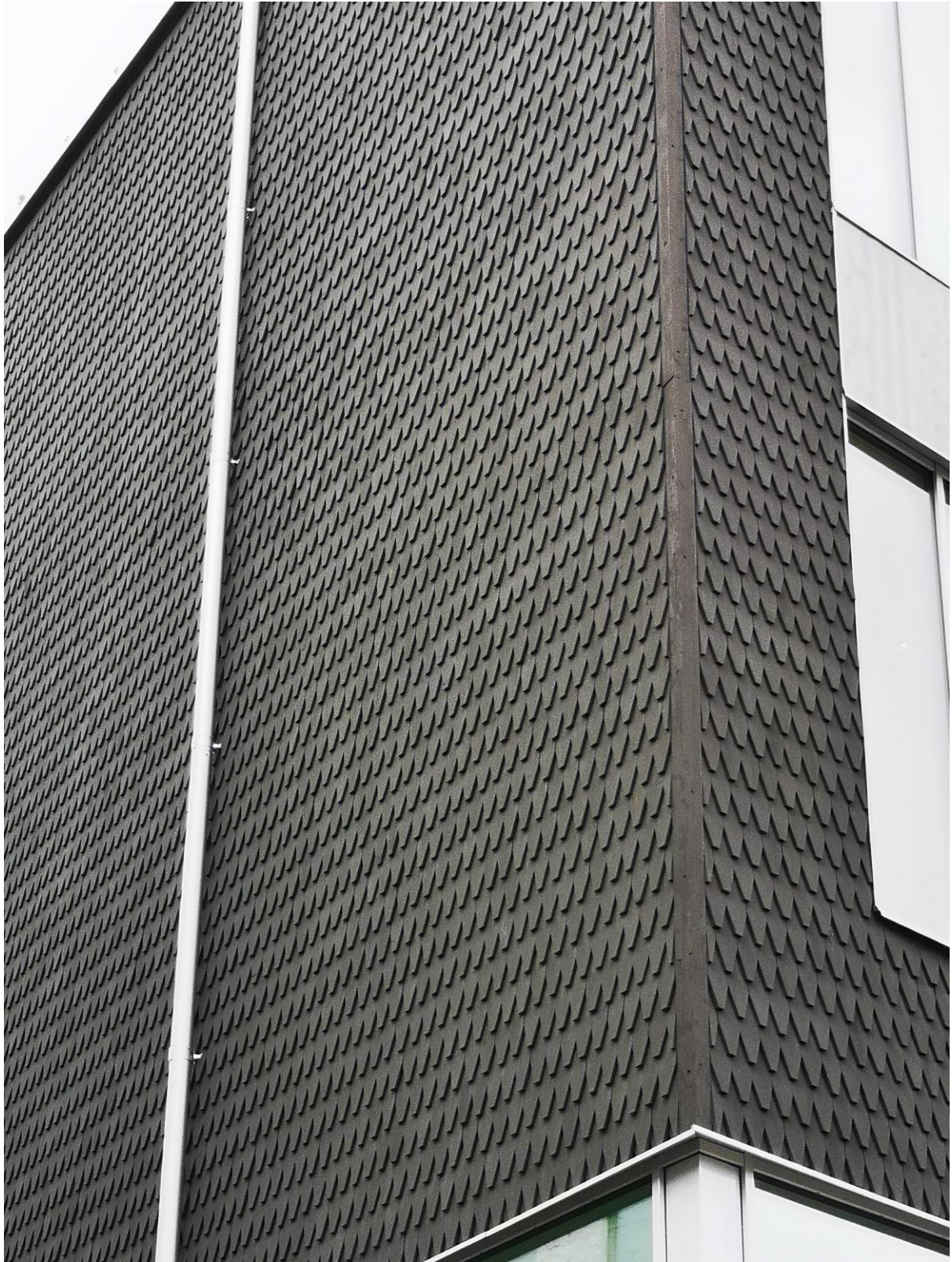
Figure 34: Detail from Community centre that shows façade in homage to Kiruna Kyrka. Photo by author, August 2022

Chapter Nine

Conclusion

"If the rule you followed brought you to this, what use was the rule?"
Cormac McCarthy, No Country For Old Men, 2005

In describing where the power asymmetries inherent to a colonialism deployed throughout the 19th century overlap with contemporary capital's recalcitrant need for resource accumulation within the context of Kiruna's resettlement, I have suggested here that LKAB has recodified coloniality as socially and politically acceptable form of MIDR.

Yet, the demarcation of colonialism from capitalism is beyond the scope of this thesis. Instead, two central themes emerged from within, and threaded through, these empirical chapters. The first theme is coloniality as a process of land expropriation, constituted as the intersection of property ownership and the displacement of Kiruna's inhabitants. This narrative is recounted via a history of displacement in the fourth chapter, followed by an articulation of Kiruna's current material conditions that contribute to the eviction from, and demolition of, inhabitants' homes and businesses in the deformation zone. Chapters Six and Seven point towards coloniality as an ongoing yet recodified process, operating under the guise of urban development. Chapter Six's invocation of the bureaucracy underpinning the DCP implicates a structural violence premised on the obfuscation of decision-making powers at the core of the resettlement process. The asymmetry of decision-making power between Kiruna municipality and LKAB is expanded in Chapter Seven to incorporate how futures are simultaneously imagined and delimited by the mine. Evidenced in the binding of multiple futures to a single vision of material and civic regeneration in Kiruna's new centre is a modified, contemporary enaction of settler colonialism's logics of displacing a local population to gain access to economically viable resources.

Rooted in Chapter Four and depicted throughout the empirical chapters is a leitmotif of spectrality: the multiple and varying ways that haunting occurs throughout the archival, material, and interview data. Chapter Four drew upon the tension between two overlapping yet conflictual historicisms of Kiruna's emergence. The underlying premise of the relational and entangled disposition of heritage narratives

is brought into focus, highlighting how marginalised colonial historicism informs and haunts the dominant discourse of industrial heritage: the former made increasingly present in its pronounced absence among contemporary mythologising of the settlement of the town. Chapter Five pursues the spectrality of an absent-present through the emergence of alternative narratives to LKAB's discourse of care in the materiality of the deformation zone. The ruination of Kiruna's built environment within the zone is used to reify the abstract socio-political forces that enforce such dilapidation. In Chapter Six, the spectre takes the form of the resettlement plan as a virtual object in the present. Haunting the cultivation of life in Kiruna's present form, the virtual object casts a temporal shadow backwards from the prospective future it promises, organising how life unfolds and is enfolded within the deformation zone. Through the organisation of life from the prospective of the future, I articulate the spectrality of Kiruna's resettlement in Chapter Seven. The delimiting of informants' capacity to govern their present circumstances leads to an inability to imagine a future outside of the one imagined on their behalf by LKAB. Here then, the ghost takes the form of the futures made absent by the resettlement plan: the stunted 'what if?' of a time out of joint.

Focusing explicitly on the two overarching themes of haunting and coloniality, Chapter Eight argues that LKAB produced the former through deploying the latter. In doing so, I have suggested that settler colonialism by means of property ownership in Sweden's north never ended, and instead it continues under the auspices of neoliberal capitalism. Chapter Nine reiterates Chapter Eight's insights via a return to the field one year after having concluded the fieldwork in August 2021. By August 2022 the deformation zone is all but evacuated, and the new centre is far from settled. There is no longer any 'what if.' From this vantage point, the spectre takes a new and final guise: that of the ephemerality of the present in which the fieldwork took place, a haunted memory and uncanny apparition of a town that was and is no longer.

Epilogue

Located on the raised manmade steppe to the northeast of the new centre are two derelict mining towers that used to service the open pit at Tuollavaara. Local children talked of ghosts visible at the rectangular windows of the tower, old miners perpetually at their work, perpetually bent to their sacrificial labour. At present there are no plans by LKAB to demolition these grey sylph towers that overlook the resettled centre. As LKAB's former pit at Kiirunavaara can no longer be seen by residents from the new centre, and apparently the underground explosions no longer felt here either, these mute and ghostly sentinels stand as material testimony to the conflictual duality of Kiruna's past. Both the colonial legacy of extractivist expansionism as Kiruna's progenitor and LKAB's framing of this heritage as industrially driven civilisational progress are present in the unaltered, looming materiality of these towers.

At night the new centre was as eerily quiet as the deformation zone was approximately one year before. The hotel receptionist told me that some, but not all the apartments were occupied, citing the expense of the properties there pricing a lot of the former locals out of the area, even after they were paid their reparations. However uncannily similar walking through the new centre was to my expeditions into the deformation zone a year earlier, there was one comforting difference: there were very few lights, in scarcely any of the windows.

I flew south to Stockholm after my lunch in SPiS on that August Friday in 2022. The Bothnian coast south a great seam inlaid with gilt shimmering and phosphorescent in corrosive radiation east to the sea. All below seeming ecophagy: clusters of moribund burrower-leeches upon a dilapidated crust. A great phantasmagorical gallery. You are here, they are here also.

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