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Björn Reichhardt

Ferments, Fences, Futures. Ecologies of Transformation in Rural Mongolia

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Björn Reichhardt https://orcid.org/0000-0002-9567-4651

Ferments, Fences, Futures

Ecologies of Transformation in Rural Mongolia

Reichhardt, Björn

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Dekan

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Abstract

This dissertation is concerned with ecologies of transformation in rural Mongolia where distinct forms of environmental wealth, such as milk, land, and water, are turned into resources. As such, environmental wealth becomes subject to transformations within future-oriented paradigms of infrastructural development, conservation, land privatization, and milk fermentation. With its main research locales situated in the northern village Khatgal and the Khövsgöl Lake National Park, the study focuses on three key themes, including ferments as embedded in pastoral dairying, fences in the context of land privatization, roads as proxies for the timescapes of capitalist progress, and futures providing the temporal points of reference for capitalist and non-capitalist imaginaries of growth and well-being.

While the thesis addresses the historical embeddedness of environmental wealth as exemplified by Khövsgöl Dalai, Mongolia's largest freshwater lake, the main focus is placed on the post-socialist era. Since state socialism fell apart during the early 1990s, Mongolia's transformation to a neoliberal economy has been described as an historical moment where for many the "only continuity [is] discontinuity" (Højer and Pedersen 2019, 15). This post-socialist transformation is marked by uncertainties expanding into all aspects of life through the implementation of neoliberal land reforms, infrastructural development, and extractive industries. Under this condition of "chronic uncertainty" (Buyandelgeriyn 2007, 130), rural households in both steppe and settlement environments are faced with, and must navigate, precarity.

In this context, the notion of *khöröngö* emerges as the central theme of my thesis. Khöröngö is a highly polysemic term that translates as ferment, capital, and property. As such, it speaks to versatile forms of wealth brought into being through processes of accumulation, growth, and property relationships. Depending on its biological, social, and economic embeddedness, khöröngö can be both fragile and stable to varying degrees. I thus regard khöröngö as both an actor of transformation and a subject of transformation. I understand transformation as the processes through which different forms of wealth, subsumed under the term khöröngö, change and are turned into new shapes and forms, for example, pasture ecologies through animals and microbes into milk and dairy as entities of more-than-human value. Value, in turn, is ascribed to material and immaterial entities and changes through human intervention, such as translation as a process that provides insight into how the values of certain entities change and are changed across

systems and domains of life. I methodologically approach translation as an ethnographic practice and as a conceptual framework through which transformation processes can be both enacted and traced.

Because of its polysemic nature, studying and analyzing translations of khöröngö is difficult and challenging. In this thesis, I focus on a set of specific translations: The first translation of khöröngö is concerned with environmental wealth as exemplified by the Khövsgöl Dalai watershed and its transformation into a natural resource and national park to create profit under the premises of infrastructural development through road construction, nature conservation, and eco-tourism. This translation of khöröngö addresses how nature becomes a resource and the subject of development through socialist and capitalist resource logics (Hirsch 2022). The second translation of khöröngö addresses wealth through the lens of land, property, and infrastructure. This translation focuses on the enclosure and fragmentation of domestic living space through property privatization and fence building. It refers to private land and how it is transformed into khöröngö in times of precarity. Here, tensions emerge between privatization as a mode of offering access to and accumulating wealth, and privatization as a mode of expropriation where property is always threatened and demands protection and maintenance to sustain its growth potential. Third, I address dairy khöröngö in form of lactic ferments as embedded in pastoralism and the generation of biosocial wealth exemplified by milk fermentation. Here, khöröngö relates to a specific form of accumulated biowealth forged through the more-than-human relationships framed by milk, microbes, and pastoralism. Through the attempt of joining property khöröngö and dairy khöröngö, ferments became a key element in the process of the establishment of a dairy cooperative and by expanding resource logics to microbial scales.

These three translations point to the underlying logic of development aiming to catalyze economic growth while extracting localized wealth. Ultimately, the above translations are jointly discussed through the notion of futures, which highlights the temporal component of the research, taking into account state capitalist narratives of promised wealth through development and infrastructure. The juxtaposition of linear and circular modes of growth in this thesis provokes questions of how continuity is engendered through care, maintenance, and knowledge, with a particular focus on the everyday lives of pastoral herder women. By ethnographically investigating more-than-human worlds in form of multispecies interaction, human-environment relationships, infrastructural interventions, and the prospects of multidisciplinary science, I

theoretically engage with feminist and multispecies schools of thought to offer a new, critical perspective on progress and crisis as the guiding paradigms for post-socialist society in Khatgal and beyond to which the life cycles of pastoral milk fermentation offer an insightful counternarrative.

Acknowledgments

A doctoral thesis, I can confirm now, is not written alone. It is a collective effort that comprises such a broad range and variety of contributions that it is truly a challenge to decide how to start and express my gratitude and appreciation to all the wonderful individuals who supported me along the way. I always knew that my acknowledgments will be the last part of the thesis I would write. Now, here I am, in disbelief that this thesis is written, and deeply touched by the process it took to reach this point. I once received great advice from Dolly Kikon, an inspiring scholar and comrade I met in Portugal in 2019. I mentioned that I didn't know how to start writing my thesis. Dolly responded: "Think of your dissertation as a body. Start with writing from the heart; with what has moved and excited you the most." Thank you, Dolly, for your generous advice and inspiration. I profoundly value our brief encounter until this day. In its final version, the thesis begins with Khövsgöl Dalai, Mongolia's Mother Ocean (Dalai Eej). As the county's largest freshwater lake, Khövsgöl Dalai has fascinated me ever since my first visit in 2015. Her deep blue water kept giving me peace, it nourished my body and mind, and it comforted my soul. I am indebted to the Mother Ocean for her generosity, and I truly hope that this unique body of water will live forever.

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Through my supervisor, Prof. Dr. Joniak-Lüthi, I was affiliated with the Roadworks research project which brought forth connections with brilliant scholars that I would not want to miss. Tom White, Alessandro Rippa, Huying Ng, Till Mostowslansky, Galen Murton, Nadine Plachta, Judd Kinzley, Roger Norum, what else can I say than “good times!”

Finally, I want to take the opportunity to praise and thank some very special persons in my life: Anna, we went through everything together. From the best to the worst, from the happiest to the saddest moments, you always had my back. You cared for me in the most heartwarming ways; be they a spontaneous dinner at home in our eternal WG, dancing through Berlin's clubs at the most unexpected moments, ten hour drives to Switzerland without turning on the radio once because we would just talk and talk and listen to each other when things were a bit rough in our lives. Thank you for your care, trust, and guidance. I love you from the bottom of my heart. Flo (aka Schlange), what would I do without the friendship and comradeship we share? You took me away from the academic bubble in moments when I needed it the most. You and your untamed spirit always reminded me of how important it was to stay down-to-earth, how it counted much more to be my true self than striving for perfection. I love you, brother. Thank you and your wonderful wife Jessie for always being there and keeping your doors open for me. You became parents to Freddie, the sweetest child ever, and you chose me to be Freddie's godfather. Being part of this family means everything to me! Amal, you were a huge inspiration for my approach to photography, and I love you for that and so much more. You always made sure I get some quality time, from food to spa days to Sunday night cocktails, and most of it we shared just like we shared countless bowls of *msabaha* and *fatteh* that we devoured with deep love. You will always put a huge smile on my face, and I love how being weird can feel so comfortable with you.

Before I leave readers with the thesis, I can't help but taking advantage of my privilege to fill these first pages at my will and leave the following note. Like the thesis ahead, I started these acknowledgments by writing from the heart. I end by writing from the gut. My gut, though, is at unease. I submit this thesis in a time of ongoing genocide in Palestine, Sudan, and Congo. The thesis has no direct link to the violence caused to the thousands of Palestinians and millions of Sudanese and Congolese people. But the thesis is about criticizing extractive resource logics and unequal power relationships. Although subtly, it is also about hope that roots in practices of continuity opposing exploitation and marginalization. "Hope is a practice" as one, to me unknown, activist claimed at a protest in solidarity with Palestinians in Berlin in November 2023. We need to practice hope as much as we need to reflect on how we might deny hope to others. On this final note, I dedicate this thesis to all those who were denied hope by the colonial forces of extractivism and violence.

Note on Transliteration

Throughout the thesis, the following system has been used when transliterating from the Mongolian Cyrillic alphabet:

А	a	П	p
Б	b	Р	r
В	v	С	s
Г	g	Т	t
Д	d	У	u
Е	ye	Ү	ü
Ё	yo	Ф	f
Ж	j	Х	kh
З	z	Ц	ts
И	i	Ч	ch
Й	i	Ш	sh
К	k	Ъ	“
Л	l	Ы	y
М	m	Ь	‘
Н	n	Э	e
О	o	Ю	yu
Ө	ö	Я	ya

Mongolian terms are written in italics when first used, and without italics thereafter. Mongolian words that do not have a plural version, such as khöröngö, ger, or khashaa are mentioned in their original version without adding a Roman “s.” The transliteration of proper names of organizations as well as Mongolian terms used in quoted works were not changed.

List of Images

List of Abbreviations

ADB	Asian Development Bank
AN	Ardchilsan Nam (Democratic Party)
CAREC	Central Asia Regional Economic Cooperation Program
CRK	Citizens Representatives Khural
GC	Global Communities
KDP	Khovsgol Dairy Project
KLNP	Khövsgöl Lake National Park
MAN	Mongol Ardyn Nam (Mongolian People's Party)
MNT	Mongolian Tögrög (Tugrik), currency of Mongolia
MPR	Mongolian People's Republic
MPRP	Mongolian People's Revolutionary Party
NGO	Nongovernmental Organization
SPAA	Tusgai Khamgalaltai Gazar (Special Protected Areas Authority)
SSKh	Sarlagiin Saikhan Khishig Khorshoo (Blessed by Yak Cooperative)
UOK	Ulsyn Ontsgoi Komiss (State Emergency Commission)
USAID	United States Agency for International Development

Glossary of Mongolian Terms

aarts	wet sour curds
aaruul	dried sour curds
aduu	horses
ail	family, household
aimag	province
airag	fermented mare's milk, soured yak's/cow's yoghurt
ard	people
ashiglal	(land) use
avdar	household chest
ayuulgüi baidal	security
bag	subdistrict
baigal, baigal orchin	nature, environment
baishin	house, building
bayalag	wealth
böö	shaman (make)
burkhan	god
byaslag	cheese
dalai	ocean
deej	first portion of food stuffs (milk, tea, vodka, curds) used for offerings; also, scientific sample
deel	Mongolian robe
delkhii	earth, world
domog	mythical legend
ediin zasag	economy
eej	mother
ekh	source, origin, mother, ferment
ezemshikh erkh	right of land possession
ezemshil	(land) possession
gal	fire
gal golomt	keeper, protector, and heir of the household fire; also, fire spirits
galch	person who takes care of heating a building

gazar	land, place
gazryn ezen	land master
ger	yurt, house, home
gol	river
gudamj	alley, street
güü	mare
khadag	sacred, blue silk scarf
khainag	yak-cow hybrids
khamgaalalt	protection
khangai	mountain range
khashaa	fence; fenced property
khavarjaa	encampment/pasture
khel am	injurious talk, gossip
khetsüü	hard, difficult
khishig	fortune
khoimor	sacred and most valued part of a household
khot	city
khödöö	countryside
khöröngö	ferment, wealth, property, capital, heritage
khörsh	neighbor
khulgaich	thief
lus savdag	water and mountain spirits
mal	livestock
malchin	herder
malyn khulgai	animal theft
manaach	guard
mangas	monster
mor'	horse (for riding)
mönkh tenger	eternal blue sky
muu yum	bad things
muuryn baishin	small cabin, lit. cat cabin
namarjaa	fall encampment/pasture
negdel	state-owned herder collectives

nutag	homeland
nuur	lake
oron	nation (geographic)
otor	nomadic long-distance migrations
ovoo	sacred stone cairn
ömch	property, possession
ömchlöl	(land) ownership
öröm	clotted cream
övöljöö	winter encampment/pasture
sarlag	yak
sum	district
süld	metaphysical life-force of a person
süü	milk
süülgüi chono	wolves without tails
süütei tsai	milk tea
tarag	yoghurt
tosgon	village
tsaatan	reindeer herders
tsatsal	special spoon used for milk offerings
tsenkher zam	blue road (across the frozen lake)
udgan	shaman (female)
us	water
uul	mountain
ükher	cow, cattle
ünee	female cow/yak
ürslekh yos	seeding ritual
zakh zeel	capitalism, market economy
zakhirgaa	administration
zakhiragch	governor
zam	road
zuslan	summer encampment/pasture

Ferments, Fences, Futures

Ecologies of Transformation in Rural Mongolia

"Mother Earth, because we love you so dearly,
Mother Earth, you will be of eternal age."[1]

Image 1: Four birds fly across Khövsgöl Dalai. Khatgal, June 2018. All photos in this thesis were taken by the author, unless indicated otherwise.

1. Introduction

Ösökhöö's hands slid across the steering wheel from one side to the other to avoid as many holes and cracks as possible of the steep dirt road we crawled up in his minivan. In the back of the car, everyone was grabbing a handlebar to stay stable in their seats. However, the bumpy ride could not prevent us from continuing our conversation about the versatile dairying practices that Dalaimyagmar had just demonstrated. Zoloo and

[1] "*Delkhii Eej tandaa khairtai bolokhoor, Delkhii Eej ta mönkh nastai*" is the first line of the refrain in Badaruugan's popular song Mother Earth (Delkhii Eej).

Ösökhöö,[2] and I found ourselves stuffed into a car with Tina and Jessie, two archaeologists from the US and New Zealand, and Chalotte and Steen, two Danish NGO workers who all had in common a shared interest in milk, rooted in their fascination for Mongolia's dairy pastoralism. The two archaeologists wanted to know what pastoralists must have done right over millennia for that wealth to last so long. Studying domestic dairying practices in the present was one of their approaches to better understand the deep past of milk, microbes, and microbiomes. The two NGO workers wanted to know why this milk wealth was not transformed into more wealth, in monetary form. They observed and assessed what kind of products were made and best marketable to generate future wealth and elevate the difficult living conditions of herders in Khatgal. All of them furthermore had in common an interest in preserving dairy heritage. Dalaimyagmar and Byambaa, the herders we just visited, were concerned with all of these wealth-related issues – past, present, and future.

As I visited pastoral households to do interviews before, I only began to develop a deeper interest in pastoral dairying. During these visits, dairy products were always present, and I took them for granted as the daily foods on which local yak herders would rely on - until this point. I was more concerned with how rural Mongolians navigated the precarious times of neoliberal development as they experienced it in their present day lives. As we continued our conversation in the car talking about fermentation, temperature, taste, microbes, probiotics, and pathogens, I realized that dairy was much more than food. It was this moment that marked a major turn and changed the general trajectory of my research.

I had already spent several months doing ethnographic fieldwork in Khatgal when I heard about an open position in a project with the title "Heirloom Microbes: The History and Legacy of Ancient Dairying Bacteria" at the Max-Planck-Institute for the Science of Human History in Jena, Germany. The project was designed to study and compare both ancient and contemporary dairying, and the co-evolution of dairy microbes and the human gut microbiome in Mongolia, Jordan, and the Central European Alps. Given that the scholarship I received from the Mongolian government was about to finish, and I needed funding to further pursue my research, I decided to apply. Soon I learned that the two project leaders Tina and Jessie planned to come to Khatgal in July to undertake a

[2] Zoloo was my partner and helped me during much of my fieldwork from 2017 to 2020. Ösökhöö, at the time, was working as a driver for the Mongol Ujin tourist camp in Khatgal. We became friends over the years.

feasibility study. I offered my help as a guide and interpreter which they gladly accepted. Tina and Jessie arrived in Mörön together with Steen and Chalotte, where I picked them up at the airport. The latter two were the initiators of the Khovsgol Dairy Project (henceforth KDP), which was a collaborative enterprise between the Danish organizations Architects Without Borders and Dairy Without Borders and formed the umbrella organization for a local dairy cooperative in Khatgal with the name Blessed by Yak cooperative (Sarlagiin Saikhan Khishig Khorshoo).

Soon after meeting in Mörön, we departed to Khatgal. On our way, we passed by a herder family who advertised *airag* (Mongolian for fermented mare's milk) for sale at the roadside. We decided to stop and let Tina and Jessie have their first taste of the seasonal beverage that is so popular among Mongolian pastoralists. Once we entered the *ger* (yurt and home) and the first cup of airag was served, a vibrant conversation about the production techniques developed. The two researchers had a background in archaeology and biomolecular anthropology, and their approach to doing fieldwork was different from mine. Where I saw the hard physical labor of stirring airag, they saw biochemical reactions. When I tried to estimate the quality of airag by its sour taste and fizzy character, the acidic drink reminded them of lactic acid bacteria and how they reduced the presence of lactose. At some point, the conversation with the herders turned to the question for the lactic ferment they used, and we asked from where they got their starter cultures. Since I had very limited knowledge of fermentation terminologies at the time, I needed to ask Zoloo, who accompanied us, for help. *Khöröngo* was the word I was looking for. The herders responded that they purchased this year's khöröngö from horse herders in Saikhan district (*sum)* in Bulgan province (*aimag*) – a quite fascinating fact given that they must have traveled hundreds of kilometers for a starter culture. On the other hand, I was already aware of the popular status that airag from Saikhan district enjoyed throughout the country. The conversation continued over a few more sips of airag. We bought several liters to go and then continued our drive northwards to Khatgal.

The word khöröngö stuck with me. I felt that I had heard this term before, yet in a different context. On the next day, we went to visit Dalaimyagmar and her husband Byambaa at their summer camp located in a valley at Ulaan Davaa some twenty kilometers to the south-east of Khatgal's town center. While we were sitting inside the ger and watched Dalaimyagmar preparing several dairy products, the term khöröngö was mentioned again. This time it referred to the yoghurt Dalaimyagmar used for fermenting the fatty milk of their yaks. It suddenly dawned on me: I had heard the term khöröngö

when I was doing fieldwork for my master's thesis in Ulaanbaatar in 2014. I interviewed a woman who recently settled on her own piece of private land. We conversed about why it was important to own land and enclose it with a fence. She explained that she had spent more than a decade living for rent on fenced properties across the city's ger districts. She commented with certitude: "This is now our place. Our own property. The land outside the fence is other people's land. My property is my *khöröngö* [in this context, wealth]."[3] The term became most intriguing. How could it be, I wondered, that both fenced, private land in urban settlements and microbial starter cultures used for milk fermentation in pastoral households could go by the same term?

When I started my fieldwork in early 2017, I set out to study spatial security and protection in Khatgal, a northern Mongolian village that developed as a promising node for Mongolia's tourist industry. My initial research interest was guided by the question of how precarity and uncertainty as the results of neoliberal market reforms were navigated through spatial practices by rural populations in both towns and pastures. I assumed precarity and uncertainty to be omnipresent results of the post-socialist transformation and that people in Khatgal must have made either individual or collective efforts to provide for stability and secure their livelihoods.

The primary incentive for this research developed during a touristic trip to Khatgal in 2016, when I recognized for the first time the abundance of fenced land that shaped the built environment of the entire village. Private properties, administrative and communal buildings as well as businesses such as tourist camps, they all were enclosed by wooden fences. Put bluntly, I initially saw fences as a kind of materialized security. However, I quickly noticed that in several cases, the fenced properties were uninhabited – they were simply empty. In other cases, only a set of wooden poles seemed to demarcate what was to become a fenced property in the future. What, then, was the motivation behind building these fences around land that was not used? As it is usual with anthropological research, things got more complicated the further I delved into fieldwork. The more time I spent living in Khatgal, the more I learned about how building fences was embedded in complex spatial and administrative relationships. While some fences enclosed uninhabited land and blurred ownership relations, some people in Khatgal did not find land to inhabit land as they were denied ownership of land as property. Odonchuluun, for instance, was a middle-aged man whom I met during my fieldwork, and who struggled with the fact that

[3] Personal fieldnotes, Ulaanbaatar, August 2014.

he did not own a *khashaa* – the Mongolian term that refers to both the fence itself and the land enclosed by a fence. As such, khashaa points to complex property relationships that are deeply intertwined with material and immaterial spatial practices. In Khatgal, land was highly desired by both local inhabitants and external entities, including urban entrepreneurs, state institutions, international development agencies, and conservationists. Although the Mongolian law guaranteed land ownership of 0.07 hectares to any Mongolian citizen above the age of eighteen, there were inequalities and tensions in terms of how this law was applied in Khatgal.

In this dissertation, I am concerned with ecologies of transformation and unraveling relationships of growth as they unfolded between milk, land, and water as specific, yet interrelated, forms of environmental wealth and their transformation into distinctive resources. In this context, the notion of *khöröngö* emerges as the central theme of my thesis. Khöröngö is a highly polysemic term that translates as ferment, property, and capital – altogether notions that are not monolithic but take up different shapes and forms. A ferment can be a small portion of yoghurt or liters of airag, property can be fenced land or a herd of animals, and capital can be economic, social, biological, or all of them at once. Khöröngö thus is both an actor of transformation and a subject to transformation as embedded in neoliberal development dynamics in post-socialist Mongolia. As my fieldwork was mainly situated in Khatgal village and the Khövsgöl Lake National Park (KLNP), the study focuses on three key topics, including ferments and their use in pastoral dairying ecologies, fences in the context of land privatization, and futures as temporal points of reference materialized through roads and infrastructural development. Taken together, these topics register conflating and conflicting timescapes for capitalist and non-capitalist imaginaries of progress, growth, and well-being.

Through my own ethnographic insights, gathered about a quarter century after the introduction of neoliberal capitalism in Mongolia, I seek to critically analyze the generative character of khöröngö and the limits of growth by investigating the ways in which rural Mongolians engage and interact with the versatile material and immaterial forms of khöröngö. By drawing on approximately two years of ethnographic fieldwork and research trips distributed across the years from 2017 to 2023, I methodologically approach this task through translation as an ethnographic practice and as a conceptual framework through which transformation processes can be both enacted and traced across systems.

I situate my research in the (ongoing) turmoil of Mongolia's post-socialist transformation, which has been described as an historical moment in its own right, where for many the "only continuity [is] discontinuity" (Højer and Pedersen 2019, 15). With the onset of the 1990s, the dissolution of state socialism crushed visions of progress and stable futures. Economic growth and prosperity were promised on the base of market liberalization, infrastructural development, and new property regimes (Rossabi 2005; Verdery 2003). But "the term market economy came to imply insecurity, hardships, competition, shortages, instability, and even danger and fear" (Buyandelgeriyn 2007, 130). New forms of social disintegration, economic disparities, and unprecedented environmental damage prevailed (Bumochir 2020; Myadar and Jackson 2018; High 2017). Among industrial extractivism, skyrocketing indebtedness, and an above-average affectedness by global climate change, Mongolians found themselves confronted with fragile and precarious living conditions. The post-socialist transformation drained Khatgal too. People left the former city in waves and industries that provided for steady employment were abandoned and left in ruins. The construction of an asphalt road that formed a direct connection to the capital city Ulaanbaatar fostered new hopes for prosperity, but instead of benefitting from developmental growth Khatgal's inhabitants faced new dynamics of capitalist extraction.

Located at ninety-eight kilometers north of Mörön, the administrative center of Khövsgöl province, Khatgal stretches along the southern shores of Khövsgöl Dalaiwhere it runs over into its sole drainage, the Eg River. As is typical for most province centers and district centers across northern and central Mongolia, people in Khatgal lived in wooden log-houses or ger built on fenced properties. According to official numbers, Khatgal had a population of 3,418 inhabitants in 2019.[4] However, I have often heard that there was a seasonal difference between the numbers of actual and registered inhabitants. This was because many people from Mörön and Ulaanbaatar owned property in Khatgal, which they exclusively used during their summer vacation. Village life in Khatgal was materially compartmentalized and separated into unequally distributed shares of private land.

[4] According to the 2019 census (Mongolian Statistical Information Service 2020).

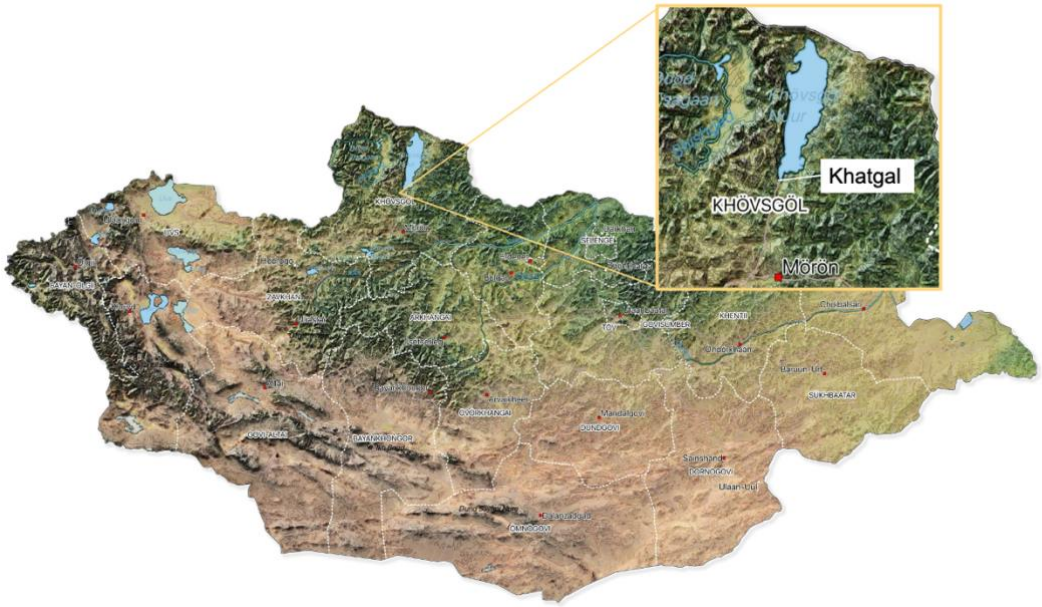

Image 2: Map of Mongolia with location of Khatgal. Source: Adobe Stock 2024.

How did rural households in the steppe and settlement environments of Khatgal navigate precarity when the material conditions of life were in constant flux? *Khöröngö*, I argue, bears the potential to counter the socioeconomic ruptures of life under "chronic uncertainty" (Buyandelgeriyn 2007, 130) by drawing attention to biosocial and socioeconomic dynamics that go beyond the progress-oriented growth paradigm of neoliberal development. In this introduction to the thesis, I will first conceptually discuss khöröngö and its multiple meanings by locating it in the current anthropological literature on Mongolia. I will then turn to my research approach and reflect on the methods I used to gather the ethnographic insights that I discuss throughout this thesis. The introduction concludes with an outline of the individual chapters of the thesis.

1.1.Locating Khöröngö: Land, Milk, and Water as Sources of Life

Khöröngö comes with many meanings and in many shapes. When I looked up the term online in the Mongolian Encyclopedic Dictionary (2016), I found that it relates to a broad range of terms, including ferments, wealth, heritage, capital, assets, and property. All these different forms of khöröngö are imbued with specific understandings of value and wealth that are differently measured and that can change over time and space. As such, khöröngö appears to be historically, politically, economically, biologically, and symbolically charged to such an extent that finding a singular translation for the term is

truly an ambitious, if not impossible, endeavor. How to translate something as polysemic and manifold as khöröngö? A classic approach to multi-sited research is to "follow the thing" by "tracing the circulation through different contexts of a manifestly material object" (Marcus 1995, 106). However, it becomes extremely difficult to venture across and through spatial, temporal, and systemic contexts when a term, or thing, respectively, is as versatile as khöröngö. How to make sense of something that frequently changes its location, its form and shape, and its meaning? I suggest that this can be achieved through the versatility of the term itself and translation as a process and practice with a focus on how khöröngö is embedded in various forms of translation. Before embarking on this task, a review of the current literature addressing khöröngö will provide useful and necessary orientation.

1.1.1. Khöröngö as Idea, Concept, and Potential

During the past two decades, scholarship on Mongolian anthropology has demonstrated an increased interest in property relations (Plueckhahn 2017, 2020; Pedersen and Højer 2019; Sneath 2018; Empson 2020, 2019, 2011; Humphrey 2002;) and the making of Mongolian capitalism (Bumochir 2018; Plueckhahn and Bumochir 2018; Chuluunbat and Empson 2018; Sneath 2012) with financial credit and debt as its most discussed byproducts (Waters 2018, 2023; Empson 2019). While these publications highlight market dynamics and business politics as well as the role of credit and trade networks in Mongolia's neoliberal economy, the role of khöröngö as capital remains widely marginal. Caroline Humphrey (2002, 71) approaches a definition of khöröngö as something that "conveys an idea of transformation and multiplication, since the same word is used for yeast, for the ferment used to make alcohol, for seeds, for money capital, and more generally for a source or origin." How, though, do khöröngö and transformation relate? If multiplication is understood as growth, how is khöröngö involved in growth? With reference to Humphrey (2002) and Senath (2002), British anthropologist Rebecca Empson (2011, 306) argues for livestock on the one hand, and private property in form of houses and small businesses on the other hand, as mobile and static forms of accumulated wealth, respectively. Animal herds, she underscores, resemble khöröngö as an organic, distributable, reproductive, and shared form of wealth and property (ibid.). One important point Empson makes is that both forms of accumulated wealth, mobile and static, are "commendable" and thus recognized through the labor people invested in such

accumulations, though static forms of wealth are often seen "as morally ambiguous" (ibid.).[5] She distinguishes:

> First, accumulating wealth in these visible [static] sites contrasts with the accumulation of wealth among nomadic pastoralists. Wealth in the form of buildings draws attention to individuals who can afford to build and maintain them, rather than pointing to a group of people's shared ownership of the livestock that they tend. Unlike herds that grow and multiply, these building [sic!] are often not distributable (at least not in the same way), nor do they expand to accumulate more wealth. Secondly, in the district centre it is not always clear what activities or exactly which relations went into the accumulation of this kind of wealth.

In her study on property relations and dynamic ownership in Ulaanbaatar, anthropologist Rebekah Plueckhahn (2020) draws a different picture of what Empson (2011, 306) describes as "static sites of [wealth] accumulation." Her study is concerned with khöröngö as real estate property, for example in form of apartments or fenced private land (*khashaa*), which is referred to as "*ül hödlöh höröngö*, technically translating to 'immovable investment'" (Plueckhahn 2020, 16, italics in original). Echoing the authors quoted above, Plueckhahn (ibid., 17) argues that "[a] key part of the concept of *höröngö* is its potential to *grow* and expand" (italics and emphasis in original). Even though khöröngö is considered immovable property in this context, it is further argued that, within a city that is ever changing and shaped by the dynamics of economic flux, "*höröngö* can be best understood as a kind of shifting stake in the urban landscape" (ibid. 17, italics in original). Plueckhahn thus suggests that khöröngö relates to material and immaterial transformations as well as to various modes of (im)mobility.

One key point in Empson's distinction between mobile and static khöröngö and wealth accumulation that needs further investigation is that the growth of mobile, organic khöröngö such as herds of livestock or dairy products, depends on maintenance, too. Ultimately, when taking up the form of animals, yeast, and yoghurt, khöröngö is "a generative substance" (Plueckhahn 2020, 17). In addition, I argue that the generative potential of khöröngö is marked by various limitations, some of which are intentional such as the often-unacknowledged labor and care done by women herders to steer fermentation. Other limitations might be superimposed by higher authorities such as the

[5] I will return to the relationship between labor, maintenance, and khöröngö in the second part of the thesis.

law limiting land possession in size, while yet again other agents of transformation are rather indifferent and ignorant to the limits of growth altogether, such as in the case of what I discuss as infrastructural development in chapter three. In Khatgal, khöröngö was profoundly enmeshed in future-oriented processes of growth and relationships of wealth that created tensions and inequalities.

In the present thesis, I study these relationships by focusing on what I call *dairy khöröngö* and *property khöröngö*. The former relates to pastoralism as a socio-technical system (Sneath 2001) and provides a key element to pastoral dairy production as well as pastoral life cycles more broadly. The latter is concerned with fenced land as private property, which forms a major component of building livelihoods in neoliberal Mongolia (see Plueckhahn 2020). Both versions of khöröngö are embedded in processes of accumulation, circulation, alienation, commodification, and more-than-human engagements, which I will discuss through ethnographic translation. My ethnographic insights will unravel how these translations are brought into conversation in some cases and build tensions at other ends. I furthermore highlight the conceptual growth potential of khöröngö to critically engage with the envisioning of rural futures. Each of these versions is embedded in diverse translation processes which I address through focusing on milk, land, and water. What these three key subjects have in common is that they are historical sources of life that are associated with notions of purity and wealth.

1.2.Methodology

When I first began to undertake ethnographic fieldwork in Khatgal, my focus laid entirely on processes of spatial protection and the experience of living on a fenced property. Fences, I surmised, had to play some role in the lived experience of post-socialist uncertainty. Moving to Khatgal and renting a house, I hoped, would provide an ideal base for exploring what it was like to live inside a khashaa and to what extent fences as spatial objects would generate an impact on social life more generally. My initial approach to study these relationships, thus, was to follow a common mode of undertaking ethnographic fieldwork in the tradition of so-called "village studies", with Khatgal as "the intensively-focused-upon single site of ethnographic observation and participation while developing by other means and methods the world system context" (Marcus 1995, 96). I hoped that everything I wanted to know about fences as protective structures, their social

significance, and their legal embeddedness, would fall into place when it became the lived environment of my daily life.

But fieldwork dynamics can switch and shift, sometimes frequently, sometimes unexpectedly. I developed close social relationships, taught English classes at the local high school, participated in social events and co-organized workshops. I also managed personal conflicts, witnessed violent behavior, and struggled with doubts about making progress at all. I organized several return visits to meet with study participants and establish rapport, but I also failed to keep in touch with others who contributed to this research no less. With ongoing immersion, I soon had to abandon the idea that doing ethnographic fieldwork would develop according to my imagination, expectations, and plans.

1.2.1. Toward a Feminist Approach to Ethnography

I came to Khatgal because it had momentum as a promising hub for Mongolia's tourist industry. As I was interested in the potential socioeconomic inequalities that grew out of this momentum, I hoped to find answers in material and immaterial processes of place-making and spatial protection. The infrastructures built to spark and facilitate touristic momentum in Khatgal were deeply embedded in international development policies and the state's agenda to develop tourism as an alternative pillar for diversifying the national economy, which was centered around mining natural resources. I, too, benefitted from these infrastructural developments as much as I did from being employed in a research project through which my fieldwork trips were funded. While Khatgal certainly was embedded in networks of national, and even global, trade, transport, and travel infrastructures, most of my study participants could not rely on these structures and use them for their advantage the way I and my project colleagues did. Lila Abu-Lughod (2008 [1991], 473) argues that, as Western anthropologists, we need to take into account the historical and contemporary conditions and (infra-)structures through which our work is facilitated. Following Abu-Lughod's call, I provide a brief note on the role of reflexivity, positionality, and reciprocity for the methodological framework of this thesis in the following.

Once I started doing ethnographic fieldwork in Khatgal in early 2017, my research focus gained more depth while simultaneously shifting into new modes of inquiry. The more I immersed myself in the village community, the more did I learn about the

dynamics between land ownership, seasonality, and rural development – altogether themes which I attempted to locate in the context of post-socialist precarity. When I developed a connection to the Blessed by Yak Cooperative, which was run by herder women and a tourist camp manager, I gained first insights into dairying processes, the motivation to capitalize on dairy pastoralism as an economic resource, and development dynamics. Doing fieldwork became more versatile and complex, and I needed to continuously readjust my methods, depending on the study participants I engaged with.

For instance, my research changed profoundly when the dairying practices of pastoral women shifted to the foreground. First and foremost, gendered relationships of place, labor, and care became much more significant topics for my research. This, consequently, required recognizing milking and processing milk as domestic, reproductive labor and multisensory engagements with more-than-human entities. It furthermore required attention to how knowledge was produced and turned into practice among herder women. It also demanded a reflection on the way I engaged in knowledge production based on studying these processes as a male, white European researcher and reflect on my positionality in representing the knowledge of herder women, their everyday practices, and the more-than-human relationships they maintained.

Approaching a feminist methodology proved most useful, following Faye V. Harrison (2007, 25), to "articulate conceptual, theoretical, and ethical perspectives on the whats, whys and hows of research and the production of knowledge." Davis and Craven (2016, 77) draw on Harrison's work and underscore that "methods themselves are neither inherently feminist nor non-feminist." Rather, using ethnographic methods and building knowledge in a feminist context offers us tools to challenge, dismantle, and critique the power hierarchies and social inequalities that relate to gender, race, class, ethnicity, and sexuality (Davis and Craven 2016). A feminist methodology is thus not an approach that exclusively focuses on women, but rather one that includes women *and* other people while being sensitive to power relations and structural inequalities as well as challenging binaries between women and men or humans and nonhumans. In this context, self-reflexivity becomes "an essential component for unsettling hierarchies" (Nencel 2014, 76) by reflecting on the positionality of the researcher vis-à-vis study participants.

Throughout my fieldwork, there were methodological shortcomings and challenges that taught me about my social position and how I was perceived in Khatgal as a village that was promised development. For instance, Odonchuluun, a study participant who was denied land ownership, suggested I should buy property over which he would watch while

I was in Germany. I deeply empathized with the precarious situation of him and his family, but his suggestion also pushed me to think about how the arrival of development was perceived and to question the role of land allocation within desires for wealth and security.

Ultimately, doing ethnographic fieldwork means to study the messiness of life (Murchinson 2010, 13). By constantly navigating new social relationships as well as unfamiliar, and unexpected, phenomena and events, ethnographers need to grapple with a host of challenges while doing fieldwork, including ethical responsibilities, power hierarchies, moral ambiguities, mental and physical health risks as well as emotional joy and distress (see Adjepong 2022). Ethnographic research does not resemble linear progress. It is erratic and very often requires the willingness to take one step forth just to take two steps back immediately after. The messiness of life is thus also deeply inscribed into doing ethnographic fieldwork itself. While navigating these dynamics, it is not only of utmost importance that we as ethnographers commit to not causing any harm to the people we work with during fieldwork. Even more, it is essential to place the experiences of our research participants at the center of our research. Therefore, ethical ethnographic work is supposed to root in a collaborative approach according to which "engaging the subjects of the research as participants in the project" (Pink 2015, 68) is a key element.

Recent methodological debates in feminist anthropology and decolonial scholarship provide valuable insight into how such collaborative approaches can be developed through reflexive approaches that root in recognizing, and critically examining, the situatedness of both researcher and study participants (Nencel 2014; Smith 2021). Nevertheless, because of the messiness of (more-than-) human relationships, there is always the chance that social research can create tensions between researchers and study participants, and put the latter at risk, for example, through misrepresentations by the former. While acknowledging such tensions and risks is crucial, ethnographies can, and even more should, provide positive interventions into the lives of study participants by challenging power relationships based on abstractions and dualisms: "Research relationships", contends Lorraine Nencel (2014, 77), "are aimed at being non-exploitative, and research should include a utilitarian dimension and thus, should not be conducted purely for the sake of knowledge." This is best achieved by engaging a decolonial approach to knowledge production that privileges indigenous perspectives over those rooted in the deep colonial, and imperialist, history of Western (and Russian) ethnographic knowledge production.

I do not see myself in the position of claiming to do absolute justice to these principles of doing ethnography from a feminist, decolonial approach. But these strains of scholarship, in terms of methodology, theory, and practice, have inspired this work and guided me through my interactions with my research participants by being attentive to the challenges and social inequalities that shaped their everyday lives. This note only briefly addresses issues of reflexivity, positionality, and reciprocity from a more theoretical point of view. I will return to them throughout the thesis when further discussing my methods and in the analysis, too. First, however, I provide an overview of my ethnographic material and its analysis.

1.2.2. Ethnographic Material and Analysis

I began doing fieldwork in February 2017, when I moved to Khatgal and stayed until August. Subsequently, I revisited Khatgal in the summers of 2018 and 2019. I furthermore traveled to Mongolia in February 2020, just before the beginning of the Covid-19 pandemic. Once the pandemic set in, I was not able to return to Germany before July 2020. Because of Mongolia's initial success in warding off the pandemic through closed borders and government restrictions, I was still able to carry out fieldwork. My last return visits to the herding communities me and my colleagues collaborated with since 2017 happened in August-September 2022, and September 2023, during which I was able to catch up with recent developments, share initial results, and co-organize public outreach events.[6]

Throughout these fieldwork trips, I have collected a large amount of ethnographic material, which includes fieldnotes, audio recordings, visual material, and other sources such as brochures, maps, and drawings, and posts to the Facebook group "Hatgal News." One of the central elements of my ethnographic research were my hand-written fieldnotes which I collected in A5 format notebooks, accumulating to approximately one thousand five hundred pages. Given that much of my fieldwork took place in private households, often in the midst of everyday activities (women cooking, children playing or doing homework, unexpected guests entering), it was easier to use a notebook to write down scribbles, quick observations, and loose thoughts that I could then reflect upon and further develop at home in the evening. Additional digital fieldnotes were made by typing them

[6] In fall 2023, I and my colleagues in the Dairy Cultures project organized a temporary scientific exhibition at the Natural History Museum in Ulaanbaatar to present research insights and results to the public.

into my laptop, phone, or by recording voice memos when I had no option to write things down. Similar to most ethnographers during the first months of fieldwork, and resonating with Ghodsee (2016, 33) who refers to Emerson *et al.* (2011, 57), I too fell "victim to the twin evils of 'inadvertent summarizing and evaluative wording'." My fieldnotes also often lacked details such as recording body language or sensory perceptions of the given environment. However, over the course of my fieldtrips and with growing fieldwork experience, the style of my fieldnotes became more detailed, resulting in more profound and enhanced descriptions.

For collecting visual material, I used a digital camera, two different 35mm film cameras, my smartphone camera, and a drone for areal recordings.[7] These technologies helped me to record the material conditions of my study, ranging from Khatgal's built environment to the interior of individual households to portraits of my study participants. Alternating between the use of digital and film cameras resonated with the way I perceived places, events, and practices during my fieldwork. For instance, I would mostly rely on my digital devices in dynamic situations that were shaped by movement and simultaneousness such as milking animals, ladling hot milk, or sawing timber to capture interactions between humans and their other-than-human counterparts, as well as body movements, gestures, and techniques in detail. Using digital cameras in such situations had furthermore the advantage of interchangeably switching between photography and videography using one single device. In calmer situations, I often took photos using my 35mm film cameras. Such situations included lone walks through the village, extended conversations inside a *ger*, details of my material surroundings, or simply scenes I considered aesthetic and beautiful. "Photographic images," argues David MacDougall (2005, 3), "are inherently reflexive, in that they refer back to the photographer at the moment of their creation, at the moment of an encounter." In line with this argument, my film camera was an instrument that proved most valuable to me for two reasons. First, once I noticed a scene or thing which I found particularly interesting, I paused and took my camera to photograph it in its most delightful appearance.[8] That way, the camera offered me focus through backpedaling – I was able to order and develop my thoughts by taking a step back (literally and metaphorically). Second, contrary to a digital camera, the images taken on 35mm film are not immediately available. I first had to develop my

[7] Regarding photos, videos, and audio recordings, I have collected more than nine thousand files in total.
[8] Obviously, these perceptions are highly subjective and are guided by my personal thoughts and sense of aesthetics.

photos once I returned from fieldwork, either in Ulaanbaatar or Berlin. This inherent technological delay had the advantage of letting me review, remember, and reflect differently by scrutinizing the images more profoundly. Photos taken with my film camera thus marked my most sensuous, thoughtful, and intimate (post-)field experiences, which is why I included several of these images and my reflections on them in this thesis.

The audio recordings I collected include interviews, conversations, and field recordings. I made these recordings alternately with an audio recorder or my phone, depending on how planned, predicted, or spontaneous the fieldwork situation was. I usually did not get the impression that active recording had a major impact on the conversation and interview dynamics. The people I worked with were often glad to talk about topics such as milk fermentation, human-animal relationships, or the history of Khatgal. Nevertheless, caution regarding audio recordings was necessary, for example, when I recorded interviews with administrative officials. On some occasions my impression was that the presence of a recording device had them talk about themselves as well as Khatgal in the best light. Talking about current developments in Khatgal was much more sensitive. Some study participants would either lower their voice or raise them in discontent when topics such as land allocation, waste management, and road construction were addressed during the conversation. Such intonation was helpful and important when analyzing the recordings.

Despite the many advantages of audio-visual ethnography, the use of recording devices can be very ambivalent and bring challenges with them. Using cameras during fieldwork required ethical sensibility. Whenever I visited study participants in their homes or at their places of work, I asked for consent of taking photos and videos of them, their activities, and the places they inhabited. Whenever I felt that an audio recording was helpful to better understand and analyze conversations, I asked again for permittance to record. Only after consent was granted did I use my recording devices. However, consent always comes with practical limits which I needed to constantly navigate. Fieldwork situations are dynamic and incidents such as an unexpected visitor or a sudden argument can change the setting deeply. The interactions between people or the contents of conversations can change and become sensitive. The presence of a camera or audio recorder in such situations can be inappropriate. Still, my interlocutors were often either reluctant to tell me to switch off the recording or simply forgot about it. In such cases, noticing the changes in the body language and conversation dynamics, I often decided to turn off the recording and write down notes instead. An ongoing reflection on the act of recording

interviews and conversations as well as visual material was thus indispensable. In my analysis, I combined the audio-visual material and the transcripts into individual profiles for people, households, and places. Generally, my approach to analyzing my ethnographic material was not guided by quantification. Rather, I created bundled ethnographic files tagged by topics, places and people, to which I could always resume and consult as the general narrative of the thesis grew.[9]

1.2.3. Immersion

I spent much time of the first weeks of my fieldwork at my new home in Khatgal. I was reluctant to knock on the doors of unacquainted households to ask questions about sensitive topics such as security and post-socialist precarity. My constraints rooted in two main reasons. First, the process of figuring out when to go out and when to stay home was a challenge itself. My initial thematic preoccupation with spatial protection and security as experienced from the inside of the fence led me to assume that post-socialist uncertainty would manifest itself in tangible forms of danger and threat on the domestic level. I expected to be able to observe home practices and events that relate to spatial uncertainty and protection, or perhaps even witness a situation of threat in full effect such as theft. Second, this indecisiveness was linked to the insecurity I carried with me into the field. If participant observation, following Tim Ingold (2014, 388), is seen as a form of education that is built on the premise "of leading novices *out* into the world rather than […] of instilling knowledge *in* to their minds" (emphasis in original), then I felt like a second-grade student on the first day of school. I had an idea what was ahead of me, yet I was curious and nervous. I already had collected first experiences in ethnographic

[9] I processed and analyzed the yields of my ethnographic work during short intervals in Ulaanbaatar and after returning home to Berlin, Germany. At first, I scanned my handwritten fieldnotes and created security back-ups for the collected material by uploading photos, videos, audio-files, and digitalized fieldnotes to physical and cloud-based storages. I sorted through my visual material and filed the material systematically according to recording date and place, followed by a subset of folders structured according to a specific household, topic, event, or location. Individual files were then tagged according to relevance. That way I was able to reduce the mass of eight thousand five hundred photos to a pre-selection of two thousand images. This pre-selection of photos and videos became subject of recurrent review, according to which I created additional layers of tags that further specified their relevance for the thesis. Recorded interviews were categorized similar to the system I developed for the visual material. The recordings were then transcribed and translated with the help of native Mongolian speaker friends and colleagues, as well as by me, and by occasionally using the Chimege transcription software created by BolorSoft LLC. Interviews recorded specifically for the project Dairy Cultures were transcribed and translated by Zoloo. Once transcription and translation were accomplished, I uploaded the individual files to MaxQDA and coded them according to topic, place, and household, predominantly guided by locally used categories and terms (e.g., referring to dairy products). Since many categories overlapped, my code system was designed in a way that left room for change and acknowledge the dynamic nature of the material.

fieldwork during my master's studies, but I still felt insecure about to what degree I was prepared. Were my research questions sufficiently thought through? Would my language skills be sufficient to communicate with interlocutors and gather the material I hoped for?

I decided to begin my fieldwork focusing on the daily lives of my hosts and study their khashaa – fenced compound – from within. I was waiting for things to happen on the property where I lived, I initially felt like nothing I considered intriguing regarding the study of spatial protection ever happened. Ultimately, I realized that my initial reluctance offered productive potential for my ethnographic work: the comfort of home enabled me to do daily chores such as chopping wood, making fire, cooking, occasionally chatting over tea, and improving my language skills during matutinal self-learning in the quiet environment of the house I rented from Tseegii who was one of my hosts.[10] Waiting and tranquility emerged as ethnographically valuable experiences: "waiting upon things is precisely what it means to attend to them" contends Ingold (2014, 389). To some extent it helped me establishing a sense of the seasonal rhythms of everyday life in Khatgal. Spending time at home during winter and early spring, it turned out, was a common thing to do, suggesting that village life retained seasonal elements of the pastoral life cycle with winter being a time of "semi-hibernation" during which daily activities are kept at a minimum (Fijn 2011, 198). During a time where the bustling village life I experienced in the preceding summers retreated to a state of relative tranquility, I was switching between modes of passive and active forms of waiting. Spending time at home provided detailed insight into the domestic sphere that the khashaa enclosed. Many of my daily activities evolved in and around the fenced property where I lived, and I was able to observe various interactions such as neighborly conversations across the fence and regular visitors entering the property. At other times, I saw Tseegii sending away unwanted, drunk visitors before they were able to enter any of the two houses on the property.

To observe, learn, and participate in as much as possible of local everyday life was at the center of my fieldwork approach and spending time at home was to some extent a useful start. But I was still a stranger in the village. I needed to do more. I had to get out, progress beyond the fence and my immediate neighborhood, to make new acquaintances and approximate their social experiences by immersing myself in daily village life. Immersion provides a key element of ethnographic participation. It "involves both being with other people to see how they respond to events as they happen and experiencing for

[10] Because Tseegii rented her house to me, she moved to the second house in the compound which she shared with her mother, and my second host, Anyaa for the time of my research visit in 2017.

oneself these events and the circumstances that give rise to them" (Emerson *et al.* 2011, 3). I started to attend social events such as dance evenings in the local Cultural Center (*Soyolyn Töv*), a large hall where young and old would meet to dance and socialize. Visiting families in their homes, and chatting in stores, provided the opportunity for occasional chatting and extended conversations.

The more people I met and the more relationships I built, the more the topic of learning English came up. Several people I talked to asked me to teach them or their children English so that they could better communicate with international tourists. In response, I started working as a voluntary English teacher at the local school where I offered a voluntary conversation class for a mixed group of students from grade six to twelve. The classes were well attended with usually around fifteen students joining. I asked my students what they wanted to learn, and most of them expressed an interest in everyday situations such as grocery shopping. During one class, we talked about our dreams and wishes for the future. All students but one expressed the wish to move abroad or to Ulaanbaatar to study medicine, psychology, or law. These students' dreams resembled a general trend among Mongolian youth who see higher education as a gateway to establish livelihoods in urban centers and lead urban lifestyles (Diener and Batjav 2019). Village life, it seemed, was something that many young people wanted to leave behind, at least temporarily. Professional training and jobs in western science or business were much more attractive.

The one student who saw his future in Khatgal had a pastoral background. During the summer, he worked as a guide for horseback riding trips, and he wanted to improve his English skills to better converse with international tourists. English language skills promised a way to participating in and receiving a share from the tourist business. Foreign tourists brought more money to the region than Mongolian tourists. While the latter usually travelled with their own cars and cooked their own food, the former were more dependent on local services and tourist infrastructures, among which multilingual guides and service workers were seen as a big asset in the competitive landscape of seasonal tourism. Foreign language skills were regarded as an economic advantage for shaping futures either in or outside of Khatgal. Through teaching English conversation classes, I was able to make a useful contribution in that context, which was rewarded with heart-warming comments the students wrote into my notebook at the end of the semester. This pointed me to how Khatgal was part of larger socioeconomic structures and dynamics on national and global levels that shaped the present-day livelihoods and future aspirations

of local people, not least because of infrastructural developments. Through my work as a teacher, my being acknowledged in the village increased and I was able to expand my research network further through accumulating relationships.

Over the course of time, I developed strong connections with some of Khatgal's inhabitants. I made friends and acquaintances with whom I am still in contact thanks to the technology of video calls and social media. Through frequent visits over the years, I was able to establish profound relationships with key participants built on trust, rapport, and reciprocity. Other interactions, to the contrary, were much more sporadic and would not go beyond a single conversation. In their own ways, these types of ethnographic interaction offered invaluable insights into the social realities of the study participants.

I learned a lot about the effects and dynamics of tourism and infrastructural development in the region through my relationships with drivers and camp operators. Commuting between Khatgal and Mörön and traveling longer distances sitting in a minivan for hours offered insight into how roads were used, how their material conditions were perceived, and how their construction impacted social relations as well as the environments they crossed. At the same time, I established lasting relationships with tourist camp operators and staff, offering valuable insights into the dynamics oof Khatgal's tourist sector. In turn, recommended colleagues and friends who traveled Khatgal and the Khövsgöl region to consider reaching out to the local tourist camp operators and drivers I knew when they needed transport services and accommodation.

In 2017, I began attending meetings of the Blessed by Yak Cooperative. After the first meeting, I was able to talk to herder women about my research. Among them were Otgon and Dalaimyagmar who immediately invited me to visit them in their homes, respectively. Both became my friends and key participants of my study. Otgon was not hesitating to visit me as well, and whenever she did, she made sure to bring some of the handcrafted souvenirs such as hats and socks she made from felt to present and sell them to me. Knowing about my interest in milk fermentation, Dalaimyagmar was ever curious to explain her dairying techniques whenever I visited. When I collected samples of dairy products, animals, and household items, herders were provided with gift bags and reimbursed monetarily. As the exchange of milk products for money was a common practice among the herder communities I worked with, the sampling part of my fieldwork, to a limited extent, tapped into and contributed to the local pastoral economy.

1.2.4. Interviews and Conversations

I expanded my ethnographic work with conducting interviews and engage in conversations "as *a part of* participant observation and not *apart from* participant observation" (Skinner 2012, 35; emphasis in original). Throughout my fieldwork, I have talked and listened to various people in different ways, including informal and formal conversations as well as in-depth and more sporadic interviews with villagers, herders, shamans, administrative staff, students, and tourist camp operators. These conversations included various positions about the local development, personal histories, gossip and jokes, but also stories of discomfort and desperation. Accordingly, instead of a subordinate way to collect 'data', interviews and conversations were for me "a moment of engagement" and "a site of participation", two terms that "reflect the important sense of 'being there' and 'being with' research participants" (Hockey and Forsey 2012, 74f.).

These oral accounts emerged from and were guided by their specific degrees of embeddedness and openness. According to Barker (2012, 55), embeddedness describes "the degree to which the interview is taking place within the social world one is studying, rather than in isolation from it; and … the degree to which the interview is conducted from within a field of knowledge about the social, cultural and material world of the interviewee." Openness, then, refers to the degree of control that a researcher attempts to exercise during an interview (ibid.). According to Rapport (2016, 55), interviews are marked by their temporal limitation, their functionality, and their purpose. Ideal-typically speaking, an interview is a "nonroutine conversation, with a purpose or design which at least one of the talking-partners has previously determined, and which need not be repeated" (original emphasis removed). But an interview situation, as I have experienced it in the field, is not always clearly defined. It rather "encompasses the possibility of a subjective interpretation: whether an interview is taking place at all […] can reside in the eye of the beholder" (ibid. 56). In summary, ethnographic interviews can easily turn into conversations (and vice versa), which makes it difficult to distinguish between these two methods of recording the voices of one's study participants (ibid.). In the following, I will provide three examples to illustrate how interviews and conversations were conducted and how they contributed to this study. Throughout the thesis, then, I will refer to the intersubjective dynamics of specific conversations and their impact on the ethnographic material in more detail.

During my fieldwork, I usually relied on semi-structured interviews to keep the conversation relatively open-ended and leave room for new topics to emerge. Many times, I would spend many hours in people's homes, making conversation interspersed with longer or shorter breaks, distractions, and silence. Such moments would hardly resemble an interview situation in the ideal-type sense of the term. Nevertheless, I always had the topics I wanted to address in mind and usually started asking specific questions after some time spent together with my study participants. During one visit to Dalaimyagmar, I asked her if I can switch on my audio recorder, having in mind that I wanted both to ask her questions about dairying techniques and make sure that I did not miss any detail from our conversations. While we started talking about dairying, the conversation slightly drifted as we decided to make deep fried dumplings (*khuushuur*) filled with cheese for lunch and I went outside to collect wild onions for the stuffing. I entirely forgot about the audio recorder which remained inside the ger. Ultimately, the recording featured more than one hour of silence during which only the sound of Dalaimyagmar's dairying activities can be heard before resuming to the continued conversation about these activities. This example shows how open-ended conversations can "meander and eddy and sprawl and dissipate" (Rapport 2016, 55).

On other occasions, I prepared specific questions tailored for the person I was about to meet and the topic I sought to discuss. One of the first interviews I conducted was with Baasanjav, the representative of the elderly committee (*akhmadyn khoroo*) for organizing social events and political participation of the elderly population at the Khatgal administration. I prepared a set of broadly formulated questions to discuss fence building and land ownership. Because Baasanjav occupied a politically powerful position, the interview had a formal character where I introduced myself much more formally than on other occasions. The interview started off following a question-answer dynamic. I asked about fences, their history, and their role for Khatgal's built environment, and he responded as if fences represented the achievements of the administration. He pointed out that fences facing the main road would have to look nice because they shaped the image of the village. Fences in good condition would show how hardworking Khatgal's citizen were, but some fences, he remarked, needed improvement in their design. I entered fieldwork with the assumption that fences might provide stability – social, political, economic – as a condition Mongolians generally desired given the turbulent insecurities that emerged from the post-socialist transformation. But as we talked, I realized that my questions led the conversation to switch from fence-building to the dynamics between

tourism and administrative pitfalls in land allocation. I had to abandon some of my prepared questions for a moment, listen carefully, readjust my focus, and come up with follow-up questions to learn about the new topic. Baasanjav became more passionate. He occasionally raised and lowered his voice, expressing his discontent and disillusion with the unfair distribution of administrative power that went hand in hand with an ambivalent distribution of land. The interview lasted for roughly 1.5 hours, and although the interview setting was shaped by less embeddedness, I learned about the political tensions and discrepancies that surrounded tourism and land privatization in Khatgal, a key issue that was echoed many times in later conversations with other study participants.

When I commenced doing ethnographic fieldwork for the Dairy Cultures project, I also began conducting more structured interviews. From the outset, the ethnographic approach of the project differed from my previous work in Khatgal in that it was much more driven by comparison. One objective was to compare the different dairying techniques and pastoral conditions of herder households according to their respective localities. I developed a standardized questionnaire to collect information on, amongst others, herd size and composition, the number of dairy animals, the range of dairy products being made, preferences in taste, and the frequency of seasonal migrations. Although much of the collected material is not included in this thesis, the process of conducting these interviews was a helpful endeavor that provided invaluable insights into specific dairying techniques, the social and symbolic meaning of milk, and contemporary challenges to Mongolian pastoralism. This was not least because, in practice, the trajectories of conducting interviews following these structured questionnaires was marked by many detours, often turning them from structured to semi-structured to open-ended conversations. Because local conditions of pastoral life differed from region to region, divergent topics were highlighted when talking to yak herders in Khövsgöl province compared to interviews with horse breeders in Bulgan province and camel herders in Dundgovi province. Moreover, being accompanied by colleagues led to much different dynamics and brought up questions I would not have thought of in the first place. Ultimately, getting a comparative overview of herding and dairying practices combined with dwelling on locally particularities during interviews and extended conversations, and paired with occasions of collective interviewing significantly broadened my understanding of the application and usefulness of interviewing techniques for studying pastoralism and milk fermentation as multispecies relationships.

Varying degrees of openness and embeddedness thus brought about varying forms of information and ethnographic material, each bearing its own analytical value. Participant observation provided the conditions needed for establishing the embeddedness and openness as a base for conducting ethnographic interviews and engaging in conversations. Barker (2012, 65) points out that "[t]he aim of both embeddedness and openness is to create conditions that allow for encounters with the unexpected, and hence, for discovery." However, it is of utmost importance for ethnographers to be not mislead by the fascination for new discoveries, which can lead to submitting to a factist approach where certain statements are considered as absolute truths that need no further elaboration. Instead, an interactionist approach to asking question is much more useful, as it relies on combining different methods to unravel controversies and tensions (O'Reilly 2009, 21). Interferences are part of the process and sometimes even lead to new insights or better interviewing conditions and conversational dynamics. For example, when the grandchild of Baasanjav called him during our interview, he was, on the one hand, more relaxed after the phone call, and, on the other hand, I got an impression of him being a much more sensitive person than the solid administrator he represented during the first minutes of the interview. Relations of power, identity, social status, and gender, as well as the shared experience of interferences, can have tremendous impacts on the interview situation and the conversation being held.

1.2.5. Participant sensing: Exploring more-than-human relationships through multisensory fieldwork

Doing fieldwork with pastoralists relied on more-than-human relationships that comprise animals and animal products, food, microbes, pasture environments, and spirits. Recent work in multispecies anthropology has explored such complex relationships by drawing on multiple ethnographic case studies and highlighting their empirical foci: "Drawing attention to biosocial relations of ethnographic production allows ethnographers both to grasp the 'other than human' in their singular uniqueness and full capacity, and helps to better understand the unfolding and representation of human and other-than-human communion and collaboration in the complex stream of life" (Lien and Pàlsson 2021, 16). Through multispecies ethnography, it has been argued, we can study "contact zones where lines separating nature from culture have broken down, where

encounters between Homo sapiens and other beings generate mutual ecologies and coproduced niches" (Kirksey and Helmreich 2010, 546).

How can we explore and attend to these biosocial relationships, contact zones, and collaborations through ethnographic practice with(in) Mongolian pastoral communities? During my fieldwork, I relied on a multisensory approach to studying more-than-human relationships. This approach resonates with Sarah Pink (2015, 28), who highlights that "[e]thnographic practice entails our multisensorial embodied engagements with others […] and with their social, material, discursive and sensory environments", whereas these "others" include other-than-human entities, both animate and inanimate. My focus on milk fermentation enabled me to study more-than-human relationships through a variety of practices through which I learned that both human-animal interactions and dairying practices were highly and sensory engagements.

My frequent visits to herder households provided me with insights into versatile multispecies interactions. I learned a variety of techniques for interacting with animals, including fencing yaks and their calves in the evening, and milking females in the early morning. By actively engaging with non-human animals, I learned how to treat them in the right way and how they responded to my actions. Sitting on the right side of a yak for milking was as important as moving slowly and without hasty gestures inside the milking pen to keep the animals calm. If a yak gave the smallest sign of unease, the herders would immediately shout "*khaa*" to keep things in order. Moistening the hands with milk before touching the udder was a way to make milking more comfortable for the animal. By wearing the same clothes for milking herder women made sure they will be recognized by the animals through scent. Smell, sound, vision, taste, and touch were constantly relied upon to make sure that milking and fermentation went as smoothly and successful as possible.

Applying a multisensory approach to the ethnography of dairying techniques helped me furthermore to develop both a feeling and an understanding for how pastoralists engage with milk and microbial activity. I learned how to ladle and skim fresh milk, squeeze cream to make butter, strain and press wet curds to produce *aaruul* (sour dried curds), and stir *airag* (fermented mare's milk) to induce aeration, all together single processes of intense labor that contribute to well established fermentation ecologies feeding entire households. While investigating these techniques, I realized that dairying was a matter of time management, embodied knowledge, and emplacement. Every gesture and movement of herder hands were internalized and carried out according to

specific rhythms. Temperature, one of the key components of fermentation, was measured somatically. Pastoral ways of fermenting milk resonate with what Pink (2015, 28), citing Howes (2005, 7), has called emplacement – "the sensuous interrelationship of body-mind-environment." How these multisensory and more-than-human relationships unfold and factor in the production of value, wealth, and property is the subject of part three of the present thesis.

The ethnographic exploration of more-than-human and multisensory relationships in this thesis is not restricted to the domain of steppe pastoralism. In Khatgal too, for instance, more-than-human relationships had an impact on my ethnography. Yaks, horses, and dogs roamed the streets looking for food and fodder on fenced properties and roadsides. While spiritual entities in form of land masters (*gazryn ezed*) watched over the village, Khövsgöl Dalai, with its fresh water and as a tourist attraction, nourished the community.[11] Rows of fenced properties directed the movement of people, and the sounds of power saws and hammers pointed to the seasonality of construction activities throughout the village.

When I went for walks, I reflected on how I and other people moved through the khashaa alleys. The long rows of fenced properties highly impacted my way of walking through the village as they often prevented me from taking the shortest route. They forced me to both take detours and creatively look for shortcuts. With time and growing experience, some fences became more porous and permeable to me. For instance, I joined Tseegii and her mother Anyaa when they visited Anyaa's oldest daughter who lived several hundred meters away from our khashaa. We walked westwards along the road chasing away stray dogs, then took a turn to the left, another to the right, and followed a parallel road. At some point, we stepped through a gap in the fence of an uninhabited compound and walked towards another wall, which had a small door to its adjacent fenced property. We stepped through the door and arrived at the oldest daughter's house. Walking with Tseegii and Anyaa changed my view on how to move through the long streets that initially seemed completely closed off by impermeable fences. After that walk, I increasingly noticed small doors integrated in the back and sidewalls of fences, which led me to rethink the permeability of khashaa. Walking also led to encounters and small talks with villagers I have met during other events at the Cultural Center and elsewhere. These conversations helped me to establish and maintain social relationships and led me to new

[11] The name Khövsgöl Dalai refers to the fact that the lake as a large body of water is titled ocean (*dalai*) among Mongolians. I will adopt this title throughout the thesis.

ideas and questions. Walking developed as a major strategy for exploring and experiencing the spatial structures of the village. It was an embodied experience of practicing sensory ethnography (Pink 2015).

When I carried out daily chores at home such as cutting wood, I noticed how different soundscapes unfolded during different times of the year. During the colder weeks and months, distant sounds of wood being chopped were more present. With rising temperatures and thawing snow during spring, the sound of chopping wood diminished while sounds of power saws and hammering increasingly appeared as an indicator for how warmer temperatures allow for construction work. In late spring and summer, when the ice cover of Khövsgöl Dalai had entirely disappeared, the horn of the Sükhbaatar ship could be heard across the town as if notifying everyone that the tourist season had begun.

In summary, my approach to explore the built environment and the multisensorial environment of Khatgal and pastoral areas resonated with Pink (2015, 28) who promotes "an emplaced ethnography that attends to the question of experience by accounting for the relationships between bodies, minds and the materiality and sensoriality of the environment." Combining different ethnographic methods evolved into a form of "participant sensing", a way of "ethnographic learning […] where the ethnographer often simultaneously undergoes a series of unplanned everyday life experiences and is concerned with purposefully joining in with whatever is going on in order to become further involved in the practices of the research participants" (Pink 2015, 101).

1.2.6. Multi-sited ethnography and translation

At the beginning of my research, my focus was for doing fieldwork and studying local life in the context of neoliberal development and the uncertainty that came with it. Over the course of time, my approach to conduct ethnographic fieldwork gradually shifted from Khatgal as a single field site and developed into a multi-sited ethnography by expanding my work to other regions in northern-central and southern Mongolia, as well as to Ulaanbaatar (Marcus 1995). Multi-sited ethnography does not simply equate multi-local as in that fieldwork is carried out in different geographic locations, or sites. It is rather a "mobile ethnography [that] takes unexpected trajectories in tracing a cultural formation across and within multiple sites of activity that destabilizes the distinction, for example, between lifeworld and system" (Marcus 1995, 96). It thus marks a shift away from the classical village studies in social anthropology and rather focuses on how specific

circulations, connections, networks, and power relations unfold across various scales, i.e., across and between multiple sites of cultural production. According to George E. Marcus (1995, 105), multi-sited ethnography is a way of doing anthropological work that "is designed around chains, paths, threads, conjunctions, or juxtapositions of locations in which the ethnographer establishes some form of literal, physical presence, with an explicit, posited logic of association or connection among sites that in fact defines the argument of the ethnography."

The multi-sited character of this thesis is based on my position as an ethnographer working between village and pastoral settings, as well as public and scientific institutions in Mongolia and Germany. Doing ethnographic work in and in-between these settings notably effected the ways how I carried out my work. One of the main tasks when carrying out fieldwork for the Dairy Cultures research project was to collect samples of dairy products, animals, and material culture of the household including kitchen utensils and dairying equipment. These samples were transferred from pastoral households to scientific laboratories in Ulaanbaatar, Inner Mongolia, the US, and Germany. In the process, the value of dairy khöröngö was translated into another valuable entity in form of scientific data.

Turning portions of dairy into samples for microbial and genomic analysis was a practice of scientific translation (Tsing 2015). As such my work relied on the extraction of organic matter from its host ecology and its transformation into measurable and scalable units. While sampling marked only one single step of a broad range of transformations into which dairy products and microbes were embedded, it provoked questions about the trajectories along which dairy was translated into biological data, a scientific resource, intellectual property, and to whose benefit these translations were enacted. Tsing (2015) demonstrates that value translation is never a unilateral process but deeply entangled with manifold side tracks and nodes. Following Marcus (1995, 100), the practice of translation "requires considerably more nuancing and shading as [it] connects the several sites that the research explores along unexpected and even dissonant fractures of social location." The translation work I did during (and after) my field trips opened a useful methodological perspective for the present study. If translations are considered directional by nature (Pálsson 1994, 14), I am concerned with where these directions lead and how their dynamics materially unfold.

Translation in that understanding becomes more of a convergent practice, than a divergent one. I therefore regard translation as a mode of transforming things and

relationships along complex assemblages and, for instance, global commodity chains (Tsing 2015). While power inequalities persist in these contexts, translation "can also refer to other forms of partial attunement" (Tsing 2015, 62). Science, for example, "is translational because its insights are drawn from diverse ways of life" (Tsing 2015, 217). As an ethnographer, I found myself in a liminal position, where I was a middleman moving between these different ways of life with the task to facilitate translation. Looking at my ethnographic practice as a way of embodied (scientific) translation thus raises larger questions about how different kinds of khöröngö (yoghurt, water, fenced land, dairying knowledge) were transformed into different forms of value and wealth, and for whose benefits. From my position as a hybrid field-scientist-ethnographer, collecting dairy samples was a form of initial isolation of dairy from its original lifecycle and introduction into another. It became clear to me that by doing biological fieldwork (sampling and categorizing dairy products), I took pastoral dairy products out of their circular lives to transfer them into linear trajectories of scientific analysis. I engaged in translation of dairy from one knowledge system into another, moving matter from one group of (dairy) experts (herder women) to another (microbiologists and archaeologists).

Reflecting on this work helped me develop new perspectives not only on the circulation of dairy products and the manifold transformations they underwent, but it furthermore pointed to the tensions between circular and linear trajectories into which different forms of property were embedded. Infrastructural projects or NGO-work in Khatgal, for example, followed linear visions of growth within a broader development discourse but resulted in extractive activity. Translating the growth potential of khöröngö was not exclusively positive. Growth in Khatgal also comprised the growth of bad things such as pollution through waste. Khöröngö, and the growth that emerged out of it was thus interspersed with tensions that called for nuanced and critical reflections of translation processes.

1.3.Outline of the thesis

This dissertation focuses on khöröngö as both an agent and a recipient of transformation. The thesis is organized thematically into three main sections, within which I explore four distinct transformations that showcase the growth potential of khöröngö unfolds in positive and negative ways. While each transformation possesses unique dynamics, collectively, they reflect the disruptive character of neoliberal

capitalism that brings about more bad forms of growth than beneficial forms of growth. Within the capitalist economy of discontinuity, precarity, and extractivism, the expansion of infrastructural development and introduction of private property ownership instilled and stirred both fear and hope among rural populations. The juxtaposition of the fear of being left behind and the optimism for development in Khatgal created a complex and ambiguous environment of progress and crisis within the local population's lived experience. In contrast, I argue that dairy khöröngö and milk fermentation, as practiced by pastoral women, constitute a biosocial economy of continuity. By keeping cyclical growth alive through labor, knowledge, care, and maintenance as embedded in multispecies relationships, this form of khöröngö emerged as a counterforce to the hegemonic paradigm of limitless, extractive growth pursued in neoliberal capitalism. At the same time, dairy khöröngö was inevitably embedded in capitalist dynamics that challenged the very continuities it engendered.

Part I addresses khöröngö as a source of life turned natural resource, exemplified by Khövsgöl Dalai, and highlights water as a regenerative source of life, drawing its agentive force from environmental life cycles. Accordingly, chapter two focuses on Khövsgöl Dalai as an environment of exceptional value for Khatgal and the nation. I draw on ethnographic material that refers to land, milk, and water as sources of life, which engender processes of growth in different territorial contexts. Through an examination of origin myths and ritual practices that involve both human-environmental and more-than-human interactions, I assert the deep interconnection and interdependence of milk and water with the land. Here, a multitude of human and more-than-human forces find themselves within relationships that promote life, exemplified by milk offerings, as well as relationships that compromise life through various forms of pollution and invasive forces such as mythical monsters or colonial rulers. These sources of life relate to each other within animated ecologies (Livingston 2019) and constitute cosmopolitical ecologies of practice (Kuyakanon *et al*. 2022). In this framework, I contend that Mongolian notions of space and environment, such as *khoimor* and *nutag*, are dynamic yet simultaneously protective of water and land.

However, sources of life are also fragile, as chapter three will therefore delve into infrastructure and development as a paradigm guiding state visions for better futures, while concurrently generating new modes of uncertainty. I will discuss the construction of the A1101 highway, which directly connected Khatgal and Ulaanbaatar. Framed by the slogan ‘development follows the road’, the highway fostered hopes for economic

prosperity; however, while it created short term opportunities to generate growth through tourism, the long-term effects of the asphalt road were betraying Khatgal's inhabitants of their hopes. I explore the frequent use of anatomic analogies to portray infrastructural development as a mode of growth and constant supply, contrasting this idealized notion with the reality experienced in Khatgal, where such developments instead served to naturalize neoliberal extraction from the village and the broader Khövsgöl Dalai watershed. Ultimately, Khatgal was left as a "marginal hub" (Marsden and Reeves 2019) were socioeconomic inequalities and social tensions rose to unprecedented levels.

Part II delves deeper into these inequalities and tensions more profoundly by examining issues of land allocation and property ownership under precarious circumstances of the post-socialist transformation. Following road construction, administrative ambivalences reconfigured the landscape of property ownership in Khatgal.

In chapter four, I focus on the enclosure of life and land through property privatization and fence building as material reconfigurations of land ownership (Sneath 2018; 2001). I elaborate on how khashaa as fenced compounds evolved as khöröngö for village residents as well as outsiders such as urban businesspeople and address issues of security and spatial protection. While some in the village managed to mobilize the generative potential of khashaa as khöröngö, others lacked land ownership from the outset and lived in severe precarity. However, ownership of land under economic inequalities proved dangerous, fostering a climate of fear for all involved, as fenced compounds needed protection from theft, injurious talk, and more-than-human forces. Khöröngö consequently emerged as a matter of maintenance that was highly individualized within the context of village life in Khatgal.

Chapter five expands the issue of maintenance and protection, discussing emerging tensions between privatization, expropriation, and ambivalent land administration. I discuss land allocation in Khatgal as a process of ambivalent administration that was profoundly interspersed with suspicious forms of governance and the disproportionate distribution of power across territorial units. By turning to local perceptions of growth and pollution vice versa issues of land allocation, I explore how socioeconomic uncertainty became pervasive and omnipresent as a result of obscure wealth accumulation and violent responses, such as arson attacks, targeting those perceived to possess excessive wealth.

Part III will shift its focus to pastoral ways of life, concentrating on milk fermentation as a multispecies relationship reliant on comprehensive knowledge and skill to provide for stable fermentation, ultimately nourishing the household and sustain social relationships. In chapter six, I provide insight into the historical context of pastoral dairying practices in Mongolia to underscore the profound historical character of khöröngö, followed by a detailed ethnographic analysis of multispecies and multisensory interactions and knowledge systems, as exemplified by the practice of milking and milk fermentation. Khöröngö, in the form of starter cultures utilized for fermentation, occupies a central position in this discussion.

While the thesis centers Khatgal and Khövsgöl Dalai geographically, chapter seven features a brief excursion to the Gobi Desert, where I conducted smaller stints of ethnographic and scientific fieldwork. Despite its brevity, this excursion offers valuable insight into different yet interconnected issues concerning fermentation practices, multispecies relationships, and how biosocial ruptures caused by infrastructural development, climate change, and capitalism impacted the lives of pastoralists. As such, the excursion points to the interconnection of milk, land, water (or the lack thereof), and infrastructure within modes of generating growth that goes beyond the human. As such, it furthermore challenges notions of the local as a bounded entity in biosocial contexts, which places the generation of multiscalar growth through pastoral dairying practices at the nexus between mobility, infrastructure, and local identities.

Chapter eight, the final chapter of the thesis, investigates how the attempt of bringing together the various kinds of khöröngö and related processes of growth addressed in the thesis – embodied by milk, land, water, infrastructure – ultimately failed and thus indexed an incompatibility of the linear and circular trajectories they are embedded in. By drawing on cooperative meetings and workshops, the chapter reveals divergent perspectives and contrasting positions regarding work, time, care, and profit. In conclusion, the chapter ends with the question of what endings are there to be envisioned and realized from these apparently incompatible trajectories of generating growth.

Collectively, the ethnographic insights presented in these three parts of the thesis serve to establish and elucidate an understanding of the spatiotemporal, material, and immaterial embeddedness of khöröngö in rural life and its specific vulnerabilities as a source of life, as a potential and facilitator of growth, and as an actor of and subject to transformation. Returning to the initial inquiry posed at the outset of this introduction regarding how to comprehend something that undergoes frequent changes in meaning and

form, I return to the discussion of khöröngö as an idea and concept of growth and transformation in the conclusion of the thesis. Informed by the ethnographic analyses delineated in the subsequent chapters, my conclusion is that despite encountering alienation and challenges stemming from neoliberal market dynamics, khöröngö harbors potential for promising future trajectories and horizons, so long as consideration is given to the mechanisms by which conditions for growth are established and sustained, with particular emphasis on the key actors involved in shaping these processes.

I. Beginnings and Futures

I came to Khatgal for the first time in early September 2015, traveling along a newly constructed road. Khatgal marks the southern entry point to the Khövsgöl Lake National Park (KLNP), a significant site for biodiversity conservation and a major destination for Mongolian and international tourists. In late 2012, the construction of the A1101 road was completed and connected Khatgal with the provincial centre Mörön. Combined with a direct asphalt road connection to Ulaanbaatar completed in 2014, the touristic sector in Khatgal changed abruptly as visitor numbers skyrocketed. During my first visit, the town was calm and less touristy than I had anticipated. Many tourist camps and other private accommodations were closed and out of service. My friends and I stayed in a small cabin (referred to as *muuriin baishin*, lit. cat cabin) that we only found through a connection with another group of friends already waiting for us in Khatgal. We left Ulaanbaatar on the first of September, the day on which classes start in schools and universities nationwide. By that time, my friends told me, summer holidays were over, and people resumed to their jobs while children and students had to go to school and university. Thus, I learned that the apparent emptiness of Khatgal was not because the village was not busy, it was simply because my friends and I arrived late in the season. During the summer of the same year, Khatgal was flooded by tens of thousands of tourists seeking to rest along the shores of Khövsgöl Dalai. Khövsgöl Dalai is the main attraction for tourism in northern Mongolia, and one of the most popular travel destinations in the entire country. The lake's watershed is accredited exceptional value in ways that reach beyond tourism, as it nourishes large parts of the nation with freshwater and stands out for its biodiversity. As such, Khövsgöl Dalai became a central subject for not only tourism but also conservation.

The central reason for the 2015 peak in visitor numbers was due to the new road that directly connected Khatgal to Ulaanbaatar and thus made the remarkable Khövsgöl Dalai environment much easier to access. The sudden high rise of tourist activity in Khatgal seemed to fulfill what the state promised in its endeavors for development through infrastructure construction: 'Development follows the road (*zam dagaj khögjil irdeg*)' was a prominent slogan that framed the state's growth- and progress-oriented development paradigm across the country (see Reichhardt 2021). Khatgal was expected to experience development through the integration into the state's infrastructural and road network.

With the increase of visitors, tourism was set to flourish and become the new pillar of the local economy, at least so it was framed.

What was striking during my first visit as a tourist in September 2015 was my impression that Khatgal, in the aftermath of the tourist flood, did not seem to be a prospering place at all. The town appeared rather exhausted and drained. The buzzing summer seemed to have taken its toll on the village and its population. Ruins of state socialism dotted the town's landscape here and there. These dynamics of life and landscape in Khatgal were fascinating in that they placed the village in between a past not yet forgotten and a promised future in the making.

These are rather initial observations that echo much of the widely discussed post-socialist transformation rural populations were going through in Mongolia (and elsewhere in the post-socialist and post-Soviet world) since the onset of the 1990s (see chapter three). But there is something specific about Khatgal in that it became the subject to development and progress. At the same time, the village marked the entrance to a national park that was supposed to freeze time and the environment, much in line with environmental conservation being "a conservative act" (Vaughn *et al*. 2021, 278).

The first part of this thesis is concerned with how the environment, infrastructural development, and ideas of time interrelate in and around Khatgal. With a particular focus on the Khövsgöl Dalai watershed it offers a first translation of khöröngö as environmental wealth, highlighting water and land. "Acts of translation […] sometimes fail to show that environments are both materially and symbolically created (Zerner 2003:2–6)", argues Paige West (2005, 632). My aim in this chapter is to thwart such translations of environmental wealth that are guided by simplification. Khövsgöl Dalai is Mongolia's largest resource of freshwater and as such its value – ecological, economic, social, political, spiritual - is unmatched. Khatgal, on the other hand, was a place of crucial infrastructures throughout its history, and particularly during state socialism and capitalism. Caught up in different and divergent political contexts, the significance of both lake and town shifted and were reinterpreted again and again, setting into motion new beginnings for futures full of promises and uncertainties, unfolding across the spacetimes of progress and crisis.

Chapter two will be concerned with Khatgal and Khövsgöl Dalai as "site[s] of contestation" (Kuyakanon *et al*. 2022, 7) where environment and infrastructures were always entangled through growth and tension, historically unfolding across cosmopolitical ecologies. With a focus on the Khövsgöl Dalai watershed as

environmental wealth, the chapter will elaborate on water-land-milk relations forging an animated ecology (Livingston 2019). Through highlighting its historical embeddedness in infrastructural developments, mythological legends, and the daily ritualistic practices of herder women carried out to reinforce human-environment relationships, chapter two will set the stage for how paradigms of progress and crisis unfold in contemporary Khatgal. Chapter three will pick up on progress and crisis as key issues framing the interplay of environment and infrastructure in Khatgal. Here, I discuss anthropological literature on infrastructural development which I bring into dialogue with ethnographic experiences of ambiguous growth. By drawing on concepts such as timescapes and anatomic analogies, I challenge linear progress and transition narratives. Khatgal, in the context of its history during the past century, jumps from margin to center to margin, and finally ends up as a marginal hub, where conviviality becomes a contested matter.

2. Khövsgöl Dalai: Environmental Wealth

"All water has a perfect memory and is forever trying to get back to where it was."[12]

Image 3: Khövsgöl Dalai viewed from south to north. September 2023.

2.1.Introduction

In the Mongolian People's Republic's (MPR) first constitution passed in 1924, as well as in those passed in 1940 and 1960, natural resources were referred to as 'khöröngö' and included the country's mineral and subsoil wealth, forests, and water. Khövsgöl Dalai is Mongolia's largest body of freshwater for which it is ascribed outstanding cultural, environmental, and economic value. By definition, a natural resource, the lake is furthermore accredited the potential for multiscalar growth extending from human and nonhuman bodies to entire ecologies and economies. In this chapter I discuss environmental wealth as a distinct kind of khöröngö exemplified by the Khövsgöl Dalai watershed. As the accumulation of wealth in static sites is not always clear and evident, and thus often considered ambiguous (Empson 2011, 306), this chapter aims to unravel

[12] Toni Morrison (1995, 99)

the lake's wealth as stored and storied wealth. I understand stored wealth as an accumulation of things – water, ice, fish – that provide for individual and collective growth. It is also an outcome of processes of growth that include individual and collective stories that are "world-making, life-shaping technologies" (van Dooren and Rose 2017, 89). Storied wealth thus refers to the idea that environmental wealth is not only accumulated or stored in physical or tangible forms but is also embedded in the narratives, histories, and cultural significance associated with those entities. Khövsgöl Dalai, as I will show, accumulated such stories that are inseparable from its growth. Putting the notions of khöröngö and stored wealth into conversation appeals to the relational composition of the more-than-human stories and activities accumulated in the Khövsgöl Dalai watershed. Ultimately, stored and storied wealth as relational and dynamic concepts, challenge the concept of the natural resource and make its application to Khövsgöl Dalai questionable.

Wealth in form of natural resources is often considered a given in terms of a "resource logic, [which] frames a unidirectional relationship between a user and an object extracted from its ecosystem" (Hirsch 2022, 54). This is particularly the case for extractive economies in mineral rich countries, where "large corporations, national representatives, and local stakeholders are brought into tense proximity through their shared, but rarely similar, interests in a development" (High 2017, 21). In such contexts, the term natural resource, in itself a generalization, often simply refers to any kind of raw material as "an object for humans to take" (Hirsch 2022, 54) while ignoring the composition of natural wealth. My aim in this chapter is to provide different perspective on natural resource wealth through a deeper look into Khövsgöl Dalai as a composition of stored and storied wealth. To challenge the idea of resource logics which consider environmental wealth as a given, it becomes necessary to question the concept of natural resources through their composition.

Khövsgöl Dalai and Khatgal are profoundly connected and interdependent through relations of biosocial and economic growth, as well as pollution and protection. The chapter begins with a brief overview of Khatgal's twentieth-century history to highlight the significant role the lake played in the town's establishment, growth, and prosperity during socialist times. As narratives of progress overshadowed environmental harm, I will critically engage with Khatgal's history of growth by drawing on a popular newspaper article. In the second part of this chapter, ethnographic accounts of historic and contemporary human-environment relationships will demonstrate how the lake and its

watershed are considered a tremendous body of wealth and are ascribed exceptional value. Local legends about the lake underline the constant threat of pollution posed by monstrous and ill-intentioned intruders; yet, the environment eventually transformed into a thriving habitat, largely due to human intervention. The notion *khoimor nutag* (northern homeland), with which the Khövsgöl Dalai watershed is accredited, will open a path to view the watershed as stored and storied wealth rather than a natural resource. It will further provide insight into contemporary modes of navigating and negotiating environmental protection, resource exploitation, and land use. By delving into the deep history of Khövsgöl Dalai and how it is embedded in daily offering practices, the lake and its watershed are linked to the concept of the animated ecology (Livingston 2019) and are embedded in varying, and at times divergent, world-imaginings (Wenzel 2020). In this context, this chapter will unravel how the Khövsgöl Dalai watershed came to be perceived as stored wealth and how the notion of the natural resource emerges as an ambivalent concept.

2.2.Khatgal – A Place of Many Beginnings … and Transformations

Khatgal was a place of utmost infrastructural importance for centuries. According to Nyamjav (1991), Khatgal was the first permanent settlement (*suurin gazar*) in today's Khövsgöl province. Prior to the establishment of the MPR in 1924, Khatgal was known as Khatgalyn Kharuul and marked a military outpost under the Qing Dynasty rule from the seventeenth century onwards. This military outpost was part of the Uriankhai Borderland (*Uriankhai Khyazgaar*) territory under the administrative authority of Sain Noyon Khan Aimag. Another permanent structure marking that location was the Khatgalyn Kharuulyn Dugan, a Buddhist monastery with two temples which was founded in the 1880s and accommodated about one hundred monks. The monastery was built next to Aduu Uul, a sacred mountain located approximately fifteen to twenty kilometers to the south of Khatgal's town center.[13]

As a result of the newly won independence of the Mongols from Manchu rule during the Qing Dynasty in 1911, Russian traders increasingly travelled to and settled in various parts of Mongolia. Due to its geographical location at Lake Khövsgöl, Russian traders

[13] See http://www.mongoliantemples.org/en/component/domm/1880?view=oldtempleen (Arts Council of Mongolia 2024), accessed 12 January 2024. See Documentation of Mongolian Temples Project at http://www.mongoliantemples.org/en/ for further details on Khatgaly Kharuulyn Dugan and other Buddhist monasteries that were destroyed during the purges of the 1930s and 1940s.

opened a trade market (*khudaldaany zakh*) in Khatgal and, consequently, established an official customs committee (*gaaliin khoroo*) in 1912 (Nyamjav 1991, 130). These merchants were, according to Nyamjav (ibid.) allegedly taking Khatgal over by bribing wealthy people and feudal lords to buy livestock, wool, fur, and valuable treasures made from gold and silver for the lowest price possible from the local population. In fact, with the Khövsgöl region representing an economically important borderland between Russia and Mongolia, Khatgal developed as a significant infrastructural node early on. The major trade route between Mongolia and Russia during the early twentieth century went over the deep water of Lake Khövsgöl. The water route was beneficial for economic exchange and speeded up trade as traveling across mountain ranges and rough terrain could be avoided. The first wooden ship to carry goods between Khatgal and Khankh was called 'Mongol'. It had a load capacity of forty tons and facilitated trade across water as early as 1910. In this vein, infrastructural development continued. By 1914, Khatgal was connected to the telephone line between Uliastai in Mongolia's Zavkhan province, and Mondy in Buryatia, and the small settlement had a population of about one hundred and fifty Russians by 1921 when the Mongolian People's Revolution started (ibid.).

2.2.1. Pioneering Socialism, Neglecting Nature

In Khatgal, the establishment of socialist state structures happened early on. Between November and December 1921, the Temporary People's Party (*Ardyn Tür Yaam*) was established in Khatgal as a representative administration for the Revolutionary administration (Badamkhatan and Banzragch n.a., 169). When the enterprise of building state socialism in Mongolia took off following the 1921 People's Revolution (*ardyn khuvisgal*), its importance for the import of foods and petrol from Russia steadily grew. The settlement developed as a small city and as the establishment of administrative units was carried further to provincial level, Khatgal became the first provincial center of the newly founded Khövsgöl province in 1931 (Nyamjav 1991). While the provincial administration was soon moved to today's provincial center Mörön, Khatgal's infrastructural role for the country did not cease.

The state-run wool factory and the trading post were established in 1933 and 1934, respectively, and emerged as the major sources for local employment. In addition, in 1933, Khatgal became the first place in Khövsgöl province where electric light was introduced - a technology that was highly representative for the vision of socialist

development and became “a central symbol of modernism and (...) of the particular political project of Leninist state socialism” (Sneath 2009, 74) throughout the MPR. As infrastructures in terms of trade, transport, industry, and electricity flourished, Khatgal was praised for its pivotal role in the founding of Khövsgöl province and the establishment of the socialist state. This significant role was represented by attributing and accrediting meaningful idioms and symbolic imagery to Khatgal. For instance, the thriving town was called a pioneer (*ankhdagch*) and became known as the “cradle of the Mongolian working class” (Nyamjav 1991, 132). Khatgal was also referred to as the province’s first *gal golomt*, a notion that usually refers to the youngest child of a household who is supposed to keep the lineage and household heirloom alive as the heir and firekeeper of the family hearth (Empson 2011, 110).

Import and export from and to Soviet Russia directly and indirectly provided employment for thousands of people in Khatgal. Khövsgöl Dalai provided an important trade route (*dalain zam,* meaning ocean road, or *tsenkher zam*, meaning blue road). Fuel, oil, flour, animal hides, and wool were transported by ship over a period of five months during spring, summer, and autumn, and by trucks across its meters thick ice layer for two months in winter (Baldorj 1987). Imported goods and commodities from the Soviet Union, once they arrived at Khatgal’s port, were then loaded on trucks, and further transported to Ulaanbaatar. In 1954, the local *negdel* (herder collective) was established in the process of countrywide collectivization of livestock during the 1950s. Titled ‘*khögjil*’ (development), the negdel was another major institution for employment. Secondary industry established from the pastoral livestock wealth such as the wool factory formed another hub of meticulous labor from which the social fabric of socialist Mongolia was woven, at least in part. Khatgal upheld city status throughout the socialist era, reaching a population high with its seven thousand inhabitants at the peak of socialist industrialism during the 1970s-80s. These visions of socialist progress, however, were highly idealized and anthropocentric, overshadowing environmental impacts on and threats to Khövsgöl Dalai.

The development of infrastructures, technologies and educational systems reflected the MPR’s aim to build a new socialist society and altered the living environments and lifestyles of both rural and urban Mongolians (Stolpe 2008). Across the country, infrastructures in form of roads, railroads, and apartment buildings, as well as technological progress expressed through, e.g., agricultural mechanization were showcased as the drivers for socialist modernity (Humphrey 2005; Sneath and Humphrey

1999). The expansion of electricity and electric light, for example, represented the agenda of physically and metaphorically enlightening the masses along the lines of Marxist-Leninist progress and linear development to liberate them from their allegedly 'backward' past of feudalism and nomadism (Sneath 2009). Consequently, a new idea of a bright, developed future emerged throughout socialist Mongolia, and whereas the state hid its own instability from the public, it provided socio-economic security for its citizens (Buyandelgeryin 2007).

Image 4: Top: View across Khatgal village, north-south perspective from the north. Center-left: Sükhbaatar ship at rest during winter. Center-right: An UAZ van driving across the frozen Khövsgöl Dalai. Bottom: Ruins of the old port, south-north perspective, indexing Soviet-Mongolian trade. Khatgal, February - July 2017.

2.2.2. Progress and Pollution

Khatgal's infrastructural, industrial, and urban growth came at a high cost. In his popular and widely circulated 1987 article titled "Mother Ocean on Scaffold"[14] published in the newspaper Ünen (Truth), Tserendorj Baldorj addressed several environmental issues threating the Khövsgöl Dalai ecology. Oil transport across the lake multiple times resulted in trucks spilling gasoline into the water or breaking in the ice and sinking entirely. Oil carrying ships were in critical conditions and poorly maintained, frequently running the risk of losing oil and polluting the lake entirely. The wool factory, on the other hand, produced large amounts of wastewater that were carelessly disposed into the water at the lower end of the lake where it transitions into the Eg River. Environmental protection, Baldorj concluded, was not a priority for administrative authorities:

> Which one is the priority? Seeking profit or saving the future? Lake Khövsgöl has been attracting attention not as a freshwater reserve, but because of the importance of its waterway and ice road transportation. A large part of various import products and oil is transported across the lake. Many trucks for goods and oil transport spend the night on the lake, setting fire here and there, spilling gasoline and oil, which is then absorbed into the lake. Should the ice road transportation, which has been handed down for ages, be maintained for profit, or should it be ceased for our future? The time to decide has already come.[15]

Baldorj's article furthermore stressed another looming environmental threat to Khövsgöl Dalai, which was the plan to tap into phosphorite deposits located in mountainous areas, as close as two to five kilometers at the western shores of the lake.[16] Phosphorite extraction was considered useful for producing agricultural fertilizers, which would have benefitted the socialist vision of industrialization and the development of urban settlements. Baldorj's article heavily criticized the government's mining plans and its insufficient efforts for environmental protection:

> Being that these departments and everyone working in them have different goals, they approach the lake only as observers. So, it is time to concentrate

[14] Original title: "*Dalai Eej Tsaazyn Tavtsand*"
[15] Translated by Myadagmaa Enkhtsogt, December 2023.
[16] Baldorj highlighted the mining plans for the Bürenkhaan mountain deposit located at one hundred kilometers distance to the lake, which would have had tremendous environmental impacts on the Khövsgöl watershed. He also mentioned deposits closer to the lake such as Jankhain Nuruu and Uran Dösh mountain.

> their efforts to preserve Khövsgöl lake in its natural form and pass it on to our descendants. Otherwise, all those academic works, treatises, research studies, and books about Khövsgöl lake will become pointless. Isn't it time for the Central Council of Nature Conservation Society to raise your awareness, to look for comprehensive ways to protect the Khövsgöl lake basin on a large scale, to draw the public's attention to this subject, and to alert them?[17]

During the mid-1980s, concerns about the environmental damage to be caused to Khövsgöl Dalai by phosphorite mining for the sake of profit and industrial development were expressed widely in the public by artists as well as letters to the Ünen newspaper before Baldorj's article was published. By referencing these letters, the article called for social engagement to save the lake from irreparable pollution, and reached an even wider audience in Khatgal, Ulaanbaatar, and beyond. In anticipation of a dire future looming if Khövsgöl Dalai were not to be protected, Baldorj quoted a letter titled "May our Khövsgöl live forever" to underscore his point and express a warning:

> Opening natural resources along with building up new cities and factories has become a common thing. One of them is the phosphorite plant that will be built on the shore of Khövsgöl lake. Nevertheless, I think there is no need to explain what Khövsgöl lake truly is for our country. I wanted to directly say that the time to build this plant hasn't come. Because, this plant will bring enormous economic profit, but it will bring irrecoverable disaster to Khövsgöl lake. This plant might operate for a hundred or two hundred years. However, Khövsgöl lake must live forever. Not only that, but it must also stay in its original form and keep being pure and fresh. Are we allowed to forget the wise saying, "We did not inherit the pristine nature from our ancestors, but borrowed it to return it to our descendants"?[18]

The authors of this letter were Eldev-Ochir, a technician and mechanic, and Purevdorj, an engineer and mechanic, who stated they were from the southeastern Sükhbaatar province. They had never seen the lake but shared deep concern about its protection and future. This underscores the significance of Khövsgöl transcending administrative boundaries. Critics within the art world further condemned resource extractivism, as

[17] Translated by Myadagmaa Enkhtsogt, December 2023.
[18] Translated by Myadagmaa Enkhtsogt, December 2023.

depicted in Erdentsogt Olonbayar's painting *Khövsgöl Lake* (1986, see image 5) which portrays the lake's disappearance as the lake is cut up into money, signifying the looming threat of sacrificing environmental wealth for monetary wealth.

Image 5: "Khövsgöl Lake" - painting by Erdenetsogt Olonbayar (1986), exhibited at the National Art Gallery in Ulaanbaatar, September 2023.

While the lake's name written in classical Mongolian indexes its old age and longevity, Mongolian Tögrög bills fall towards the south, i.e., towards Ulaanbaatar representing the centralization of power and decision-making in the country. The painting creates a visual juxtaposition as money replaces the water flowing out from the lake through the Eg River, thereby underscoring the displacement of water from the lake to monetary profit. In a time when the Mongolian economy was gradually liberalized in the vein of Soviet perestroika policies (see Rossabi 2005), the painting was a powerful statement on how the lake as an infinite body of water was turned into finite monetary profit. Incentives given through newspaper articles, letters, and artworks like these mobilized the wider public to protest the mining plans that put Khövsgöl Dalai at risk. Protests were held in front of the parliament on Sükhbaatar Square in Ulaanbaatar. Resisting resource extractivism for the sake of environmental protection turned out effective in the case of

Khövsgöl Dalai and eventually, the mining plans were abandoned. However, the future protection of the lake and its accredited purity remained to be envisioned and realized.

Khatgal and Khövsgöl Dalai, it becomes clear, are inextricably connected. The life of one could not be sustained without the life of the other. As such, Khatgal was also a place of contested biopolitics, where ambivalences regarding the administration of the environment and the economy unfolded. These ambivalences are expected to persist for decades to come, evolving into new forms according to the changing contexts in which they are embedded.

When the socialist state fell apart in the early 1990s, life in Khatgal changed drastically. Most of the population migrated to the provincial capital, Mörön, and Ulaanbaatar in hope for better access to employment and education (Bruun and Narangoa 2006). Others turned towards pastoral livestock herding to sustain their livelihoods. The dissolution of state socialism crushed visions of progress and hopes of stable futures: The infrastructures that once facilitated the town's growth gradually fell apart or entirely disappeared due to the lack of state support.

New economic growth and prosperity were promised on the base of market liberalization, infrastructural development, new property regimes, and the implementation of new laws, including those aimed and directed at environmental protection (Rossabi 2005; Verdery 2003; Batjargal 2003). However, during the rapid privatization of former state-owned assets, enterprises, land, and livestock, the socioeconomic foundation of a life once deemed secure was upheaved and turned upside down for many, besides the risks of environmental damage. Ultimately, “the term market economy came to imply insecurity, hardships, competition, shortages, instability, and even danger and fear” (Buyandelgeriyn 2007, 130). New forms of social disintegration and economic disparities emerged, alongside an escalation of environmental degradation, fueled by the unprecedented expansion of mining industries (Bumochir 2020; Myadar and Jackson 2018; High 2017; Rossabi 2005). Nevertheless, amidst the chaos of the transformation from socialism to capitalism, Khövsgöl Dalai retained its relevance and significance for Khatgal and the country at large. The following sections will focus on Khövsgöl Dalai’s emergence as a source of life and its evolution into a resource for growth.

2.3.Khövsgöl Dalai – Source of life

In 1992, the Mongolian scientist B. Jambaajamts wrote in his book *Khövsgöl Lake: When the ocean is at peace, the mind is at peace*[19]: "Perhaps in the near future, [Khövsgöl lake] will undeniably remain the "sole pure treasury" in the world, which is admired for its fresh clarity" (p. 14).[20] In the same year, the Khövsgöl Lake National Park (KLNP) was established, and environmental protection of the lake and its surrounding landscapes was concomitantly institutionalized. Today, Khövsgöl Dalai accounts for one of Mongolia's major touristic sites and yearly attracts thousands of domestic and international travelers who take boat trips across the lake and go camping in summer, or marvel at unique ice sculptures during the annual ice festival (*Mösnii Bayar*) organized at the beginning of March. Promoted as a travel destination that stands out because of its pristine nature, idyllic landscapes, and the "traditional" lifestyles of nomadic pastoralists (Shircliff 2020; see also Reichhardt 2021), the lake became a proxy for natural purity. The KLNP became a flagship for Mongolian eco-tourism and was ironically named in public media contexts "the Switzerland of Mongolia."[21]

Khövsgöl Dalai is considered one of the oldest lakes on Earth, with its emergence dating back two to three million years to the late Tertiary Period. It is Mongolia's largest reservoir for surface freshwater, and it supplies approximately 70% of the country with drinking water (Goulden *et al*. 2000, 135). Ninety-six smaller rivers feed Khövsgöl Dalai from its surrounding mountain ranges, but it has only one single outflow at its southern tip: the Egiin Gol (Eg River), which drains fresh water into the country before merging with the Selenge River in Bulgan Province. From there, it continues to flow into Lake Baikal in Buryatia. During state socialism, the lake was also known as the blue road (*tsenkher zam*), referring to its infrastructural relevance for facilitating import and export trade between the MPR and Soviet Russia as mentioned earlier in this chapter. As the quote from Jambaajamts above indicates, Khövsgöl Dalai occupies a distinctive position within Mongolia's cosmopolitical geography. The lake is ascribed uniqueness, stemming from its purity and its value as a body of freshwater that is of global relevance. Due to its enormous volume and high-water quality, Khövsgöl Dalai never ceased to occupy a precious role that transcends geographic scales. Recognized as an indispensable resource

[19] The book title in Mongolian is '*Khövsgöl Nuur: Nuur amgalan bol nugas amgalan*.' Note that *nugas* translates as mind and nerves, but also duck.
[20] "*Magadgüi, oiryn ireedüid dayan delkhiid tsengeg tungalagaaraa gaikhagdsan "tsoryn gants ariun san" bolj üldekhiig ch ügüisgekh argagüi*." Translated by myself.
[21] https://news.mn/r/703240/

by the nation-state, the lake serves as a fundamental source of drinking water and holds promise as a prospective contributor to future hydroelectric energy endeavors[22] In a country with an extremely arid and continental climate, little precipitation, and where water is never abundant, Khövsgöl Dalai carries exceptional biosocial, material, spiritual and symbolic value.

In Khatgal, the lake is essential for all inhabitants and their everyday lives. It forms the base for economic activity, whether rooted in local businesses, pastoralism, fishery, or tourism. At the household level, the lake's water is used by everyone as drinking water and for daily activities such as cooking, cleaning, doing laundry, and personal hygiene. During winter, a handful of holes are drilled into the one-meter-thick ice layer each at different spots approximately fifty-meter distance from the shore, providing access to deeper sections and cleaner water. Local inhabitants fetch water directly from these holes by using ladles that they reach down the drilled and cored hole. Another way to purchase water for home use is to have it delivered by the local water service, which involves a small pick-up truck carrying a large container capable of holding about one thousand liters of freshwater collected from the lake using a small motor-run pump. Similar methods are employed to acquire water during the warmer months of the year when the ice has melted, with the only difference being that the water needs to be taken from more accessible, shallow areas. To avoid drawing water containing excessive sediments, people prefer to go to the shorelines where the lake transits into the Eg River and benefiting from the stream's cleansing power. In summary, every inhabitant in Khatgal directly or indirectly relies on and engages with the lake daily.

In 2017 I conducted an interview with Baasanjav, the representative of the elderly committee at Khatgal's local administration. His sentiments towards Khövsgöl Dalai were profoundly reverential. He openly expressed his deep admiration for the lake as an unparalleled body of water, without hesitation in conveying his joy and pride in the blessing bestowed by its waters. He attributed a global recognition to the lake's significance, suggesting a perception of its importance beyond local boundaries:

[22] The southern Eg-Selenge connection could be disrupted in the future: The massive amounts of water that the Eg River sends country inward has sparked plans to build a hydropower dam approximately 300 km downstream from its origin, only 2.5 kilometers before its confluence with the Selenge river. The idea to build a hydropower dam first emerged in the 1960s and, after governmental approval in 1991, it regained popularity during the past decade (Egiin Goliin Hydropower Plant Project 2015). This project is embedded in the state's aspirations for facilitating Mongolia's energy sovereignty and a renewable energy transition, two endeavors with controversial social and environmental consequences looming at their future horizons such as flooding of pasturelands, resettlement of populations, and crooked infrastructure. see chapter three for a detailed discussion of the temporalities and timescapes of infrastructural development.

> We take pride in Khövsgöl Dalai on a global level. Especially us, the people from Khatgal, are a very blessed people, with great fortune (*ikh khuvi tavilantai ulsuud*). We are growing from this big lake, which lets us take its water until we reach the afterworld (*öör yertöntsöd ochtol*) and, therefore, we are blessed people with great fortune. Because of that, we are proud of Lake Khövsgöl with every step we take. We are proud.[23]

The lake is considered a source of life. It generates growth ("We are growing from this big lake") and provides the source – water – for growth throughout human lifetime ("which lets us take its water until we reach the afterworld"). Khövsgöl Dalai provides perpetual care for the living. This care is not unidirectional. People in Khatgal are highly concerned about protecting and worshipping the lake. Given its outstanding significance as a source of life, it is little surprise that the lake and its adjacent environment are referred to as khoimor nutag, which can be translated as both "northern homeland" and "homeland of highest value." In the following section, I will elaborate on this notion of khoimor nutag with a double purpose. First, khoimor nutag as a toponym demonstrates how the Khövsgöl Dalai watershed is embedded in Mongolian concepts of space and human-environment relationships. This will lead me to discuss the watershed as an *animated ecology*, a term I borrow from Julie Livingston (2019, 126) and that draws attention to specific interplays of more-than-human care and worship within "a living manifestation of myriad, ongoing historical relationships." I draw on my ethnographic material and local legends about the lake to identify its biosocial and territorial significance as a highly valued ecology that transgresses geographic, political, and historical boundaries. In that regard, I follow Kuyakanon *et al*. (2022, 7), who suggest that "[p]lace-based meaning making, as reflected in toponyms and landscape mythology, can thus become a site of contestation and negotiation of political relevance […]. This applies not only to space but also to time so that historical periodization can be a site of contestation and negotiation, too." In this context, my second purpose is to consider the lake's watershed and waters as environmental wealth, a distinct form of khöröngö for which khoimor and nutag unfold as spatial concepts of appreciation and protection. Given that Khövsgöl Dalai was, and is, embedded in ambivalent dynamics of land use negotiation, addressing it as a site of contestation will help dismantle current gendered narratives which essentialize the lake and its environment as an untouched and unchanging idyll of natural purity.

[23] Baasanjav, April 2017

2.4.Khoimor Nutag Part I: Origin Stories

Khövsgöl Dalai is referred to as khoimor nutag across the country, a term that indicates the lakes geographic locale within the territory of the state, and that ascribes an outstanding value to the lake and its watershed. The essence, or concept, of "nutag" transcends mere translation as "homeland." It encompasses a profound sense of collective identity and belonging that spans geographical hierarchies, encompassing one's birthplace at the most intimate level, as well as affiliation with a district (sum), province (aimag), or the nation (*oron*) as a whole (thereby making it a complex idea that extends beyond mere linguistic translation with a deeper meaning and broader implications of the term). Moreover, it is deeply rooted in history and frequently intertwined with mythical legends (*domog*). Fondly called Mother Ocean (Dalai Eej),[24] Khövsgöl Dalai and its islands as topological features are deeply interwoven with mythical legends that reference stories of origin, growth, care, struggle, affection, invasion, environmental change, and political authority. I intend to use these stories as a narrative tool for historico-mythological depth that demonstrates how deeply imbued the Khövsgöl Dalai watershed was with processes of nurture and growth, but also ambivalent dynamics of purity and pollution. As such, they "offer unique glimpses into views, debates and even theories in which cosmological politics clearly matter" (Kuyakanon *et al*. 2022, 7). In the forthcoming sections, I will present three legends associated with Lake Khövsgöl, discovered through textual sources and oral traditions during my fieldwork in Khatgal. Given the diverse range of both concise and more detailed versions encountered in interviews and local literature, I provide succinct summaries herein.

2.4.1. Dalai Eej – Mother Ocean[25]

The first legend tells the story of how Lake Khövsgöl came to be named Dalai Eej (Mother Ocean). It takes place in a faraway past when the area of today's Khövsgöl Dalai was surrounded by rich lands with fertile pastures and lush forests, spreading across beautiful valleys and mountain ranges. The people who lived in this place let their

[24] Further nicknames for Khövsgöl Dalai are Domgiin Tsenkher Dalai (Mythical Blue Ocean), and Khökh Suvd (Blue Pearl).
[25] This version of the Mother Ocean legend is adapted from Nyamjav (1991), and another short version exposed in Khatgal's Tourist Information Center.

livestock graze without any worries until one day an evil monster (*mangas*) appeared. The monster, hating water and upset by the beauty it encountered, devoured the people, animals, and vegetation, and drank up all the water from the lake. The monster disappeared leaving behind nothing but a deserted, tragic landscape. One day, an old woman arrived in this lifeless place. She searched for water, having nothing but her horse and her shadow. Unexpectedly, she found a tiny boy who was no bigger than a thumb. She decided to take the boy with her on her search for water. As they walked, they spotted a remarkable rock. Water trickled out from underneath the rock, which the old lady removed to build a well. Happy about their fortune of having found access to water, they decided to settle in this place and make a living. They became mother and son, and the boy grew quickly to soon reach the size of an adolescent. To avoid boredom, he sang songs and one day, his soft singing attracted a girl. The boy was fascinated by her beauty, but she went out of his sight just as quickly as she appeared. In his longing for her, he kept singing sweet songs until she returned, and they eventually fell in love. They sat together drinking from the well and as they talked deep into the night, they forgot to cover the well with the rock when they left. More and more water ran out from the well until it started to form a lake. Suddenly, the sky darkened, and the angry monster returned to drink up the water. The girl swung her black hair through which the boy turned into an armored hero.[26] Having grown to tremendous strength, the boy cut off a mountain top and threw it on the monster. While the monster was defeated, the old woman, still asleep, remained unaware of its reappearance and her son's brave fight against it. She only woke up to find a large lake had formed around her. Fearing that her son would drown in the deep water, she dived to cover the well with a red stone. The boy called for her, but she was never to return and drowned in the lake. To honor the brave old woman, the boy and girl decided to name this lake Dalai Eej - Mother Ocean.

2.4.2. The Valley of Heaven and the Woes of Ignorance

The second legend begins in a distant past when the area of today's Lake Khövsgöl was not covered by masses of water but was a vivid valley with plentiful pastures and rich streams. Living a blissful life, people herded their animals and hunted abundant game. They also collected fine fur and precious stones which they transported on horse

[26] In Nyamjav's (1991) and other versions of the legend, the girl was referred to as a mermaid (*lusyn dagina*).

caravans to trade for flour, rice, and all kinds of goods in the south. Because it was a unique place and life was without worries, the people called it the valley of heaven (*Divaajingiin khöndii*, lit. paradise valley). One day, a man from a foreign land traversed this area. This man was full of envy and evil, everything he touched turned into misfortune and he brought trouble to wherever he went. Displeased with the happiness of the people he encountered, he began to sow the seeds of evil in their peaceful paradise: "Because it is said that bad words have wooden roots, the cocoon of scumbags multiplied, and all the bad things touched the hearts of the people living in the valley of heaven" (Jambaajamts 1992, 15). Gossip, jealousy, and envy hijacked the harmony and tranquility. The eternal blue sky (*mönkh tenger*) watched over these conditions in discontent for a while. When the people refused change for the better, the eternal blue sky's patience turned into frustration: Furious storms ravaged across the area, mountains collapsed under earthquakes, and boiling hot water splashed out from an unstoppable spring. Only a few souls managed to evade the wrath of the storms, seeking solace amidst the harsh conditions of the nearby mountains. The world was turned upside down and precarity reigned. The people of the valley of heaven now lived under "the woes of ignorance", with ignorance being "the darkness of the mind without stars nor moon telling the night" (Jambaajamts 1992, 16). Ultimately, the eternal blue sky decided to stop the misery and threw a huge rock to cover the spring. The flow of hot water stopped, and a clear blue lake remained with its water cooling down. The top of the rock that sealed the spring can still be seen today as Modon Khüi island.

2.4.3. The Misguided Manchu Khan

In another legend, as briefly described by Jambaajamts (1992, 18), a Manchu khan (*Manjiin khaan*) claimed rights over the lake and wanted to charge taxes from the population for using the lake's water. He justified this claim by stating that Lake Khövsgöl was in fact a lake (*nuur*) instead of an ocean (*dalai*), contrary to what the Mongols named it. An ocean, so he argued, would typically have about a hundred streams feeding it, which would not have been the case for Khövsgöl Dalai. The Mongol herders disagreed and protested, insisting that it was always called an ocean ever since they lived in the area. To prove his point, the Manchu noble sent a messenger (*elch*) all around the lake's shores to count the streams that fed it. Upon the messenger's return, he confirmed that there were indeed one hundred tributaries feeding the ocean. Thus, the noble's claim lost its

relevance, having no choice but to abandon his plan of charging taxes to the Mongols, who were thus able to continue pursuing their livelihoods the way they used to.

2.5.Khoimor Nutag Part II: Wealth and Worship

Khövsgöl Dalai, it should be clear by now, comprises stored and storied wealth. It is a source of life from which people, animals, and entire ecologies grow in Khatgal and beyond. As khoimor nutag the lake and its watershed are embedded in cosmopolitical geographies that transcend administrative units from the village to the district to the province to the nation. The Khövsgöl Dalai watershed forms an exceptional environment of wealth that is worshipped and invigorated by its inhabitants, echoing what Julie Livingston (2019, 32) has called "an animated ecology, where the past is always present." The lake's water is khöröngö, the essence of its stored and storied wealth, and it is defined not only by the volume and size of the lake, but also by its purity as a life-giving entity, which is underscored by the notion of khoimor.

The khoimor marks the most valued and respected part within the spatial hierarchy of the household. Inside the home, it is located in the northern part *and/or* located opposite to the entrance door.[27] When (respected) guests visit a household, they are invited to 'sit upwards' (*deeshee suukh*), i.e., to take seat in the khoimor to valorize their social status. The khoimor is where a composition of valuable items is arranged inside and around the household chest. It is the place for images of gods, spirits, sacred animals, and both deceased and living family members. For example, kinship and family ties represented through photographic collages, and awards for outstanding herding skills, are placed around the household chest to "outwardly display relations, with infinite connections in a visible form" (Empson 2011, 143). Stories and memories are the means to maintain these reciprocal relationships of growth between khoimor, household members, and visiting relatives (see Empson 2011, 106ff.). In the spatial arrangement of the household, while conspicuous valuable items find placement around the household chest, covertly harbored within its confines are more items of significance, exemplified by pieces of animal hair posited to evoke prosperity.

[27] I use *and/or* here because of the architectural differences between the *ger* and wooden log houses. The former is aligned to a north-south axis with the door facing south or south/east and thus located opposite the khoimor in the north. Wooden log houses, to the contrary, are often aligned to a west-east axis. They often have an entrance area with the main door facing south while the entrance to the living area faces east. In either case, according to my observations, the khoimor in wooden log cabins is always located opposite the door, but not necessarily in the north.

Mongolians engage with their household's khoimor in specific ways. When a person returns to their ancestral or parental home following a prolonged absence, one of the first things done after arrival is to bow down in front of the khoimor and gently touch the household chest with the forehead to pay respect to the spirits of ancestors, divine deities as well as the household and birthplace within the wider nutag environment. When visiting special and sacred places, a similar practice of ritualistic ancestral respect is carried out. Notably, during my observations at the shores of Khövsgöl Dalai, I have witnessed travelers engaging in this ritual: They stop to collect water with their hands and then pour it over their foreheads, signifying reverence towards the lake and its significance within the cultural and spiritual landscape.

Oyunaa, a middle-aged woman from Khatgal who worked in tourism for around twenty years when I first met her in 2017, daily worshipped the water of the lake. I mostly met Oyunaa by chance in the town center and we usually ended up having conversations and chats whenever we ran into each other. Every morning, she told me, she went to the lake's shores to collect water for worship. While she praised the lake, she took water from it and offered it to the Buddhist gods in her homely shrine, a practice that is usually carried out with dairy products or vodka. Such offerings are made to cater for the well-being of more-than-human entities such as divine and ancestral spirits, or sacred animals. In return, these entities provide for protection and the well-being of the household. The following excerpt from one of our conversations we had in Khatgal's souvenir shop underscores the value she ascribed to the lake:

Björn: Every morning, after waking up, I drink one or two cups of lake water from the water barrel. It feels very good and healthy.

Oyunaa: When I go to the lake in the morning, I walk there at five a.m. every morning. I get up at five a.m., go to the lake, take two five-liter bottles, which makes ten liters of water, and carry them home. Every morning. I'm overweight so I need to lose weight, that's why I do that, you know. When I arrive at the lake, it's so beautiful, incredibly beautiful. So, before any animal or anything else has entered the water I take water from there and bring it home to give it to the gods. I place it in the gods' place. I make water offerings (*usan takhil*) to the gods.

Björn: In your khoimor?

Oyunaa: Yeah, in my khoimor, to God, to Buddha. You know like this [points to a miniature Buddha souvenir]. So, I offer it there, and when I'm coming to the lake, I also drink one cup of water. It's so nice!

Oyunaa had a deep, sentimental admiration for the lake. Her practice of worship registers a transfer of water from one sacred place, the lake, to another, the household shrine. This practice of worship underscores that the khoimor engenders human-environment-relationships through which memories and responsibilities are materialized, reminding people "of their obligations and connections, and replicate relations between groups" (Empson 2011, 143). In fact, as Oyunaa's practice of worship shows, memories and responsibilities relate to human individuals, groups, and more-than-human environments. Furthermore, the khoimor marks spatial relationships of accumulated wealth and value. As sites of accumulated wealth, household chests store a family's *ed khöröngö* (property, resources, wealth); items that can generate growth, such as bundles of animal hair kept back from animals that were sold, which "allows for growth beyond the animal, person, or thing from which it has been separated" (Empson 2011, 77).[28]

Khövsgöl Dalai resembles this idea of the khoimor. As a body of water comprising the country's largest freshwater reserve, it is a site of accumulated wealth with water being the khöröngö that is accumulated through the lake's tributaries. At the same time, the lake's water is life force which is distributed through the Eg River as freshwater supply for large parts of the nation. The name of the Eg River is striking in this context: It relates to the Mongolian term *ekh* which translates as source, origin, beginning, mother, and breastmilk. In the context of milk fermentation, ekh is also a substitute word for khöröngö in reference to lactic ferments.[29] As the single outflow from Lake Khövsgöl, it carries an incredible significance for providing and distributing water as a life force across large parts of the country. Khövsgöl Dalai and the Eg River thus provide for growth and collective life. Similarly, household chests store items of wealth such as animal *khishig* that simultaneously are the results of growth and that can generate growth outside and far away from the household. On a national level, Khövsgöl Dalai is the highest valued environment, and it operates in the same way as the household chest, regardless of geographic scale. Khoimor nutag is thus not just a metaphor but a multiscalar concept of

[28] Empson (2011) elaborates in detail on how pieces of animal hair are stored in household chests to keep its *khishig*, the animal fortune, with the household after an animal is sold for example.
[29] This translation and use of khöröngö and ekh are the subject of chapter eight

growth. Khövsgöl Dalai constitutes a sacred site of worship deeply embedded in the lives of human individuals and collectives, near and far. The practice of milk offerings illustrated below shows how Khövsgöl Dalai's value is acknowledged daily as a source of life, and how the lake accounts for a powerful force within larger spiritual and cosmopolitical geographies.

2.5.1. From Mother to Mother

On every summer morning, after milking cattle was finished, Dalaimyagmar took one of the buckets filled with fresh milk, stepped outside the ger, and walked approximately twenty meters to the south. In her right hand, she carried a *tsatsal*, a special wooden spoon used for milk offerings. The handle was decorated with carvings and a sacred, blue silk scarf (*khadag*) attached to its end. She turned to face the north and started to give her matutinal milk offerings (*tsatsal örgöl*).[30] She dipped the tsatsal into the bucket, scooping out portions of fresh milk that she then gently sprinkled upwards. While sprinkling milk, she slowly turned following sun rotation (*nar zöv*), and each offering was accompanied by silent prayers and wishes. The milk that Dalaimyagmar offered is called *deej* and it is the top portion of every morning's first milk reserved for the land and the ancestral and environmental spirits inhabiting it. To herders, libations in form of milk offerings are special and sacred as the deej contains the "potential life-force of their animals" (Empson 2011, 79).

During this matutinal ritual, Dalaimyagmar would always offer milk, wishes, and prayers to places that she related to in various ways. Among them were Khövsgöl Dalai to the north and Yargas Uul, a powerful mountain close-by to the east. Both the lake and the mountain were inhabited by female *lus savdag* (water and mountain spirits). Lus savdag are forms of gazryn ezed (land masters) who are powerful invisible entities that rule over the land (Humphrey 1995, 145; see also Sneath 2001). Dalaimyagmar worshipped them and asked them for prosperity and protection. Milk offerings are widely practiced on ordinary days and during special events across rural and urban Mongolia (see Humphrey 1993; Empson 2011; Thrift 2014). Through milk offerings, beginnings are initiated, fortune and prosperity are invoked, and protection and purification enacted

[30] Stepping away from the ger was necessary because milk offerings ought not to be made onto gers and buildings as it would be a bad omen. Also, milk offerings usually start from the south, but Dalaimyagmar at some point decided to make her offerings turning to the north first, which she accredited higher importance.

(Abrahms-Kavunenko 2019). Khövsgöl Dalai was always included in Dalaimyagmar's offerings for protecting the well-being of her household, family, and livestock. For instance, when her children visited from the capital city or the town center, she made sure that the lake watched over them during their journeys:

> I always offer milk for my children every time they come home and go back to somewhere else. It doesn't matter whether they go by car, by motorcycle, or on horseback, I always offer milk for them and pray that their journey would be safe and good, and that nothing bad would happen. If I offer milk thinking that *Dalai Eej* will bless them.

Dalai Eej, the Mother Ocean, is a name by which Khövsgöl Dalai is known by and referred to across Mongolia. With its power to watch over Dalaimyagmar's children, the lake was considered a lus savdag, a powerful entity of more-than-human land masters who "do not so much dominate the landscape, as point to the invisible agency of a place" (Empson 2011, 86). Land masters and environmental spirits exercise authority and control over prosperity, fortune, misfortune, and disasters for both humans and non-humans (Humphrey and Onon 1996, 147). They are animate beings deeply integrated in the daily lives of people and their relationship with the environment. Through daily milk offerings, herder women reinforce these human-environment relationships.

This was emphasized by Baasan, an elderly herder from Khatgal with whom I have worked consistently from 2017 to 2023. When visiting her during the morning milking at her summer pasture in early August 2019, Baasan pointed out that milk offerings connected her to her ancestors and the spirits and land masters of her birthplace. These spirits, she explained, sent her on a pleasant journey while they watched (*kharakh*) over her and treated (*khandakh*) her well. Her thoughts during milk offerings were dedicated to the sky, Khövsgöl Dalai, and her ancestors, through which she expressed her gratitude for being treated well by them. In doing so, she remarked, it was important to understand that we were surrounded by all kinds of living entities, including all kinds of plants and animals, and that they needed to be respected by wishing them well through milk offerings. For Baasan, this was a central part of connecting and corresponding with mountains (*khangai*, *uul*), waters (*us*), her homeland (*nutag*), Tenger, and the world (*gazar delkhii*).

Image 6: Baasan gives milk offerings on a summer morning. Khatgal, August 2019.

Dalaimyagmar's milk offerings were expansive and far-reaching as she offered milk to Otgontenger mountain in Zavkhan province to the west, and to the Dayandeerkh cave to south-east. Both places were worshipped by many Mongolians, but also by Dalaimyagmar's grandmother, who was born in Zavkhan province. Dalaimyagmar inherited her household chests (*avdar*) from her grandmother, and she placed it in her own ger's khoimor to store valuable items – ed khöröngö. In fact, although she never personally visited Otgontenger, the mountain played a special role in her offerings ever since it came to her in her dreams while undergoing energy therapy (*energiin emchilgee*) in Ulaanbaatar. In her offerings, she also included the state emblem (*töriin süld*) seated at the Mongolian parliament in Ulaanbaatar to the south-east. For her it was important to her to address the state emblem in Ulaanbaatar because of the political power it exercised and the influence it had on the well-being of the people. Her daily milk offerings even reached beyond the borders of Mongolia, as she explained in summer 2018:

> It doesn't matter whether you are in a foreign place for Mongolian mountains and waters because the world is one, and we all live from its land, mountains, and water. So, it is not that important [if you worship] a place here or in another country. My daughter also went to Mount Fuji and

> brought some pictures of it, and [in her home] she hanged them on the TV set or on the fridge, but I placed them in the khoimor and they are still there. It is not like that only Japanese people worship this mountain, but it is a unique [mountain] in the whole world.
>
> I think we should worship our nature (*baigal*) because we were born in nature. Another reason why I worship Otgontenger mountain is that my grandmother came from Zavkhan province. I also considered this. Because her shrine came to me. It blesses me. I found out that my grandmother worshipped Otgontenger mountain and the Dayandeerkh cave a lot, and she always offered milk to them. So, I carried on this practice and when I offer milk, I pray for everyone, not just for me or for my children. I pray for the six origins (*ekh bolson zurgaan züil*) and all animals. If all people live good lives, I will have a good life too.

Through the practice of daily milk offerings, Dalaimyagmar and Baasan situated themselves within their more-than-human environments with a nuanced attention to their specific personal and kinship relations. Milk offerings resonate with the notion of "emplacement", which refers to "the sensuous interrelationship of body-mind-environment" (Pink 2015, 28, citing Howes 2005, 7). Dalaimyagmar's case was particularly striking, since she, without restricting herself to topographic borders, offered precious milk deej to environmental spirits, sacred places, and other places to which she related through her personal experiences.[31] Baasan, on the other hand, demonstrated how this emplacement happened more immediately within *baigal*, the Mongolian word for nature and the environment, which "includes all beings (visible and invisible) on the earth's surface and points to the different social relations people maintain with land masters who animate the environment" (Empson 2011, 87). Khövsgöl Dalai was always an important part of this emplacement as the lake was acknowledged, appeased, and worshipped as a powerful entity. In that regard, the Khövsgöl Dalai watershed resonates well with what Julie Livingston (2019, 34) calls an animated ecology: "The animated ecology is not a nature out there upon which humans act or from which humans extract. It is a living manifestation of a tangle of historical relationships between entities large and small, humans past and present."

[31] Apart from mount Fuji in Japan, she also offered milk to a city in India where she once went to undergo surgery in a hospital.

While land masters animate the environment, herder women through milk offerings care for these land masters within their animate ecologies. Giving daily milk offerings is referred to as *süü örgökh* (to lift milk), which exemplifies a practice of more-than-human care as proposed in Manduhai Buyandelger's (2013, 41) work on memory and shamanism in a Buryat community in rural Mongolia: "Caring for an infant or an elderly person requires the physical labor of carrying the person in one's arms. It also necessitates the mental effort of remembering and prioritizing their needs and wants throughout one's daily activities." Buyandelger (ibid.) further elaborates that "[t]he phrase "to care for an elderly parent" is best captured by the term *örgöh*, which literally means "to lift" or "to elevate"" (italics added). Through milk offerings, ancestors are remembered, spirits appeased, wishes for prosperity articulated, and emplacement as body-mind-environment relationship is manifested. Just like caring for the old and the young, saying prayers and words of worship while giving milk libations unites deed and thought as well as past and future through practices enacted in the present.

2.6.Negotiating Land Through Nutag

The histories, legends, and ethnographic accounts featured in this chapter so far demonstrated that the purity of the lake can be threatened by various kinds of pollution. All three legends illustrated above have one key theme in common: In each story, the environment is presented as a harmonious idyll that only experienced severe disturbance once alien forces, including fierce monsters, ill-minded intruders, and colonial Manchu royals, inflicted harm. In a similar vein were the early twentieth century Russian settlers depicted in local literature as tricksters who aimed to gain economic advantages through shady deals and contracts with local herders. As a warning for what kind of futures might emerge from, mistreating the environment, whether through neglect, exploitation, or harmful actions, the legends and stories showcased in this chapter resonate with the concept of nutag, which articulates collective identity, power relationships, and protection with reference to land.

Nutag can be seen as a mechanism of protection built around environmental knowledge and collective identity. Mongolian anthropologist Byambabaatar Ichinkhorloo (2017, 56) writes that "[*n*]*utag* collective identity can be explained by the 'self' versus 'other' model, where the 'self' is a member of the *nutag* and the 'other' is everyone else" (italics in original). While nutag collective identity can vary and shift across spatial and

temporal scales, "[t]hese 'self' or *nutag* identified people share the same territory or proximate residence, history, norms, memory, resources and most importantly, spiritual or social belief system. They can be of different ethnic descent or ancestry, but they are united under this identity" (ibid., italics in original). While the safeguarding of land and environments remains central to the nutag concept, it also entails mechanisms of exclusion.

When Dalaimyagmar and her husband Byambaa saw their local river running dry in the summer of 2018, they decided to move to the Eg River basin, closer to Khatgal's town center. However, before they moved, Byambaa visited several households in the valley to ask for permission to settle and let their animals graze there as well. This was necessary, Byambaa explained to me, because many households were crowded in the river basin during the summer months and a larger number of animals kept in such vicinity meant more intense pasture use, and thus potentially running the risk of degrading the pasture vegetation. Another risk was that herds from different households could get mixed up, which could lead to disputes. Since Dalaimyagmar and Byambaa already knew most of the households in the river basin, they were easily granted permission and spent the rest of their summer next to the river. Access to pastureland and water was negotiated according to a nutag framework that historically resembles "[i]ndigenous Mongolian notions of 'land ownership' [that] can be described as 'custodial' in that agencies had conditional rights to use territory and always within a wider socio-political framework" (Sneath 2001, 43).

One year earlier, in the summer of 2017, I met Gerlee, a herder woman who had just moved to Khatgal's northwestern pastures from Chandmani Öndör district with her two daughters and a small herd of cattle. Chandmani Öndör is located at only approximately eighty kilometers distance to the east from Khatgal and Khövsgöl Dalai. Gerlee decided to move to Khatgal for the summer because the tourist season promised a good income through the selling of dairy products. However, because she was not registered in Khatgal, she did not return in the following years when I visited. This, I was informed by her neighbor Otgon, was because the local administration prohibited herders who came to Khatgal from other districts access to local pastures to make a profit off the tourist business.[32] Pasture access is usually negotiated among herders following custodial patterns, and Gerlee was granted access for one summer. But because of her missing of

[32] Otgon and her husband Batsükh were herders I quickly befriended after meeting them at a local cooperative meeting in Khatgal in 2017. We have worked together continuously since.

an official registration in Khatgal, she could not return in the years to come, although she planned to, as Otgon told me. Official registration, or the missing thereof, played a key role in Gerlee's case. Herders would usually migrate beyond the limits of administrative and geographic boundaries when faced with environmental hardships and natural disasters in their own nutag. These long migrations are called *otor* and would be undertaken to allow pastoral households seasonal or temporary access to pastures, given that permission is granted by the people of a nutag (*nutgiinkhan*) of the destination area. Gerlee's reason for migrating to Khatgal, however, was highly influenced by economic circumstances paired with the attractiveness of Khatgal and Khövsgöl Dalai as touristic places that promised for economic opportunities. In recognizing the potentials of its local environmental wealth, the Khatgal administration sought to control and limit the influx of herders from other districts to maintain balance in pasture use. However, this restriction on access appeared quite different within the village itself, where incoming households and businesses encountered few obstacles in obtaining property rights over land (see chapters four and five).

2.6.1. Colonial Commons, or, How to Make a Resource

The narrative of the Misguided Manchu Khan, as exemplified in the previous chapter of Origin Story, offers a poignant illustration of the operational dynamics of the nutag concept. In this origin tale, the arrival of the Manchu Khan symbolizes an external intrusion seeking to assert dominion and establish governance over the land (and by extension the lake!). What emerges in this narrative is not merely the question of who wields authority over the territory and its accompanying lake, but rather, the underlying basis upon which such authority is asserted: On what base was this authority exercised? The new ruler attempted to underscore his dominion by imposing his interpretation of the lake's nature as a mere lake, in contrast to the Mongol herders' conceptualization of it as an ocean. He was easily proven wrong in his assessment of the local environment, but his lack of environmental knowledge did not expel him from his position of power. Nevertheless, the Mongol herders both relied on and leveraged their collective nutag identity to challenge the Manchu Khan's self-proclaimed entitlement to the land and restrict his legitimacy as an 'outsider' lacking nutag affiliations and ties to the land (see Ichinkhorloo 2017, 58).The Manchu Khan had to compromise the terms of his rule in favor of the local herder population, granting them the right to continue living the life

they knew. The implementation of political change through a new system of rule was resisted with environmental knowledge to negotiate the terms of rule. This allowed things to remain as they were for the herder population, i.e., leading a tax-free life and continuing to collectively self-determine land use. While the story demonstrates how thorough environmental knowledge laid the foundation for the rightful use of the land, it furthermore shows that nutag people value the environment they inhabit through knowledge about how environmental wealth was accumulated, and by actively engaging with the environment, prioritizing stewardship over mere ownership or exploitation.

The concept of nutag furthermore strongly resonates with historical relations of state control over, and the collective protection of, natural resource wealth as discussed by Mongolian anthropologist Dulam Bumochir (2020), who claims that "the historical construction of state control of natural resources […] occurred within a pastoralist context" (Bumochir 2020, 49). By focusing on mineral wealth and mining, Bumochir demonstrates how not-yet-extracted natural resources were contested among different political and economic formations. One striking historical example is the Mongolor gold mine, which was deeply encapsulated in colonial resource logics and geopolitics (Bumochir 2020, 50). Once Mongolia claimed independence in 1911 and the rule of the Bogd Khan's theocratic state was established, mineral wealth was nationalized, and mining activities were expanded to facilitate profitable development for the national economy. The paradigm of national growth through the exploitation of natural resource wealth was sparked as "the rulers of Mongolia started to nationalise [sic!] and commodify natural resources as valuable assets in the economy of the emerging state" (ibid.). Following the 1921 People's Revolution and the establishment of the MPR in 1924, state control over natural resource wealth was formally included in the first constitution of the MPR passed in 1924. The constitution's first article of the first chapter is significant as natural resource wealth, including land, subsoil wealth, forests, and waters were defined as "the people's wealth (*ard niitiin khöröngö*)" (State Great Khural of the MPR 1924, Chapter 1, Article 1). The same article furthermore stressed that natural resource wealth was considered the people's wealth "since the beginning of time (*ert tsagaas*)", and as Bumochir (2020, 52) points out, "that it is essential to acknowledge, privilege and preserve Mongolian traditional customs and teachings […] in regard to natural resources" (ibid.).[33]

[33] In Bumochir's (2020, 52) discussion of natural resource wealth under consideration of the 1924, 1940, and 1960 constitutions of the MPR, the term khöröngö is used interchangeably to refer to wealth and

Natural resource wealth was considered collective khöröngö and consequently figured as commons. It is important to note, however, that while the socialist government regarded natural resources as collective wealth and highlighted state control and their protection, it did not necessarily abolish the colonial resource logics of earlier authorities but rather reformulated these resource logics. Eventually, as natural resource extraction was developed to unprecedented levels and took a highly industrial shape in the decades to come, so did subsequent constitutions of the MPR passed in 1940 and 1960, respectively, reformulate the notion of natural resource wealth. In the 1940 constitution, natural resource wealth was now defined as "state property and people's wealth (*ulsyn ömch buyuu niit ardyn khöröngö*)" (State Great Khural of the MPR 1940, Chapter 1, Article 5). The 1960 constitution held that "state property [is], in other words, the people's wealth" (*ulsyn ömch, ööröör khelbel bükh ard tümnii khöröngö yum*)" (State Great Khural of the MPR 1960, Chapter 2, Article 10). In parallel with rapid industrialization and urbanization, this seemingly subtle adjustment to the wording of the constitution represented a significant reformulation and restructuring of natural resource wealth and it's extractivist logics. By including the term *ömch* in the constitution, property and ownership shifted to become a matter of state concern. As commons, natural resource wealth was in principle configured "as "common goods" to be appropriated by corporations, or the state, in pursuit of the national "common good"" (Blaser and de la Cadena 2017, 185). This reformulation was, however, an ambiguous dynamic as held by Linebaugh (2008, 279, cited in Blaser and de la Cadena 2017, 185): "To speak of the commons as if it were a natural resource is misleading at best and dangerous at worst – the commons is an activity and, if anything, it expresses relationships in society that are inseparable from relations to nature."

While not explicitly identified and referred to as inherently colonialist within the context of my ethnographic study, the narratives—whether mythological, historical, or ethnographic—presented in this chapter inherently elucidate the colonial resource logics and geopolitical dynamics prevalent during the early twentieth century; they speak to the translation of environmental wealth into natural resources. In that regard and under consideration of the story of the Misguided Manchu Khan, the history of the Khövsgöl Dalai watershed features elements of colonial research logics, too. Clearly, as a body of

property. These translations are furthermore conflated with the term *ömch*, which rather relates to property and ownership relations (see Plueckhahn 2017; 2020). In my view, Bumochir's use and translation of khöröngö reflects the complexity of the term itself. Here, I deliberately translate khöröngö as wealth.

water, Khövsgöl Dalai differs much from mineral wealth. Notably, it is rather the entire Khövsgöl Dalai watershed that represents wealth (*bayalag*) while its life-giving waters represent khöröngö. The control over and the use of the land were central subjects in the history of the watershed and "[c]olonialism, first, foremost, and always, is about Land" (Liboiron 2021, 10).[34] Nutag, in this context, appeared as a successfully deployed protective mechanism that contested colonial resource logics and, at the same time, maintained local relationships with the animated ecology of the Khövsgöl Dalai watershed.

2.7.Stor(i)ed Wealth

Resource logics, which work unidirectionally and regard natural resources as a given, have been deployed to the Khövsgöl Dalai watershed and continue to apply within Mongolia's economic development paradigm more broadly. Recent anthropological literature centered around extractivism and mineral wealth in Mongolia addresses, and at times challenges, these logics through nuanced ethnographies of the political, socioeconomic, and spiritual dynamics of artisanal and industrial mining (Bumochir 2020; High 2017). In his critical discussion of the concept of resource nationalism, Bumochir (2020) highlights the historical role of state control over and protection of natural resource wealth. He concludes:

> By taking historical constructions into consideration, the state and the people of Mongolia do not simply control natural resources. They also attempt to protect the environment, locality and territory as well as the knowledge, beliefs, feelings and customs regarding land and localities they inhabit, which is a classic in romantic nationalist thought. These constructions also prompt 'people' (*ard*) to acknowledge state control instead of undermining it. (ibid., 53; italics in original)

[34] Max Liboiron (2021) in their book *Pollution is Colonialism* eloquently distinguishes between "Land" and "land". Written with a capital "L", Land refers "to the unique entity that is the combined living spirit of plants, animals, air, water, humans, histories, and events recognized by many Indigenous communities". On the other hand, "land" refers "to the concept from a colonial worldview whereby landscapes are common, universal, and everywhere, even with great variation" (2021, 6-7, footnote 19). In a way, Land resonates with the Mongolian concept of baigal briefly addressed in this chapter. However, I will continue to use the term "land" without capitalization since neither my study participants nor the literature on Mongolian land relations made such distinctions, and because Liboiron's work specifically focuses on indigenous communities in today's North America.

In her work on the Mongolian gold rush, Mette High (2017) provides an elaborate study of how spirit worlds interfere in small-scale mineral resource extraction as well as financial flows resulting from mining activities and created "cosmological transformations" (High 2017, 21). By decentering human agency in extractive economies, High "follow[s] the paths of gold from the point of extraction to some of its many destinations" (ibid., 23). While High highlights the interdependence of individual enrichment and the circulation of misfortune through gold turned money as "malleable media" (ibid., 20), the focus is placed on the wealth and value generated from gold *after* it was already extracted, and *after* it entered economic circulations. As such, gold ultimately provides a case of extractivism where "nature has always-already entered economics as 'natural resources'" (Wenzel 2020, 148). Natural resources, in such contexts, remain a given that can be found at a 'reserve' and 'deposit'. They maintain an "ontological discontinuity between humans and non-humans" as "a relation that objectifies non-humans as natural resources, the distribution, access and use of which can then become a point of contention among human subjects" (Blaser and de la Cadena 2017, 186).

Khövsgöl Dalai, as a body of water and wealth, differs from that definition of a natural resource, as its composition is actively stored and storied. The lake's deep history demonstrates that natural resources are not simply 'there', nor are they solely resources. Categories such as 'deposit' do not apply here, and the lake's stored wealth is not reserved for humans alone. The lake's wealth, as I have demonstrated in this chapter, originated from and relies on processes of accumulation and growth that extend beyond human influence over time. Its composition encompasses geological processes, mythical legends, biodiversity, industrial pollution, protest, poetry, cosmopolitical contestation, and seasonal changes in aggregate and climate. Furthermore, its wealth is invigorated by offerings made through such as milk, water, and prayers. Similar to the idea of an animated ecology, these more-than-human engagements unfolding in the Khövsgöl Dalai watershed point towards the relational character of its wealth, which resonates with the relational logic as proposed by Hirsch (2022, 55):

> Relational logic promotes an abundance rooted in interdependent connection and obligation. Like resource logic, relational logic can be instrumental. But the affective projects and futures it underwrites are often distinct. Its care is not extractive, and its abundance does not mean

> economic growth. Nor does relational logic necessarily inhibit growth. Resource and relational logics can be at stake together. […] Relational logic calls for a political ecology of feeling: an understanding of dispersed environmental power struggles that recognizes their rootedness in particular affective orientations to the nonhuman world.

As the Mother Ocean, Khövsgöl Dalai is a nourishing source of life that reaches far beyond topographical scales. The notion of khoimor nutag underscores this relational character and nature of the lake's wealth. Material wealth and relations of wealth are stored in a household's khoimor. Similarly, akin to the composition of displayed or concealed valued items and relationships within the khoimor, the Khövsgöl basin stores wealth that has been generated by and continues to generate relations of more-than-human growth. These relations are animated and activated through individual and collective acts of memory, storytelling, worship, and protection.

The most outstanding element of Khövsgöl Dalai's wealth is water. Water is that one generative substance "through which any earthly social, spiritual, and survival life, breath, thought, writing, and so on, is possible" (Gamedze 2021, 56). Without water, there is no life. Yet, Khövsgöl Dalai extends beyond its waters, forging deeply embedded human-environment relationships around water, land, and milk. It reminds us that, in line with animated ecologies (Livingston 2019, 125), the Khövsgöl Dalai watershed "is a living manifestation of myriad, ongoing historical relationships. It is a future world we create every day in the present. It is a future world that depends on collective self-agreement to maintain." The Khövsgöl Dalai watershed's wealth thus is also storied through the manifold relations it encompasses, serving as the subject of "world-imagining", that is, "imagining a world and one's place in it, at scales ranging from the cells of our bodies to the earth as a whole" (Wenzel 2020, 1f.).

Ultimately, in line with Mongolian relations of accumulated wealth stored in the household's khoimor, the notion of stored wealth debunks the idea of natural resources as a given, as understood in widespread resource logics; in other words, it challenges the static perception of natural resources and highlights their dynamic nature shaped by human interactions and societal constructs. Looking at Khövsgöl Dalai through the lens of stor(i)ed wealth acknowledges that "assumptions about what nature is are mutually constituted with contests over how it is used" (Wenzel 2020, 3). Stor(i)ed wealth thus speaks to the dynamic character of environmental wealth by emphasizing how nature is

brought into being through multiple and ambiguous more-than-human forces. In contrast to resource logics, where the commons are simply seen as common goods, the Khövsgöl Dalai watershed's stored and storied wealth remind us that commons are "ongoing, always in the making, indissoluble wholes of human [sic!] and non-humans" (Blaser and de la Cadena 2017, 186). As collective khöröngö, environmental wealth is relational and processual across a multiplicity of geographic and political scales.

2.8.Back to the Margins

The distinctive value of the lake's stored wealth is reflected in its deep entrenchment within Mongolian topological notions and spatial interactions that extend far beyond its shores. Khatgal plays a significant role in this regard: Situated at the southern shores, where the lake transitions into the Eg River, its only outflow, Khatgal is crucial for accessing, utilizing, and protecting this vast body of water and wealth. As pivotal geographical sites and highly valued environments, both Khövsgöl Dalai and Khatgal have been historical and contemporary arenas of contention, ensuing clashes between various forces. Local herders, feudal authorities, mythological figures, Manchu colonizers, Russian traders, socialist and post-socialist authorities, environmental activists, urban businesspersons, and NGOs all vied for and negotiated their interests. While the lake and the settlement remained in situ at the margins of the nation's territory, their figurative positioning has shifted due to shifting territorial arrangements, land-use policies, and world-imaginings within broader topographic contexts, and under the authority, of different polities.

During pre-socialist times, Khatgal and the Khövsgöl watershed were borderlands (*khyazgar*) at the margins of the Qing Empire. With the establishment of the MPR, Khatgal's position shifted as it was considered a center in economic, social, political, and infrastructural terms. This was strongly reflected in the toponyms ascribed to Khatgal. Names such as the hearth of the province (*gal golomt*), the cradle of the working class as well as the fact that Khatgal had city status and was declared the first provincial center (*aimgiin töv*) of Khövsgöl province placed the growing town into a central position. With the dissolution of the MPR, Khatgal was figuratively relegated to the country's political and economic periphery. It was marginalized in that the infrastructures that upheld the city's importance for the state ceased to exist with the state. Today, Khatgal is administratively subjugated to Alag-Erdene district, which is located approximately fifty

kilometers to the south of Khatgal. Despite being the first permanent settlement and administrative center of Khövsgöl province, Khatgal, as a political locale, shifted its position from margin to center to margin again.

Depopulation followed the breakdown of socialism upon which rural-urban migration became a widespread phenomenon (Bruun and Narangoa 2006; Sneath 2006). Khatgal's city status was ultimately reclassified to village status, making it the only village in Khövsgöl province today. In this context, it is important to note that the "dualistic treatment of rural and the urban culture should not be seen as any sort of reformulation of modernization theory in which the urban comes to stand for 'modern' and the rural is understood as 'traditional'" (Sneath 2006, 141). In fact, the twentieth century history of, and contemporary life in, Khatgal demonstrate how the rural and the urban, as well as the center and the margin, merge in one place. Considered hearth and khoimor, Khatgal embodied both the center and the margin of the province and nation, respectively.

In 1992, two significant events catalyzed substantial transformations within Khatgal and the Khövsgöl Dalai watershed, profoundly impacting their interdependent spatial and socio-economic dynamics. Primarily, the establishment of the Khövsgöl Lake National Park implemented a reorientation of Khatgal's economic trajectory**,** prioritizing the development of the tourism sector at its very core. Nature conservation became a central matter for pushing for development and the growth of tourism, which gradually, but slowly, increased during the subsequent years, continuing well into the 2000s. The second event was the inauguration of the new constitution of Mongolia, marking the first constitution of a newly established parliamentary democracy that aimed to embrace neoliberal capitalism as its guiding economic system. Crucially, in this constitution and for the first time, natural resources were not anymore referred to as the people's khöröngö, that is, collective khöröngö. Instead, natural resources were now entirely considered *ömch*, which refers to property and ownership (see Plueckhahn 2020). Once again, resource logics were reformulated, marking a significant shift from natural resource wealth as a commons and collective wealth towards natural resource wealth as a matter of ownership. Consequently, new ways of world-imagining emerged, and the boundaries of nature and the wealth it stores were redrawn.

In his book on growth, abundance, and the expansion of extractive capitalism into villages in the southern Peruvian Andes, Eric Hirsch convincingly demonstrates how extractive economies based on mineral industries may lead to nationally celebrated mining booms but do not necessarily materialize "at the diffuse margins of extractive

capitalism" (Hirsch 2022, 69). Hirsch's work starts from the premise that the Peruvian Andes are places of abundance where the "very *concept* of raw material" (Hirsch 2022, 8; emphasis in original) expands into the human bodies and daily lives of rural populations, framed as indigenous wealth, where mining-based growth did not take hold.

Khövsgöl Dalai, from a national angle, remained an abundant natural resource, but the reconceptualization of this body of water from environmental wealth to natural resource prompts a critical evaluation. After mining plans in the watershed were overturned, the lake was reimagined by the state and international organizations as a pure environment and ecological idyll that called for protection, this time through nature conservation. Yet, despite its intrinsic importance to the nation's geography, Khövsgöl Dalai remains deeply entwined with the crises that have beset Mongolia during its post-socialist transformation and into the twenty-first century. The lake faces pollution with trash, shipwrecks, dust, wastewater, plastics, and microplastics, among other contaminants, significantly tarnishing its once-admired clarity and cleanliness. The shifting figurative position of Khatgal, however, generated significant implications for the lake and the local population. Under the new constitution and following the establishment of the KLNP, Khatgal assumed a new role. As a locale formerly popular for its economic and infrastructural relevance for the socialist state, the village now became the entry point to a national park that was supposed to represent and hold together unique natural purity at Mongolia's northern rural margins. At the same time, Khatgal was anticipated to undergo economic development and growth during a period characterized by widespread post-socialist precarity. However, the implementation of nature conservation initiatives inadvertently marginalized Khatgal as a touristic idyll, giving rise to social tensions. By drawing on tourism and road construction, I explore these tensions in the context of progress and crisis in the next chapter.

3. The Road to the Future

"From a colonial to colonized, feudal to socialist, nomadic to capitalist country, from 20th to 21st century: Mongolia is in perpetual lateness and in great hurry."[35]

Image 7: A boy rides a horse in preparation for the Naadam horse race. This photo was taken from a car while driving along the A1101 road to Khatgal, July 2018.

3.1.Introduction

Following the collapse of socialism, Khatgal experienced severe economic destabilization as central infrastructures started to disintegrate due to the abrupt absence of state support with the onset of the 1990s. The port and wool factory quickly ceased to operate and Khatgal's infrastructural significance for Mongolia faded for the time being. Ultimately, the former hub for import and export was administratively downgraded to village status, triggering a wave of stark depopulation as many residents left Khatgal to seek better income sources and education for their children in urban centers, while others turned–to pastoral livestock keeping. During my fieldwork, the remains of Khatgal's

[35] Shuree Sarantuya, 06 June 2022: https://berlinergazette.de/how-the-violence-of-green-extractivism-enforces-sedentism-in-nomadic-mongolia/

socialist built environment appeared as infrastructural relics of a past enchanted with stable future horizons that were destined to fade.

With the establishment of Khövsgöl Lake National Park in 1992[36], tourism began to gain new importance and forge new future horizons in Khatgal. However, progress and growth did not immediately materialize. Tourist businesses gradually expanded, but it was not until the early 2000s that tangible growth was took place. Myadar (2009), for instance, highlights an interview with a local tourist camp operator, who claimed a six-fold increase in business capacity within just two years during the early years of the new millennium. While few individual business owners found their own ways to benefit from tourism, tourism did not take root to become a more reliable economic sector for the village at large. Initial infrastructural developments did not necessarily prove effective either. In 2007, a small airport for domestic flights was opened in Khatgal to facilitate faster access, proved ineffective as it could not be maintained. The airport remained shut and non-operational during my visits from 2015 to 2023 and was ultimately abandoned. It took two decades before tourism, as internationally promoted by the Mongolian government (Gogo News 2015), began to show significant effects in Khatgal.

A century after Khatgal emerged as a permanent settlement, the construction of a new road radically altered local life once again, as by late 2014, the completion of a direct asphalt connection between Khatgal and Ulaanbaatar paved the way for tourism to thrive in unprecedented ways. While Khatgal always was connected to economic and political centers such as Ulaanbaatar, the asphalt road replaced dirt roads and added a new infrastructural layer to Khatgal's history. Despite its thin and fragile structure, this asphalt layer had a massive impact on local spacetimes.

As a major destination for tourism, Khatgal and the A1101 road provide considerable insight into how material infrastructures alter environments and temporalities, and how material infrastructures are incorporated into the body of the developmental state alongside promises of modernity and growth. In what ways though, one might wonder, does a road relate to the translation of environmental wealth? By way of an initial response, I refer to Rippa (2023, 8) who argues that "[t]o understand the environment as a process of making – to environ – through infrastructure, then, can help place current human politics in a broader more-than-human perspective, while foregrounding the role of the built environment in our relationship with and understanding of the natural world."

[36] This is a correction to an earlier version of this chapter published in the journal Central Asian Survey (2021), where I falsely dated the establishment of the KLNP to 1995.

Khövsgöl Dalai as a resource, tourist attraction, and subject to nature conservation formed a key component for Khatgal's infrastructural incorporation into the body of the state. In turn, the asphalt road is highly transitional in both figurative and material ways. In the context of development narratives, roads ought to facilitate the very process of translation from an under- or little developed present to a developed and prosperous future. By examining infrastructural promise formulated in phrases such as 'development follows the road', I critically investigate such translation processes by examining roadside dynamics that lead to Khatgal as a place at the end of the road and at the margin of the state.

Through road construction, Khatgal was now ambivalently situated within the growth paradigm of the developmental state, characterized as a "gate town".[37] A host of spatiotemporal shifts emerged in everyday life in the post-socialist, touristic village. The road had significant impacts on the perception of time, labor, and property relationships. I address these dynamics in a threefold conceptual approach focusing on timescapes, enclosure, and anatomic analogies to unravel figurative visions of infrastructural development and growth. I suggest that through a joint considering of temporal and spatial relations, anatomic analogies bear useful analytical potential for a substantial critique of infrastructural timescapes and linear visions of development in Khatgal and beyond. Arteries are one particular example addressed in this chapter, suggesting that roads provide constant and steady circulation of goods and people. Accordingly, anatomic analogies shed light on the contradictions of coherence regarding the state's geographic periphery. I will first offer a brief review of the current anthropological literature on infrastructures and timescapes. Then, I will turn to the timescapes of roads and rural life at the roadside and ultimately discuss how new future horizons emerged from road construction and tourism.

3.1.1. Paving the Way for a Post-Socialist Transformation

The dissolution of the socialist state brought forth a turbulent time marked by the introduction of new economic and political systems that generated profits for some and precarity for many. Shifting property regimes accompanied by privatization generated significant changes in land ownership and land use (Sneath, 2002, 2001). The Mongolian

[37] This name came up during my fieldwork mentioned by the director of an ADB development project as well as guards working at the National Park checkpoint in the south of Khatgal.

term for the economy, *ediin zasag*, occupied a new role and was taken literally as the "governance of property" as described by Sneath (2001, 47). New modes of economization took root as market liberalization brought forth new economic encounters and provided the freedom for realizing economic opportunities across scales ranging from the individual to the household to the state (Plueckhahn and Bumochir 2018, 347). It also meant the emergence of new challenges, including new forms of social disintegration, economic disparities, and unprecedented environmental damage. The transformation to capitalism left Mongolian society facing "gross wealth disparity, precarious livelihoods, and uncertain future conditions" (Myadar and Jackson 2018, 2). The imageries of stable futures that were deeply ingrained into the fabric of socialist state ideology began to crumble as state-provided social and economic security were widely suspended. Rural and urban populations were confronted with unprecedented change in terms of the material and immaterial conditions of everyday life. Mongolians entered a period of transformation with blurred future horizons where for many the "only continuity was discontinuity" (Højer and Pedersen 2019, 15). As a result, Mongolia's transformation from socialism to capitalism has been characterized as "an uncertain process [that] leads to innovation when new rights and rules enmesh with old values and interests" (Buyandelgeriyn 2008, 238). Under these new circumstances, many had to follow unconversant paths in order to "survive the unexpected changes and maneuver through the opaque and shifting landscapes of the new socioeconomic formations" (Buyandelgeriyn 2008, 240). Anthropologist Manduhai Buyandelger, for instance, makes an impressive case for how, among Buryats, newly introduced capitalism and revived shamanism developed as distinct economies that were nonetheless "mutually constitutive" (2013, 11). Capitalism, she argues, was considered a totalizing and dominant system that "produces material goods and a homogenizing narrative" (ibid., 15) that people welcomed "as a savior, rescuing them from the failed socialist order, and as a system of fair competition and equal opportunity" (ibid., 9). Despite widespread desires for capitalist enrichment, the Buryats "end up participating more in the shamanic production of history than in the capitalist economy" (ibid.). To the contrary, shamanism, as practiced by Buryats, "uses the freedoms and anxieties of capitalism to generate its own economy, which produces not material profits, but individual memories and communal histories" (ibid. 9). Nevertheless, post-socialist Mongolian society faced frequent discontinuity in every aspect of life, including the social, the cultural, the economic, and the political. The future, once the beacon of socialist modernity, was now

infused with insecurity, prompting the past, with its forcefully forgotten shamanic spirits, to regain importance for making sense of the present. One of capitalism's dominant and homogenizing narratives is that of progress but, as Buyandelger (ibid., 89) notes, it "is not a natural continuation of the past."

It is thus important to stress that the transformation from socialism to capitalism did not happen in any unified way nor did it follow any clear-cut trajectory.[38] Rather, "capitalism in Mongolia, like elsewhere, is fluid in ideology and practice" (Plueckhahn and Bumochir 2018, 342). Capitalism, in its first years, was not even named as such since Mongolian leaders seemingly hesitated to discard socialist ideology too easily (ibid., 345). The crises that then emerged from the introduction of capitalism during the early 1990s were met with varying responses directed towards varying temporalities, including pasts, presents, and futures, and depending on the situated agency of rural and urban populations, respectively. Plueckhahn and Bumochir (2018, 353) conclude that "Mongolian capitalist economy is also precarious in and of itself, because of its changing political nature. This variability and reliance on favors, networks and political connections, while volatile, also presents new opportunities for different economic collaborations and encounters."

In post-socialist Ulaanbaatar, as proclaimed by anthropologists Lars Højer and Morten Axel Pedersen (2019, 14), "[r]adical change [became] "a way of life"". With that argument, the authors challenge "the proclivity to "continuity thinking" in postsocialist anthropology [which] has meant that the potential distinctiveness of life in transition has been ignored" (ibid.). They elaborate on how urban hunters and hustlers, as the authors call their ethnographic collaborators and friends, were deeply embedded in a "radicalized and distorted economy of favors from which some profited but many more did not" (ibid., 56). Navigating the fast pace of a shifting urban landscape with its many yet unexpected economic opportunities and pitfalls, they conclude, resulted in "far from only one way of being entangled in transition; in fact, it was almost as if each and every individual constituted a transitional singularity of his or her own, whose specific and always unpredictable path was irreducible to anyone else's" (ibid., 57).

It was under these conditions of a precarious post-socialist transformation in Mongolia, I argue, that road construction emerged as a proxy for developmental progress and a new

[38] While many authors such as Højer and Pedersen (2019) label the post-socialist moment in Mongolia as transition, I see the term transition as too suggestive of a smooth process of change from one system to another, which it was not. I thus use the term transformation instead.

mode of representing continuity, frequently expressed through the phrase "development follows the road (*zam dagaj khögjil irdeg*)." Roads, so it seemed, offered a way out of precarious life, and paved the way to prosperous futures. Under these precursors, road construction adhered to the "dominant neoliberal metanarrative of progress and development and growth [which] assumes a clearly defined beginning (socialism), a chaotic but finite interlude between two (the transition) and a fixed endpoint (capitalism)" (Højer and Pedersen 2019, 9). Højer and Pedersen (2019, 16) suggest that taking seriously the post-socialist transformation requires foregrounding time as both an agent of and subjected to change. In their elaborate study of urban hunting and hustling in Ulaanbaatar, they ask "how might time itself be different in contexts of transition" (ibid.)? By highlighting temporality as expressed through infrastructural timescapes and anatomic analogies, I follow their lead and challenge visions of unilinear progress. With a focus on the built environment, I consider temporality as "a blurring of what might seem determined, an entangling of time with action, a refusal of subject–object divisions" (Champion 2019, 247). Before going into greater detail with the intertwining temporalities of infrastructural development, tourism, and rural life, the subsequent section will briefly discuss the relevance of Mongolia's road network for tourism in Khatgal, and its broader impact on economic development.

3.2.Roads for Development and Growth

Mongolia's road network and transportation sector have received significant attention and became a central matter to development policies throughout the past three decades (Lang and Tsetsentsolmon 2020). In the 1990s, influential international organizations such as the World Bank and the Asian Development Bank (ADB) identified the existing road network as highly deficient and made major investments in infrastructure construction (Rossabi 2005; Sneath 2003). As a result, the number of asphalt roads has more than tripled in kilometers from 3,015.6 in 2010 to 9,780.6 in 2019 (Mongolian Statistical Information Service 2020). One major development has been the Millennium Road network, a mega-project that has been initiated in 2001 and "[e]nvisioned as a prime catalyst of modernization within Mongolia" (Diener 2011, 632) with the objective to connect eastern and western Mongolia through a 2,400 kilometers asphalt road. Road construction is furthermore a crucial factor for Mongolia's tourism sector, which counts as a major option for diversifying Mongolia's mining-focused economy (Myadar 2009).

The A1101 is a two-lane asphalt road that forms the northernmost section of the third arterial road supplementing Mongolia's Millennium Road network (see image 9). It passes by Alag-Erdene district center and connects Khatgal with the provincial center Mörön where it joins with highways leading to Ulaanbaatar. The ninety-eight kilometers long asphalt connection was completed by late 2012 and tourism started to grow to new levels shortly after. Khatgal registered sixty thousand tourists in the 2014 tourist season, a massive rise compared to the eleven thousand visitors counted in 2010, which was understood as "a result of improved road access and reduced visa restrictions" (Asian Development Bank 2015, 1).

Since the road was built, tourist camps and small businesses of all kinds have been established in and around Khatgal's town center. Tourist camps, including homely ger and small cabins, appeared along the main road and near the lake, while upscale camps with amenities like clubhouses, restaurants, and bars were established on the northern shores of Khatgal. Private households seeking to benefit from tourism built additional small cabins for rent on their own properties. Khatgal's port (*usan zam*), once a central infrastructure for import and export, was now exclusively used for touristic activity. Here, tourists marveled at the Sükhbaatar ship, now under the ownership of one of Mongolia's largest supermarket chains, indulging in boat trips, while handmade and imported souvenirs, alongside local products like dairy and medicinal herbs, were traded at a small market, and a restaurant adorned with socialist nostalgia offered a menu featuring deep-fried dumplings, hot milk tea, Russian-style ice cream, and cold beer.

Tourist visitation remained consistently elevated in the aftermath of road construction. In 2017, staff at the protected area checkpoint on the southern entrance to Khatgal reported to me that a total of seventy-two thousand tourists entered the village weeks mere weeks prior to the conclusion of the season. This notable influx of visitors pointed to the frequent and regular utilization of the road, which had become the quickest and sole means for travelers to reach Khatgal by car from Mörön or Ulaanbaatar.

3.2.1. Road Romanticism: Fast Forward to the Past?

Leaving Mörön, the road takes travelers northwards through the forested mountain-steppe of Khövsgöl province's northern Khangai region. During winter, when pastures and mountains are covered in snow, roadsides are only sporadically spotted with abandoned selling points and dismantled livestock corrals. In spring, the melting snow

gradually exposes tawny grasslands that only slowly start to green again. By mid-June, when pastures have regenerated and grasses have reached a saturated green, pastoral households migrate into road vicinity where they establish their summer camps (*zuslan*), while traffic on the road perceptibly increases. Starting from early July, some herder families sell fermented mare's milk (*airag*) and hot food at the roadside. Throughout summer, the road becomes a busy track for the movement of machines and mammals. Flocks of sheep, goats, horses, and yaks slow down traffic as they either rest on or cross the asphalt often followed by herders on motorcycles or horseback. Minivans toil up hills while SUVs and countless smaller cars outpace each other, often in dangerous maneuvers. Like the mammals, the machines come to a halt, too, when they extensively cue at the checkpoint that regulates the entrance to the KLNP during the peak of the tourist season. By mid-August, when tourist numbers start to decline, the green color of the grasslands begins to fade, too. By September, it is not unlikely for the first snow to fall and with the beginning of autumn, when the tourist season ended and before the temperatures drop below zero, the road gradually resumes its calm.

Once the national park checkpoint is passed and one proceeds towards Khatgal's town center, a fascinating scenery awaits. Log cabins and their colorful sheet metal roofs jutting out behind dense and tall fences left and right. The fences of roadside properties, mainly tourist camps, became lower the closer one came to the center. Abandoned factories and old administrative buildings with crumbling facades stood out from the rest of the built environment. These ruins evoke a profound sense of historical contrast, serving as poignant reminders of a bygone era of prosperity juxtaposed with the ongoing process of decay amidst modern development efforts. Since my initial visit in September 2015, the town center has undergone a continual metamorphosis. Buildings around the central square and along the main road that stretched across the village from south to north became more and more shiny. Small wooden grocery stores were turned into supermarkets with brick walls, shiny facades, and colorful advertisement boards. Tea houses (*tsainy gazar*) and canteens (*guanz*) became restaurants. The bank moved to a newly constructed modernist building and ATMs were installed. Transformation was tangible in the center of Khatgal and along the main road. Nevertheless, many of the old socialist ruins stayed, deteriorating, after they were abruptly abandoned. In fact, if one drove along the asphalt road all the way, one would end up in the past at the old trade port. Like many other abandoned buildings, the port represents a "slow ruin" (Dorondel and Şerban 2020, 129 [Lucas 2013]) that marks the post-socialist landscape and reminds

older generations of a past life with steady employment and social security. Khatgal vividly indexes infrastructural relationships across space and time through its built environment, which fosters an infrastructural history that speaks to "ideas of the past [which] are often intimately linked with not only our sense of what may, or may not, lie ahead in the future, but also our attempts to shape those futures" (Haukanes and Trnka 2013, 6). The town also featured many uninhabited fenced properties and building shells of log cabins which made it difficult to know if something was in the process of being constructed or dismantled. Either way, such structures indexed more recent unfinished business.

The spatial and temporal characteristics of Khatgal placed the village in a liminal position, provoking questions about infrastructure, conservation, and tourism as the driving forces for local development, under the premise that they only operated seasonally. Within these temporalities, the promise of development was blurred and seemed almost suspicious. The phrase "development follows the road" speaks to a logic of infrastructural promise (Anand *et al.* 2018; Harvey and Knox 2012) that sees the development of the country dependent on the development of its road and transport network (Mongolian Road Association 2014). As technological interventions, roads are figured as highly future-oriented. Under these conditions, Mongolia's aspiration for infrastructural development represents "a force of social and political will which is able to generate and foster the belief that these technologies have a capacity to transform the spaces through which they will pass" (Harvey and Knox 2012, 523).

Having travelled the A1101 road between Mörön and Khatgal many times, experiencing all four seasons, it became clear to me that the road not only physically traversed and transformed environments but also simultaneously traversed and altered specific temporalities. The silence that followed the tourist season and the ending summer instilled a strong, palpable sense of uncertainty. If development was to follow the road, how were the imaginaries and materializations of development received? Dealing with this question provokes to look further, beyond political slogans and promises, beyond seasonal tourism, and beyond the shiny advertisements and the neatly built, colorful fences along the main road. In what follows, I first critically examine infrastructural development and road construction in conversation with the recent anthropological literature on such issues in Mongolia and beyond. Subsequently, I will delve into my ethnographic material to unravel what happens at the end of the road that leads to Khatgal.

3.2.2. Infrastructures, Environments, and Timescapes – Anthropological Perspectives

Infrastructure draws human and other-than-human entities into complex relationships over time and space (Barua 2021). By exercising spatial and temporal agency, infrastructures are both products and producers of time (Joniak-Lüthi 2019; Niewöhner 2015), and any form of infrastructure can be seen as a "historically situated intervention through which humans engage with and shape the planet" (Rippa 2023, 4). During the past decade, anthropologists have demonstrated an increasing interest in these relationships and interventions with a particular focus on how infrastructures intersect with discourses of development (Dalakoglou 2017; Hetherington 2016; Harvey and Knox 2012). Larkin (2013, 332) argues that "it is difficult to separate an analysis of infrastructures from […] our belief that, by promoting circulation, infrastructures bring about change, and through change they enact progress, and through progress we gain freedom." The construction, or at least the planning, of energy and transport infrastructures has generated promises of modernity, growth, economic prosperity, and new modes of mobility as new ways to navigate developmental discrepancies for marginalized communities across the globe (Rest 2019; Anand *et al.* 2018). Infrastructural promises, however, often remain unfulfilled. A large body of anthropological literature discusses the shortcomings of infrastructure projects. Infrastructure, especially in terms of its many built or to-be-built forms and developed from imperial or industrial approaches (Tsing *et al*. 2019), rather delays development (Urmanbetova and Joniak-Lüthi 2022), disrupts temporalities and environments (Rippa 2023; Scaramelli 2021; Carse and Kneas 2019), or does not materialize at all (Rest 2019). If in Mongolia development supposedly followed the road, then the ways in which development materialized, or not, call for further questioning.

The spatiotemporal agency of roads within the context of tourism is exemplified by the ADB-led Central Asia Regional Economic Cooperation Program (CAREC). In this program, the ADB relies on road construction to promote the expansion of tourism through "a regional approach to sustainable tourism development to maximize economic opportunities while safeguarding ecosystems" (Asian Development Bank 2019, 1). Within this framework, the Mongolian government stresses the coordination of road and transportation policies with tourism policies. What is striking about this program is that future development is supposed to materialize by mobilizing the past, as evidenced by the

the CAREC slogan “Traveling through Nomadic Roads” (Asian Development Bank 2019, 52), which highlights the temporal reconfigurations that road construction can generate.

Mongolia, and the wider Central and Inner Asian regions, share a long history of transregional mobility - notably in form of complex and extensive trade and transport networks such as the so-called Silk Roads - as well as rich deposits of mineral resources. Throughout the past two centuries, increasing industrialization and modernization evolving from various colonial and imperial agendas have revolutionized the technological landscape of continental Asia and beyond (van der Straeten 2019). During socialism in Mongolia, the Central Asian states, and parts of Eastern Europe, infrastructural development was framed by the Eurocentric trope of transforming allegedly “backward” countries into new, progressive socialist societies through enlightenment and technological advancement (van der Straeten 2019; Dalakoglou 2012; Sneath 2009; Humphrey 2005). Roads, amongst others, were built within decades and often regarded as the material links between the state and the people (Dalakoglou 2012, 584). With the collapse of the Soviet Union, many of the material infrastructures of socialism started to crumble in the former Soviet republics and satellite states such as the MPR (Gullette and Féaux de la Croix 2014; Humphrey and Sneath 1999). Nevertheless, infrastructural development maintained its key role in promoting democracy and free markets during the post-socialist transformation (Dorondel and Şerban 2020). With infrastructure being deeply entangled with visions of growth, Eric Hirsch (2022, 6) reminds us that “[g]rowth is a concept that is at once literal, metaphorical, and indexical of capitalist regimes of expertise and accumulation.”

By examining the developmental prospects and potential effects of the Millennium Highway, Diener (2011, 639) suggests that “Intense negotiations of culture, economics, politics, and gender roles will play out among state-elites, international development agencies, tourists, and pastoralists.” Roads play a significant role in the visions of growth and progress within post-socialist transformation contexts, serving as infrastructures with “the capacity to enact a future-in-the-present” (Reeves 2017, 718) and the question of how such capacities materialize emerges yet again. Recent works have increasingly addressed the impact of road construction in different contexts across Mongolia. Significant contributions discuss positive and negative socioeconomic impacts of road construction for rural communities (Diener and Batjav 2019; Diener 2011), and how road construction promises are embedded in election policies (Fox 2016). One recurrent theme

has been highlighted by Pedersen and Bunkenborg (2012), who argue that roads foster connectivity but are also "technologies of distantiation". As such they "outstretch social and material relations" (Lang and Tsetsentsolmon 2020, 204); potentially generate a sense of disconnection and separation between people and places (Pedersen and Bunkenborg 2012). Lang and Tsetsentsolmon (2020) expand this argument, suggesting that infrastructures such as railroads spatially disperse and traverse materialities across the country and beyond, at the expense of localized impacts. For instance, export-based resource extraction through infrastructuring disturbs animate ecologies and "restricts the space inhabited by animals, humans and spirit beings" (2020, 204).

Image 8: The road to Khatgal crossing summer pastures. Khatgal, July 2018.

While tourism and infrastructural development bear the potential to unite and meet the economic interests of the state and international organizations, pastoralism often serves merely as a promotional tool. Whereas international donors such as the ADB have strongly promoted a development approach oriented towards maximum production and market efficacy in the pastoral sector (Sneath 2003), pastoralism has experienced significant decline with continuously shrinking numbers of herder households (Humphrey and Sneath 1999). Tourism marketing labelled with slogans such as "Nomadic by Nature" (Shircliff 2020) obscures the fact that pastoralists remain excluded from decision-making processes regarding infrastructure and development. Thus, the utilization of a nomadic way of life as promoted by the CAREC program stands in high contrast to the daily realities of pastoralist households, and rural life more generally. In spite of their capacity to catalyze development both spatially and temporally (Diener 2011), roads introduce ambivalences and tensions in spatiotemporal dynamics.

On the one hand, roads are promoted as future-oriented catalysts of development and modernization for Mongolia's rural population, including pastoral communities. On the other hand, they are simultaneously pictured as the infrastructures of "Silk Road tourism", echoing essentialized images of nomadism and romanticizing pastoral communities as static cultures of a distant past (Shircliff 2020). This logic underscores that "[t]he road is a paradox" (Livingston 2019, 86) and generates a temporal ambivalence: The road is expected but also envisioned to take rural populations, among them pastoralists, to a modern future of capitalist prosperity. Conversely, the road is intended to take international tourists, primarily from Europe, the US, or East Asia, to a bygone era of premodern nomadic life unfolding in environments touted as "pristine", such as Khövsgöl Dalai and the KLNP (Rossabi 2005, 180). As harbingers of infrastructural promise, they become subject to "the production of a linear temporality that arranged aspects of the landscape into a natural past and a civilized future" (Hetherington 2016, 40).

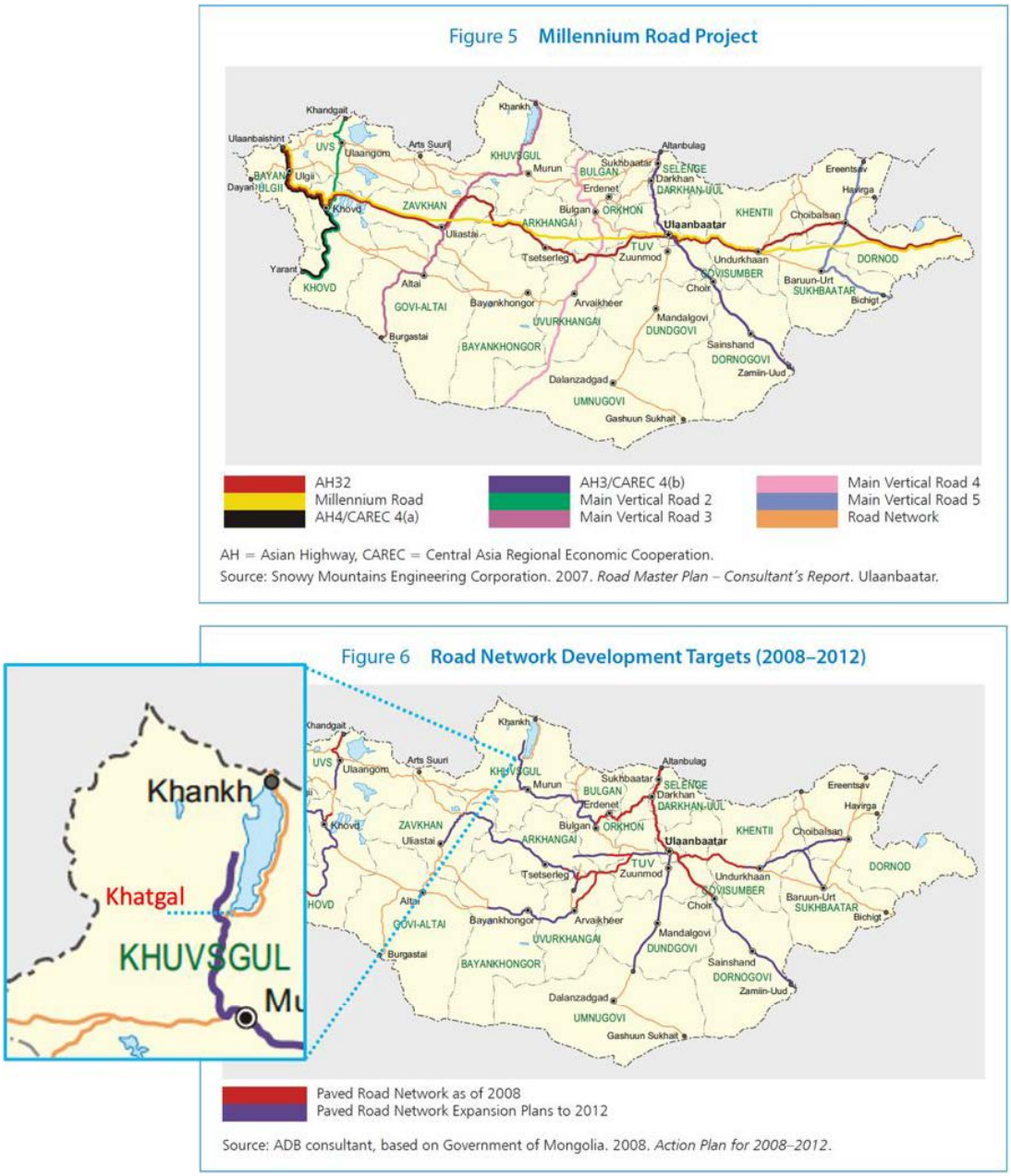

Image 9: Mongolia's road development plans. Source: ADB 2016, 12f.

During my ethnographic fieldwork in Khatgal and along the A1101 road, extended conversations with villagers, pastoralists, tourist camp operators, and administrative staff provided diverse insights into how developmental promises unfolded in daily life in Khatgal. Furthermore, these insights will demonstrate that, apart from altering the landscapes and environments which they cross and cut, roads are also embedded in specific temporalities, as I discuss my ethnographic material through the prism of timescapes, enabling a reflection on how roads simultaneously generate and disturb rhythms and temporalities in the regions where they are built. By offering a contextual

approach to investigate the road's temporal and spatial configurations, timescapes emphasize "their rhythmicities, their timings and tempos, their changes and contingencies" (Adam 1998, 10). They point to the immanent heterogeneity of time in capitalist modernity and offer an approach through which "we can trace how human practices of time intersect and affect social and nonhuman rhythms" (Bear 2016, 489). Timescapes demonstrate how the lives and experiences of various entities temporally "interpenetrate and permeate" (Adam 1995, 12) each other. With reference to Barbara Adam, anthropologist Agnieszka Joniak-Lüthi (2019, 3) suggests that studying roads from an infrastructural timescape perspective reveals manifold "other temporalities which are specific to the environment and the social-political terrain in which any road, dam or airport is embedded." She furthermore proposes a reconsideration of infrastructures and roads through "the time horizons, lifespans, rhythms and cycles of the environment, materials, capital, humans, discourses, technology, the state and other agentive forces that make and unmake it" (ibid., 4).

In alignment with prevailing academic discourse, my research adopts the concept of timescapes as "a helpful heuristic tool for incorporating multiple temporalities, both human and nonhuman, in one analytic frame to highlight their mutual entanglements" (ibid.). Furthermore, considering the prevailing depictions of roads as "arteries of development", the analysis is augmented by a critical discussion of what I term as anatomic analogies. Through anatomic analogies, life and vitality is inscribed into roads. From a biological perspective, arteries serve as conduits facilitating the constant circulation of blood, originating from the heart and flowing to the limbs. In development contexts, anatomic analogies register the built environment, for example in form of transport infrastructure, as the conduits for an all-encompassing geographic, economic, and social integration of the state's periphery. Consequently, a pivotal question emerges: To what extent can roads account for support systems that distribute life force to all regions of the state, which is in turn seen as a coherent organism (Wright 2019)?

As the examples above illustrate, roads facilitate a "co-dependence of the social and material at the heart of the infrastructural form" (Reeves 2017, 731). However, akin to post-socialist transformation narratives (Buyandelgeriyn 2008), no road forms a singular pathway, a linear route, or rather trajectory, leading former socialist countries to capitalist prosperity. Infrastructures, after all, "are sites where temporalities emerge in dialectical relation" (Carse and Kneas 2019, 11). A road, an airport, a dam, or a mobile network, does not solely represent a thing with a singular purpose, but emerges as a processual

relationship that is unruly and open-ended (Reeves 2017; Larkin 2013). Infrastructures generate both intended and unintended effects (Diener and Batjav 2019; Niewöhner 2015), which provokes the question of how roads are entangled with everyday life, while being simultaneously generative of the everyday. On the one hand, this calls into question whether an infrastructure can ever be finished, while also reminding us of how "the possibility of finishedness (as an idea or ideal) shapes how people think about, talk about, and act with regard to [infrastructure] projects and other actors" (Carse and Kneas 2019, 13). What, then, happens once a road has been built?

3.3.The Rhythms of Roads and Rural Life

The summer of 2015 marked the first season following the completion of road construction between Khatgal, Mörön, and Ulaanbaatar. In that summer, Khatgal experienced a flood of tourists during the festivities of the 2015 Naadam, the national holiday taking place every year on 11 July and celebrated for at least three consecutive days to commemorate Mongolia's independence as a nation state, with thousands and thousands of travelers making their way to the northern village. Eventually, there were too many visitors for local infrastructures to keep up with, surpassing the capacity to cope. Camps ran out of accommodation to offer, local stores were deserted of groceries, gas stations went out of petrol, and stacks of cash at the two local banks were exhausted in no time. Ever since, every year around the Naadam celebrations, dozens of cars waited at the national park checkpoint forming long queues that could be seen from the pastures along the Eg River basin several kilometers away. The road also revived old, and brought forth new, roadside interactions along its course. At the final pass before Khatgal, located to the village's south and called Mother Ocean's Threshold (Dalai Eejiin Bosgo), a monument was built in 2017 to commemorate the one-hundred-year anniversary of the Mongolian Trade Union. While the pass was travelled by traders in the past, one century later a few wooden booths were built for local herders and villagers to sell dairy products and souvenirs to tourists.

Not only did the new road change the scenery of summer with its ingestion of countless visitors, it also had a significant and lasting impact on the rhythm of life in both the village and the pasturelands around Khatgal. It is imperative to clarify that village and pastoralist lifestyles are not mutually exclusive. Most herders frequently interact with relatives in the town center, and vice versa. Others, especially elderly people, divide their time

seasonally, only herding animals outside of town during the summer months and spending the colder season in town. Villagers also owned small numbers of livestock that were kept with the herds of relatives or friends in the countryside. Yet others arranged their private properties in ways that allowed for keeping a few heads of yak or horses that roamed the streets of the village, feeding on grass growing in Khatgal's streets or on uninhabited properties. In short and echoing earlier studies on rural Mongolia (see Sneath 2006; Humphrey and Sneath 1999), much of rural life retained elements of pastoralism.

3.3.1. Roadsides

Where roads are built, roadsides attract entrepreneurial businesses (Klaeger 2012). Dalaimyagmar and I frequently had conversations about finding ways to earn additional income. Often, she wondered what kind of business she and her husband, Byambaa, could pursue along the road. When I stayed with the herder couple at their summer pasture at the shores of the Eg River in 2018, we watched at the cars queuing up to pass the checkpoint and discussed selling airag to travelers, both incoming and outgoing. Dalaimyagmar reminisced about how local herders used to produce and drink fresh airag throughout the summer when she was a child, from the late 1970s to the mid-1980s. Now, there was no such household in the Khatgal region, she lamented. One explanation I have received from herders, some of whom some occasionally worked as tour guides, was that with the increased demand of horses for horseback riding trips for tourists, milking mares and fermenting the milk became unfeasible. Both the mare-milking season and the tourist season began between late June and early July. This overlap called for compromises and priorities. Making airag is time-consuming, as mares need to be milked regularly about ten times a day. Since the road was paved and tourist numbers increased, many herders sought to capitalize on the burgeoning tourist sector, strategically collaborating with local camps to offer horseback riding excursions and targeting international tourists, who were perceived as potential high-profile, well-paying customers.

Having a herd of about eighty horses themselves, Dalaimyagmar and Byambaa contemplated milking their mares and reviving airag production in Khatgal. They considered relocating their summer camp back to the river, preferably as close to the road as possible, which promised better sales opportunities. However, their plans were undermined by a lack of workforce, preventing them from doing so.

Image 10: Roadside business. Otgonbayar and his daughter Myadagmaa milking mares (left) and travelers resting at their mobile restaurant ger (right). Alag-Erdene, July 2018.

The idea was not entirely unrealistic, as other herder households seemed to succeed in following the same plan at a different stretch of the road. In 2018, when I traveled the road for a scientific fieldtrip and in search for horse herders who would be available to share dairy samples, I met Otgonbayar. Some forty to fifty kilometers south of Khatgal, halfway along the A1101 highway and close to Alag-Erdene sum center, Otgonbayar and his daughters generated additional income by vending airag and deep-fried dumplings at the roadside. They set up a summer camp of three ger, of which they used one for living, one for preparing food, and the third to host travelers and sell airag for 3,000 MNT per liter. Since airag is highly popular and desired, consumed collectively, and shared with friends and family, customers often purchased multiple liters at once, which made selling the fizzy drink a relatively lucrative business.

Although Otgonbayar was born and raised in Alag-Erdene, he and his family had been living in Mörön for many years. Myadagmaa, his daughter, usually worked at a local tv station in Mörön. She told me how much she loved spending summers in the countryside and taking care of their animals - a way of life she would love to pursue further in her future:

> [At some point] we got the idea to move back to the countryside one day and to take care of our livestock ourselves. So, we bought the land in this area, and, well, we run our small business in summer… we took this land for winter and spring camps, too, you know? Eventually, we are not

> opposed to coming back to the countryside to herd livestock. Personally, I think I will live in the countryside.

For Otgonbayar's family, catering food and fermented mare's milk to travelers proved to be a lucrative side effect of road construction. However, running such a business came with a price and presented challenges, as Myadagmaa indicated, particularly in the necessity to purchase land directly bordering the road from the local district governments.

The family of Tuyaa was another household selling airag at the roadside only two kilometers downhill further north. [39] Tuyaa worked in the school dormitory in the district center, where she earned four hundred thousand MNT per month which she considered by far too low for a living. In addition, schools were closed every summer from June to the first of September, leaving Tuyaa and other employees such as guards, cleaners, and cooks with a salary gap. By 2016, Tuyaa and her husband thus decided to lease roadside land under a fifteen-year contract, requiring a one-time payment of one million five hundred thousand MNT, along with subsequent annual tax obligations. To split the costs for the two thousand square meters of roadside land and attract more customers, her family shared their summer encampment with a household of reindeer herders. Reindeer, though uncommon in the south-central areas of Khövsgöl province, became a tourist attraction following the construction of the road and the subsequent growth in tourism. This development led several *tsaatan* (reindeer herders) households from Mongolia's far north to temporarily relocate to benefit from tourist influx and business, albeit at the potential expense of their animals' well-being.[40] The family brought a handful of reindeer and three *urts* (mobile dwellings of reindeer herders similar to tepees), offering tourists to dress up in traditional clothes and have their photos taken with the reindeer. Through sharing both land and rent, the chances for benefitting from roadside business were increased. By selling airag for three thousand MNT per liter, Tuyaa concluded, this strategy worked well.

Herder households residing at a greater distance to the road and Khatgal did not experience immediate benefits from tourism but nevertheless had to navigate the effects of infrastructural development. For instance, the family of Sükhbat was the only household that still milked their goats and sheep in the region that I could find during my

[39] Tuyaa is a pseudonym.
[40] Reindeer easily suffer from heat stress.

sampling fieldwork.[41] Milking goats and sheep is often carried out by children and youth, but with fewer and fewer of the young being interested in following a pastoral lifestyle, most families in Khatgal were no longer able to sustain such labor-intense work. Herders sometimes resorted to selling their livestock to financially support their children's higher education in the city and abroad.[42] As a result, many pastoral households saw a reduction in size and struggled to keep up with the manifold hard work of livestock keeping. These processes reflected a broader trend of rural-urban migration that has been observed across the country over the past decades (Endicott 2012; Bruun and Narangoa 2006). These dynamics resonate with Diener and Batjav (2019), who suggest that roads contribute to 'distantiation', a process of socio-spatial separation (as referenced previously). Paved roads distantiate, for example, by enabling young people to leave their rural and pastoral homes for (higher) education in larger cities, while simultaneously distancing them from herding lifestyles (Diener and Batjav 2019). However, as demonstrated in this section, roadsides also offer economic benefits for herder households and inspire younger generations to reconnect with their pastoral heritage.

Traversing pastoral lands, the road as an enchanted infrastructure (Harvey and Knox 2012) evoked dreams, imaginations, and memories. Road engineering projects "address material emergence and vibrancy without embracing animism; they engage contingency, repetition, and uncertainty without discarding a commitment to linearity, progress, and change" (Harvey and Knox 2012, 197). Through future horizons, nostalgia, and physical relocation to road vicinity, the roadside cases illustrated above showed that the dialectical temporality of infrastructure indexes the relationship between material and imaginary time (Ogle 2019). While the road attracted herders from near and far, it remained unclear if Myadagmaa ever went to entirely pursue a pastoral lifestyle. Neither did Dalaimyagmar and Byambaa ever started milking their mares and selling airag, but they kept envisioning business opportunities. It was not until as recent as fall 2023, when it became clear that the asphalt road running through Khatgal's center would be extended to the village's northern areas (road work was already under way), that Dalaimyagmar asked for my opinion on opening a small café next to that new road to sell dairy products and coffee. She valued my opinion as a foreigner who had an idea of what foreigners liked, and we

[41] Sadly, Sükhbat passed away because of an accident in 2022. His wife gave up on pursuing a pastoral lifestyle and moved to Ulaanbaatar in response to her husband's death and in face of the hard work that became unbearable without him.
[42] This was the case for Dalaimyagmar and Byambaa, for instance.

would often sit in her ger imagining business options together over a cup of milk tea. If any of these ideas will materialize remains to be seen. In any case, Dalaimyagmar and Byambaa already owned property next to the new road.

3.4.Anatomic Analogies: Arteries of Development and Arrhythmic Timescapes

In a 2014 interview published on the Mongolian Road Association's website, J. Shuumarjav was asked about the slogan "development follows the road" and how the developmental benefits of road construction materialized for the wider public. At the time, Shuumarjav served as the chief executive director of the Mongolyn Khurdny Zam (Mongolian Highway) company, which, together with the Arj Capital company, was responsible for the construction of a 50 km long section of the A1101 road between Mörön and Khatgal. His response was confident: "Already in the past, Mongolians used to say that roads are the principal arteries and veins of a country's development." The public, he insinuated, might be skeptical and only saw the high financial costs of road construction. However, he was convinced that roads clearly improved life. Road construction, he stressed in the interview, brought forth numerous employment opportunities and after a road was put into operation, the creation of productive and non-productive industries quickly followed, accompanied by a general improvement of individual livelihoods.

Shuumarjav's statements made clear that "[r]oads are part of the groundwork necessary for growth" (Livingston 2019, 86), and thus echoed a rhetoric widespread in developmental contexts across the globe. His statements were not entirely wrong regarding road-related developments in Khatgal. Tourism boomed after road construction and development initiatives to improve livelihoods quickly followed, as exemplified by the ADB project 'Integrated Livelihoods Improvement and Sustainable Tourism in Khuvsgul Lake National Park (MON 9183)'. But Shuumarjav additionally employed another rhetorical strategy, which, as I will elucidate, proved to be more figurative than efficacious. By declaring roads as the arteries and veins of development, he evoked an anatomical analogy that implicitly attributed roads a vital supply function within the developmental state organism. According to this logic, the state was perceived as "an integrated system in which all of the parts functionally fit together into a coherent whole" (E. Wright 2019, 802). As linear infrastructures, roads ought to facilitate circulation and thus ensure permanent stability for the systems in which they were embedded, just as arteries ensured the permanent circulation of blood. However, roads and arteries do not

adhere to the same rhythms of circulation. The extent to which roads regularly supplied the periphery of the state organism with life force – development – remained questionable. In what follows, I focus on both developmental and Mongolian notions of the body to elaborate on the question of infrastructural consistency and linearity through the prism of anatomic analogies.

3.4.1. Pulsating Roads

The utilization of anatomical analogies to elucidate the built environment and promote infrastructural development is pervasive within infrastructural planning, transport engineering, and development policies. In these fields, roads are often inscribed with somatic qualities (Taylor 2017). For instance, referred to as "spinal columns" (Harvey and Knox 2015, 38) they ought to provide stability and consistently "facilitate the flow of goods, people, or ideas and allow for their exchange over space" (Larkin 2013, 328). In the field of road engineering, arteries assume a prominent position in road hierarchies, depicted as functional systems facilitating uninterrupted movement and mobility (Taylor 2017). As such, roads are considered indispensable to socioeconomic life and progress. A World Bank blog post weighs in on this narrative, stating that "[r]oads are the arteries through which the economy *pulses*" (Berg, Deichmann, and Selod 2015, emphasis added).

In the domain of human anatomy, "[a]rteries are strong, elastic vessels that are adapted for carrying blood away from the heart under relatively high pressure" (Shier *et al*. 2018, 354). The Mongolian term for road – *zam* –also exhibits a conceptual linkage to human physiology, its functions, and metabolism at large. The words for alimentary canal, digestive tract (*khool bolovsruulakh zam*), as well as for airway (*amisgalyn zam*), describe anatomical parts that consistently supply the body with nutrients and air, two essential elements and energy sources that maintain the metabolism. Furthermore, the archaic term of *jasyn zam* translates as *gal togoony ger*, describing a special yurt for food preparation (Mongolian Encyclopedic Dictionary 2016). These terminologies indicate that *zam* associated with essential forms of the supply and maintenance of a larger system.

In Khatgal, however, the road and road-related timescapes were experienced in less simplified, but more nuanced, and even opposite ways. In Khatgal, however, the road and road-related experiences unfolded in a manner less simplified, yet more nuanced and even contradictory. This realization dawned upon me in March 2020, during my visit Baasan

and her husband Myagmarjav at their winter camp (*övöljöö*), as I extended my greetings for Tsagaan Sar (the Mongolian Lunar New Year).[43] At that time, I unexpectedly found myself confined to Khatgal, as the road was closed due to Mongolia's first confirmed case of SARS-CoV-2 (henceforth referred to as Covid-19) on March 10, 2020 (Bulgan 2020).[44] I came to Mongolia My purpose in travelling to Mongolia in the first place was to document the use of dairy products during the Tsagaan Sar celebrations in late February 2020. Given that Tsagaan Sar is celebrated by visiting relatives and friends, sharing food, and engaging in communal activities such as playing various games within confined spaces, heightened social interactions simultaneously posed an elevated risk of viral transmission within the community. In fact, while there were no documented Covid-19 cases in Mongolia before the 10th of March, it could not be definitely ascertained that the virus had not already infiltrated the country. The situation was unsurprisingly uncertain, and as a result, the stringent regulation and closing of borders developed as a main strategy to avoid the spread of Covid-19 across state territory. On the 20th of February, just a few days before Tsagaan Sar commenced[45], the State Emergency Commission (Ulsyn Ontsgoi Komiss, UOK; a special commission of the National Emergency Management Agency) decreed a resolution that prohibited travel between cities, provincial centers and sub-districts for private travelers for the time being.[46] Nevertheless, together with Zoloo and her family, we managed to leave Ulaanbaatar as soon as the first restrictions were lifted a day or two after the official Tsagaan Sar dates. At each city border and subsequent checkpoint marking the entry into a new province, our body temperatures were monitored, as fever was considered the principal symptom and indicator for Covid-19 at the time. Ultimately, after a few days spent celebrating Tsagaan Sar with relatives in Mörön, we reached Khatgal. Following the confirmation and documentation of the first Covid-19 March, the country went into a full lockdown, implementing travel restrictions

[43] Myagmarjav passed away and became a god (*burkhan bolson*) in 2023. May his soul find peace.
[44] Whereas the Covid-19 pandemic has caused death and disease along with disastrous effects on individual lives, marginalized communities as well as national health systems and economies across the world, Mongolia has been praised as one of the few success stories in terms of preventing the virus from spreading throughout the country for most of the year 2020. The Mongolian government had taken a series of early measures in order to prevent the virus from entering the country and spreading within its borders. For instance, border crossings between Mongolia and China were reduced in January 2020, and an entry ban for Chinese and third-country travelers coming from or through China was put into effect as of 1st February 2020 (Anudari 2020). Schools and kindergartens were closed even earlier by 25th January, and further travel restrictions with countries that reported confirmed cases were issued throughout February. Together, these events counted as some of the most significant policy measures taken to contain the at the time still little-known virus (Lkhaajav 2020).
[45] In 2020, Tsagaan Sar fell on the dates from the 24th to the 26th of February.
[46] Ulsyn Ontsgoi Komiss 2020: https://nema.gov.mn/n/97434 , accessed 20 February 2020

at local, provincial, and international levels. I was stuck in Khatgal since only vehicles carrying essential groceries and supplies were allowed to enter or leave the village. Reduced to the transport of commodities, the matter indispensable to capitalist life, the pulse of the road slowed down significantly. It seemed as though the state itself had contracted the virus, abruptly losing its proclaimed immunity (Sorace 2023), and the road, as an artery, was now a medium for both life force and viral transmission.

Travel within Khatgal and its surrounding pasture lands was still possible and allowed me to visit herder families. Upon my arrival at their winter camp, Baasan prepared milk tea (*süütei tsai*) and a batch of steamed dumplings (*buuz*), foods commonly served during the Tsagaan Sar celebrations. Myagmarjav and I came to talk about the A1101 road. He mentioned that he was a well-known truck driver working at the 24th trading post in Khatgal during socialist times. Whenever we met, Myagmarjav was calm and modest, always moving slowly and speaking in a settled tone. Thus, it surprised me when I was told that he was widely known as the "wild driver (*tojoo jolooch*)". Over a four-day-drive, he told me with a certain pride in his voice, he transported gasoline imported from Soviet Russia to Ulaanbaatar, only to spend another four days returning to Khatgal. To him, the asphalt covered an infrastructural past in which he actively participated as a state-employed driver. His livelihood was based on and maintained state infrastructures including trade and transport, but paved roads did not seem too significant.

We began joking about the current material condition of the road. I remarked that some sections along the road that were so bumpy that driving across these sections felt as if one would sit on a motorboat, racing at high speed across Khövsgöl Dalai. In response, Myagmarjav's son, who accompanied me on a visit to the elderly herder couple, shared an anecdote about a Japanese engineer who travelled to Mongolia to visit his former student in Khatgal. The student picked up his former mentor from the airport in Mörön. On their way to Khatgal, he felt compelled to proudly present the new asphalt road to his guest. The engineer, however, while traveling the road for the first time, could not share his host's enthusiasm. On the contrary: he grew dismayed by its quality, even suggesting that the engineers responsible for its planning and construction should be imprisoned. The irony was striking: In its International Tourism Survey, published in 2003, the Mongolian Tourism Association & The Competitiveness Initiative reported that international tourists predominantly complained about the poor quality of rural dirt roads and wished for infrastructural improvement. More than a decade later, while roads were paved, they nevertheless failed to adhere to the accustomed standards of a Japanese engineer.

Image 11: The road to Khatgal. Alag-Erdene, September 2019.

In late August 2022, I once again found myself traversing the A1101 road, this time accompanied by Bold, an experienced driver in his sixties who, much like Myagmarjav, had worked as a truck driver during socialist times. The road was severely worn out and forced Bold to slow down significantly every few hundred meters. Recalling the anecdote of the Japanese engineer, I decided to share it with Bold. Upon finishing the tale, Bold modestly smiled, his gaze fixed on the road ahead. He remarked that this story, which I believed to be true, was told as a joke about bad engineering practices in Mongolia. As our journey continued along the road, the joke became less funny, and the humor gradually faded as it was replaced by an escalating sense of its stark reality. Beyond the Alag-Erdene district center, Bold, too, expressed surprise by the road's deteriorating condition as he struggled to avoid potholes. I mentioned that it was built by a company called Arj Capital, and he surmised that the company meanwhile must have changed its name evade being held responsible for building such a poor road, which tarnish the company's reputation, potentially jeopardizing future contracts.

The perception of the road's physical condition, along with travel restrictions implemented during sudden events such as the Covid-19 pandemic, highlight the inherent fragility of infrastructural systems (Harvey and Knox 2015). In her work on the

intersection of biopolitics, global trade networks, and infrastructures within the context of self-devouring growth in Botswana, Julie Livingston (2019, 86) observes that "roads entail a reworking of landscape that is not immediately obvious, exceeding the goals of the engineers and planners who make them." The A1101 road, with its thin layer of asphalt, crosses and cuts through various environments, including mountain passes, dried-up streams, and vast plains of pastureland. Therefore, it is equally exposed to environmental events such as frost and floods, which can create ruptures, in addition to unexpected pandemics and the material decay inherent to any built infrastructure. Countless cars and heavy trucks contributed daily to the road's decay and, consequently, to its recurring need for maintenance and repair. Since its completion, the asphalt road between Khatgal and Mörön has been flooded and broken multiple times. In the summer of 2019, a tractor was pulling cars through a flooded riverbed through which the road passes. In July 2020, heavy rains caused severe floods, destroying a three-meter section of the asphalt and its substructure close to Mörön (Sondor 2020).

Roads, and transport systems more generally, might pulsate because of their ability to move things and people through space and time and to facilitate circulation, as argued by the historian Engels (2020). They produce time and rhythms (ibid.), but they fail to maintain the continuity of these rhythms. Roads cannot escape non-infrastructural timescapes and therefore, they fail to turn "natural pasts" into "civilized futures" (Hetherington 2016, 40). Instead, by being seen as vital body parts, roads rather naturalize development narratives. In Khatgal, however, anatomic analogies in their figurative version, as promoted by engineers, the state, and other proponents of development lost their ground through the fragility of roads. From an anthropological angle, these anatomic analogies nonetheless retain analytical value, offering ways to delve deeper. Accordingly, the next section will question the ascribed vitality of roads.

3.4.2. 'Living Like Bears'

Roads do not operate in the background. Unlike arteries, and contrary the backgroundness that is so often ascribed to infrastructure (see Rippa 2023), roads lay bare. Roads are, if anything, material and their fragility is directly connected to their exposure to the spatial and temporal environments in which they have been built into. In the field of regional planning, it is argued that arterial roads "can be vibrant, providing mobility as well as access to cultural and economic resources" (McAndrews *et al*. 2017,

1279). While the latter is certainly true, the vibrancy of roads is controversial and contentious. Roads hardly fulfill basic arterial functions. In fact, recent anthropological works on roads have strongly challenged the idea of ascribing vitality to roads. For example, Rest and Rippa (2019, 374) propose the notion of "road animism" and argue, in the style of Tim Ingold (2018), that life is not in roads, but roads are in life: "You can bring a road to life (through dreaming, planning, construction), (…) - but you cannot kill it. Not because it has a soul, but because its entanglements with its similarly "leaking" surroundings quickly grow so manifold that you can no longer get rid of it." Instead of simply ascribing life to roads as engineers and development organizations do, Rest and Rippa (2019, 385) argue "that roads' immanent vitality is the result of their being in life", which rooted in their ability "to trigger expectations and fears, to draw investments, generate conflicts, or contribute to the reconstruction of certain forms of locality." It is this 'being in life' of the A1101 road that provokes the question of how vital a road can truly be.

In 2017, while travelling the road with a young driver who had studied in Ulaanbaatar a few years prior, he shared that in Khatgal, people would now "live like bears, hibernating and resting throughout the entire winter, awakening in spring to busily engage summer activities before settling into an extensive slow winter pulse once again. This temporal comparison was intriguing for two reasons. First, it resonated with the pastoral lifecycle in the northern Khangai regions, where winter was a time of rest and summer a time of high activity (Fijn 2011, 175). Second, it pointed to the temporal agency of the road. During my fieldwork, I observed that preparations for the summer, including the construction of cabins for hosting travelers and the reopening of shops and restaurants, were initiated during spring, signaling the emergence of a new temporal orientation for the village, influenced by the rhythm imposed by tourism via the road.

Nevertheless, this new rhythm was not necessarily consistent either. In late July 2020, I travelled from Khatgal to Mörön with Ulaanaa, a local driver who has travelled the road countless times. On the road, I asked him what he thought about the phrase "development follows the road" and if it applied to Khatgal. "Of course it did", he quickly responded, explaining that "there has been a big increase in the supply of services." Ulaanaa surely benefitted from the road, he confirmed. He was a member of Khatgal's Driver's Association and provided regular, paid driving services for locals who needed to go to the provincial center, and for tourists who wanted to explore Khövsgöl Lake National Park.

He confirmed what the younger driver mentioned three years earlier: “I’m a very busy man and I don’t find free time during summer. In winter, well, I’m doing my thing”.

The year 2020, however, was different. Due to the Covid-19 pandemic, the Mongolian government closed the country’s borders in March, keeping them closed for both its own citizens and international travelers, resulting in no international tourists visiting Khatgal that year. Many camp owners, tour guides, and drivers who economically depended on both domestic and international tourism became extremely worried in anticipation of their main income source breaking away. Yet, against all expectations, Khatgal was overrun once again, this time by an influx of domestic tourists. Nevertheless, for Ulaanaa, whose income relied on extended tours during July and August, the situation remained precarious: “This year was hard (*khetsüü*), I only drove one tour to the north”, he lamented. Domestic tourists almost exclusively traveled with their own cars and rarely relied on tour guides or driving services. With the irregular occurrence of disruptive events such as floods or pandemics, even hibernation-oriented annual cycles can get out of tune. To that effect, the road became an artery that generated arrhythmic timescapes. As can be seen from Ulaanaa’s experience who permanently relied on the road and its rhythm, the A1101 highway ultimately “indexes the inherent fragility of a connectivity” (Joniak-Lüthi 2019, 7). Accordingly, when development flows and the circulation of life force came to a halt, the arteries of development became arrhythmic by working irregularly and failing their basic function.

Conclusion I: Fragile Futures at the End of the Road

The timescapes of infrastructural development through roads reveal that the use of anatomic analogies inaccurately translates development as a linear process running smoothly towards an idealized future. Roads imagined as arteries, similar to the development visions from which they emerge, are expected to provide for the constant, rhythmic flow and circulation of people, goods, and ideas. Infrastructural timescapes often fail to comply with the consistency of arterial rhythms and blood circulation. Indeed, in dialogue with anatomic analogies that are so often deployed in developmental discourse, the temporalities and rhythms of infrastructures and the human body are conflated, and their nuanced differences often ignored. Roads, as dynamic, relational infrastructures, are embedded in a variety of spatiotemporal rhythms, which tend to struggle to keep pace with one another. Arteries provide life force until the body dies. But human mortality, as a "generic historic model", does not necessarily apply to infrastructures, which "do not have clear life cycles" (Bowker 2015). To the contrary, infrastructures are ever-growing (Harvey, Jensen, and Morita 2016) and their life cycles are much more permanent. This is particularly evident in post-socialist countries, where the "slow ruins" of socialist industrialization continue to mark and shape rural and urban environments (Dorondel and Şerban 2020, 129). In terms of contemporary modernization discourses, roads are profoundly future-oriented (Reeves 2017; Harvey and Knox 2012) and even considered immortal due to their complex entanglements with their environments (Rest and Rippa 2019, 374). Nevertheless, despite their practical incongruity, anatomic analogies offer great analytical potential. They speak to the multitemporal character of infrastructures by addressing both the rhythmic pulse of annual life cycles and seasonality, and the arrhythmic, irregular pulse that emerges from disruptive events.

As I have shown in chapter three, roads can be infrastructures of supply, but their inherent fragility demonstrates that their linear functioning remains a figurative projection of development discourses. The timescapes of roads are never as smooth and steady as they are problematic and paradox. In fact, built into complex spatiotemporal environments, the Khatgal-Mörön road has become unruly and volatile as its pulse went up and down, from rhythm to arrhythmia. Ultimately, roads can be both deeply extractive and enmeshed with complex social relationships and heterogenous temporal dimensions (Harvey and Knox 2015) at the same time. The phrase "development follows the road",

therefore, dwells on the setback that neoliberal reforms have brought to Mongolia, as Munkherdene (2018, 381) notes by citing an interviewee: "'When will we reach real development? In socialist time, we were told that we reached development with Soviet support, but now we are measured as underdeveloped'." Through the use of anatomic analogies, roads are represented as the means to bridge this state of uncertainty and lead toward a brighter future. However, while narratives of roads laying the groundwork for progress were to some extent accepted in Khatgal, progress and development were not necessarily embraced as perennial either.

Öskhöö, a friend from Khatgal with whom I have travelled the road many times, heard about plans of extending the A1101 road to Khankh, a town located at the northern shores of Khövsgöl Dalai. Concerned that once the road leads to Khankh, he worried Khatgal will lose its appeal, as tourists would prefer the even more beautiful Khankh and it would likely experience the significant economic benefits that remained yet to be seen in Khatgal. Because of its vicinity to the Russian border, Khankh would become an important node for import and export business, just like Khatgal once was. Öskhöö relied on the road to make ends meet as a driver for local tourist camps and the Driver's association. However, disillusioned by the road's failure to provide him the anticipated economic stability, he ultimately decided to take a job at the Oyu Tolgoi copper mine, far away from home in the deep south of the country. Once again, there is a certain irony at play in Ösökhöö's case. While the asphalt road failed to provide the reliable source of income he needed for his young family, it ultimately led him to secure permanent employment far away: Despite the need for intermittent commuting, this employment proved to be much more lucrative than any of the jobs available in Khatgal following the construction of the road. His case serves as a striking example of how the road generated connectivity, distantiation, and inconsistency.

While the asphalted Khatgal-Mörön connection increased tourism in Khatgal and the Khövsgöl Lake National Park, the ways in which development was translated were considerably limited and simplified. One major point that road construction as a mode of translating the promise of development into a lived reality bypassed was the complexity of local temporalities and rhythms that were profoundly engrained in and dependent of the Khövsgöl Dalai watershed ecology. Ultimately, an infrastructure as material, as enchanted, and as exposed as a road "surfaces the social conditions and times in which it is sited [and] demonstrates as much about our historical and cultural attentions in a particular moment and place as it does about the thing itself" (Howe *et al*. 2016, 6). Yet,

Ösökhöö's anticipation of the future confirmed that development followed the road. A closer look at the end of the road revealed that the finishedness of infrastructures is highly temporary. Adhering to the ever-growing, open-ended nature of infrastructure, a road can initially foster development, yet with its continuous expansion, it holds the capacity to diminish development as expansion progresses. Prosperity as promised by development initiatives led by the state and international organizations stayed at the horizon of the future, and for many in Khatgal, nostalgia for socialist times and the unraveling of prospects for a bright future merged into an everyday life that was deeply shaped by hope, risk, opportunities, and uncertainty.

Under this uncertain climate, the future remained a fragile projection by both the developmental state and individual villagers. Instead, following road construction and due to highly seasonal tourism, Khatgal became a "marginal hub" (Marsden and Reeves 2019). Marginal hubs are "sites that appear geographically or politically marginal, but which emerge as areas of intense and often volatile sociability" (ibid., 755). Drawing on ethnographic cases from various sites across Asia, Magnus Marsden and Madeleine Reeves note that because "their existence is closely tied up with rapidly changing political and economic dynamics, marginal hubs fulfil few of the criteria that would help to forecast the prospect of future social stability" (ibid., 759). As such they are highly shaped by social interactions that can be extremely temporary and fraught with tension. Emerging from "abrupt and shifting historical processes [such as] the search for new markets, new resources, new supply chains, or new security imperatives" (ibid., 764), or road construction, marginal hubs are shaped by ephemerality, materiality, volatility, and historicity as four dimensions encompassed by site-specific modes of conviviality (ibid.).

The fact that Khatgal received thousands of visitors for a few weeks every year created a new form conviviality in the village. Despite Khatgal's touristic popularity, its inhabitants scarcely reaped the benefits of touristic development, as camps were primarily operated by urban elites and entrepreneurs, offering only a restricted number of low-income seasonal jobs to villagers during the brief summer period. Under these circumstances, land in form of private property often served as the sole means of livelihood for many villagers, while simultaneously becoming a precious and contested entity promising profit for urban businesspeople. As a result, land-related ramifications that emerged out of the post-socialist transformation created a conviviality charged with tension. It is this lens of tense conviviality through which I will investigate enclosed life

and the translation of khöröngö as private property in Khatgal in the second part of the thesis.

II. Enclosed Wealth, Polluted Land

"*Mongolchuud khöröngö khashdag*."[47]

Image 12: Drone photo of Khatgal's built environment with residential areas (left) and the local school (right). Khatgal, March 2020.

A year after my first touristic visit to Khatgal, in late 2016, I worked on figuring out a potential topic for my upcoming PhD project. I did online research and somehow stumbled across the Facebook group "Hatgal News." I came across an administrative intervention posted to the group in June 2016. The local land administrator (*gazar daamal*) posted photos showing the deconstruction of fences. The caption read: "The official confiscation of land and the deconstruction of arbitrarily built fences and houses without land possession and use permits in accordance with the governor's Decree No. A-88 dated 05.10.2015 has been implemented starting from 14.06.2016."[48] How was it

[47] "Mongolians enclose their khöröngö" – Khürlee, May 2017. Personal fieldnotes.
[48] https://www.facebook.com/groups/hatgal.news/permalink/1379679872047251/

possible, I wondered, that fences were built without permit and that certain slots of land were confiscated by the local authority?

Once I moved to Khatgal to live on a fenced property myself in February 2017, I quickly noticed during my regular walks across town a remarkable presence of fenced-off, but uninhabited, properties. Such properties were particularly spread along the peripheral areas of the village. Some of these rectangular and square plots were demarcated with poles on their edges while others were enclosed with rather light and seemingly temporary fences. From my earlier research in Ulaanbaatar's ger districts (2014-2015) I knew that plots of private land were highly valuable and precious. At the margins of Mongolia's capital city, following the implementation of the 2002 Law on Land, which was put into effect in May 2003, fences were often built to lay claim on a private piece of land before the legal conditions to do so were in place (see Plueckhahn 2020). In the ger districts of an overcrowded and ever-growing urban agglomeration like Ulaanbaatar, building fences was a necessity for many of my interlocutors to establish and safeguard an entitlement to the land, regardless of cadastral registration. Khatgal, to the contrary, was a village at the geographic margins of the country where land seemed abundant. What, then, was the reason for such a large presence of empty fences, and why were some of them deconstructed by local authorities while others remained standing?

This part of the thesis is concerned with fenced land and private property as the second translation of khöröngö. My aim is to unravel how khashaa (fenced land) related to the notion of khöröngö and growth in Khatgal through "an embodied spatial analysis [that] includes individual place-making, new modes of circulation and conflicts that are political as well as personal inscribed in the materiality of the site" (Low 2017, 95). The term khashaa refers to both the fence as a material boundary that encloses various forms of wealth, including land as private property, and to the fenced property as an entity itself. As such, khashaa are used in manifold other contexts too, including livestock corrals, monuments, or enclosures built around sacred sites such as springs and *ovoo* (sacred stone cairn). According to Plueckhahn, khöröngö refers to "a conceptual paradigm which encompasses the growth potential that the act of owning property can generate under the right circumstances" (Plueckhahn 2020, 17). In the following two chapters, I am interested in how the circumstances of property ownership are experienced by my interlocutors in Khatgal. I investigate how enclosed land as khöröngö is on the one hand considered productive of growth and security while it requires protection and maintenance on the other hand. In this context, I focus on the khashaa as a form of

khöröngö and material protection that is highly permeable and porous. Khashaa, as property and fences, are crucial yet not always effective in providing for the right circumstances that allow for growth. In chapter four, I will first discuss how khashaa figure in the establishment and protection of private property. Looking at how fences relate to the generative potential of khöröngö draws the attention to the question of how wealth is maintained in spatial contexts. In chapter five, I will subsequently investigate khöröngö in form of enclosed and private land as a contested site and elaborate on a multitude of threats and dangers that recurrently plagued the village and unfolded across spatial scales crossing administrative, environmental, and bodily boundaries. In summary, I discuss multiple issues related to the enclosure of land and life, the accumulation and distribution of wealth, the pollution and protection of land and lake, and the politics of land and growth.

4. Khashaa – Property, Protection, Maintenance

Image 13: Window view from my rented house over my neighborhood to the south. Khatgal, June 2017.

4.1.Introduction

Fences were the material structures that most prominently shaped the built environment of Khatgal. Viewed from the northern and western hill tops, they formed an extensive grid of rectangular plots of land rowed up alongside long lanes, an image that resembled most rural settlements across the northern and central provinces of Mongolia. Despite their being widespread across the country, fences are far from mundane. Looking over Khatgal, I noticed that the distribution and sizes of fenced properties were not uniform across the town. To the north-western side of the main road, for instance, properties were more concentrated around former and current administrative, economic, and social places, such as the school and the central square where cultural and business activities were concentrated. Furthermore, on this side of town, small, and seemingly out-of-service animal corrals built as winter shelters for cattle occasionally stood out from the straight lanes of fence walls and indicated the multispecies character of the village. To the opposite side of the road, towards the lake and river, properties were spreading out more extensively with several tourist camps enclosing larger plots. On both sides, the fenced

properties created the alleys that offered access to them, and inhabited properties were enclosed by densely arranged wooden fences of two meters height. The fences along the roadside of the main road were often much lower, built from lattice work, and offering a view on the property. This was the only asphalted road and as such, it had a certain representative character, as I will show below. Beyond the main road, the arrangement of fences featured much more nuanced variation than I first expected, and I became increasingly intrigued about the life they enclosed. Did they serve any specific function, perhaps a desire for security? What did they ward off? How were fences embedded in the political, economic, and social spheres of the village and how did they impact conviviality? Furthermore, how did land ownership unfold in Khatgal regarding that tourism and conservation became the tone-setting modes for development?

In this chapter, by addressing these questions ethnographically, I offer thorough insights into tangible and tense modes of conviviality and security in Khatgal. I develop an inside-out perspective on the khashaa and regard security as "*a social and spatial process*" (Glück and Low 2017, 282; emphasis in original) within which the agentive forces of the khashaa unfolded in multiple ways. If security is "defined as a modality of constructing danger, enemies, fear and anxiety, and the measures taken to guard against such constructed threats", it becomes necessary to question to what extent such threats are constructed, immanent, acute, and effective within the socio-spatial sphere of security in Khatgal. In that context, the notion of conviviality becomes significant as it "shifts attention away from strivings for cosmopolitanism or toleration and coexistence, and towards the intrinsic ambivalence of living together across local differences, which are themselves often inflected with the dynamics of power and exclusion" (Marsden and Reeves 2019, 758). As protective boundaries and representational objects in both material and figurative ways, khashaa played a key role for shaping the circumstances that allowed for individual growth and maintaining wealth amidst collective disarray. As the fencing of private land is prescribed by Mongolian law, the khashaa itself became an infrastructure interlinked with uncertainties and caught up in a "dynamic between security imagination and its infrastructural solidity" (Maguire and Low 2019, 4).

4.2.Fences Between Representation, Protection, and Security

My interest in Khatgal's omnipresent enclosures took me to the administration (*zakhirgaa*). I went there and tried to meet the village's governor (*zakhiragch*) several

times, but I never succeeded given his repeated absence. In early April 2017, I was kindly invited to talk to Baasanjav instead, who at the time was the director of the elderly committee. I gladly accepted, seeing an opportunity to gain insight into land relations from an administrative perspective. The administration building was a long, rectangular one-story wooden house. Individual offices, each representing a specific department, were arranged along a deep corridor with walls painted in turquoise and an orange-painted floor screaking at every step. Baasanjav welcomed me inside his small, fire-heated office located halfway along the corridor. For approximately four decades, he has occupied a range of political positions, including serving as the director of the socialist youth organization, the local director of the Mongolian People's Revolutionary Party (MPRP), and the director of various local factories. As a male political figure over the age of fifty-five, drawing on decades of political experience, he adeptly represented Khatgal with pride. Our hour-long conversation encompassed a range of topics, including the history of Khatgal and the significance of fences to the village residents.

Baasanjav directly linked the emergence of fences with the first establishment of Khatgal as a settlement, although fences were not as uniform as they were today, and the town was a mixed assemblage of fenced households and livestock corrals (*malyn khashaa*). Fences became materially more uniform and of higher quality following the establishment of a sawmill as an achievement of socialist development, Baasanjav noted. Following the dissolution of state socialism and the subsequent extensive outmigration fences too were left in decay and only recently people put more effort into the look of their fences.

Baasanjav repeatedly highlighted the importance of both the outward appearance of fences and the tidiness of the space they enclosed. According to his views, a property had to be clean and well-organized, preferably featuring trees and properly built houses and latrines. When I told him that I noticed that fences along the main road appeared more eye-catching and were built not as tall and opaque as usual, he said that these fences and properties needed to be decent. They were "the face" (*nüür tsarai*) of the village exposed to and noticed by anyone arriving from outside. With reference to the Mongolian saying "*öödlökh ail üüdneesee*", literally meaning that a thriving household can be recognized at its door, he pointed out that fences were representative of the village's well-being and development. Khashaa, so it seemed, were a significant part of the "performative repertoire" (Hirsch 2022, 12) of both developmental growth and individual household growth. Indeed, remarkable fences and carefully embellished gates were acknowledged

and complimented in the village. A post in the Hatgal News Facebook group, for instance, praised the neatly built fence and its clean gate designed with horse images, and encouraged the village to follow that household's lead. However, despite efforts made by the inhabitants of Khatgal to care for a decent outward appearance, the image of the village as desired by Baasanjav remained unfulfilled. For him, this was a shortcoming that he associated with "many reasons", but that mainly stemmed from administrative neglect in form of insufficient public funds.

Baasanjav stressed that khashaa were not exclusively considered representative of the life they enclosed, but that they were supposed to fulfill two fundamental functions:

> First, ensuring (*khangakh*) the security of one's own distinct (*todorkhoi*) living area (*am'drakh gazar*). Second, to not negatively affect the natural environment (*baigali orchin*) with the goal to contain (*tsomdoo aguulakh*) things on the khashaa's inside, for example, the toilet and all dirty (*bokhir*) things and waste, the khashaa is an agent of protection (*khamgaalaltyn güitsetgegch*). On the other hand, the khashaa is becoming the root of security (*ayuulgüi baidlyn ündes*).

As a physical boundary the khashaa was considered to provide for protection and order, offering a sense of security, and promising to avert hardships and to keep things in place and under control (Yuval-Davis *et al*. 2019). In this context, the differentiation between security (*ayuulgüi baidal*) and protection (*khamgaalalt*) as two basic functions of the khashaa is intriguing. In Mongolian, security literally translates as "a danger-free state of being". Security, according to Baasanjav, related to the establishment of a household's property and was thus concerned with the inside of a khashaa, i.e., the space, wealth, and livelihood it enclosed. Protection, on the other hand, related to the outside world of the khashaa. Exemplified through waste and pollution that was produced within the enclosed space, Baasanjav described a concern of the khashaa which potentially affected the surrounding environment which it simultaneously was part of. By calling the khashaa "the root of security" and "an agent of protection", Baasanjav delegated a distinct intentionality to the fence (see Pinch 2010). As a material technology it was supposed to provide for inward security and outward protection. My ethnography further revealed that the khashaa could not be reduced to these two functions exclusively. Often, fences did not accomplish the functions mentioned by Baasanjav. Consequently, a clear-cut

boundary between security and protection seemed less and less feasible regarding the khashaa being a boundary itself.

As I will show in the further course of this chapter, it was a key concern expressed by most of my study participants that the khashaa provided protection of the inside from outside threats, which it often failed to do. Furthermore, pollution turned out to be a much more nuanced issue. Pollution was rather commonly externalized instead of being regarded as something that emerged from within my interlocutors' own properties. The late STS scholar Trevor Pinch (2010, 79-87) argued that "technologies carry no intrinsic meaning", and that "[t]he delegation/intentionality argument can be made, in principle, every time that a purposely built non-human artefact 'forces' a human to do something." Baasanjav expressed discontent and was critical of khashaa related issues and property distribution later in our conversation by way of criticizing developmental profit generation and to "position [himself] as someone who wants to improve [the] area and help people, not to seek out their own personal profit" (Plueckhahn 2020, 92). Nevertheless, Baasanjav spoke from an administrative position. While I will return to his more critical views in chapter five, I want to first focus on the intentionality that he delegated to the khashaa with further critical reflection on security as a static condition and state of being that the khashaa provided for. In the following section, I will turn Baasanjav's delegation of intentionality on its head and ask, first, how security can *take root* through the khashaa, and secondly investigate what can grow from these roots.

4.3.Khashaa Inside-Out

My initial expectations for studying the meaning and use of the khashaa were high. My assumption was that fences would serve very specific forms of domestic protection that would be expressed through their material characteristics. Khashaa are built in a very specific way; they are about two meters tall and relatively opaque as they are meant to block the views from passersby. Access is usually only granted through a single door or gate integrated in one of the four walls that faces the street and secured with makeshift locking mechanisms. As such, khashaa initially appeared to me as physical obstacles. But the intentionality I assumed these fences inherited did not necessarily hold true. There were always gaps between the planks that offered a glimpse at the property they enclosed. Furthermore, many khashaa had multiple doors which appeared more discrete than the main entrances such as small doors to the north through which people could reach

neighbors and shops located to that direction much quicker. I also often noticed doors in the sidewalls of the khashaa that formed a connection with the neighbor household. Fences, I figured, seemed to offer much more insight into the dynamics of physical and social separation which I initially assumed they shaped. I hoped to get a more thorough idea of their use and function from life on the inside.

The first weeks of living with my hosts Anyaa and Tseegii on their shared property were shaped by daily routines and a calmness that sometimes turned into boredom. There was not much to do during the late winter months, except for cutting wood, making fire, shopping groceries, and cooking. While every now and then relatives or friends of Anyaa and Tseegii visited to play cards, chat over tea, or get drunk on beer and vodka, daily activities were kept at a minimum. I often felt like nothing had ever really happened regarding the lived experience of security on a fenced property. At first, I found it somewhat unsettling to be confronted with this general state of inactivity. I had the impression of being cut off from the outside world and developed a slight fear of missing out. My initial assumption about studying fences at the intersection of place-making and security was pragmatic: Fences served as a vital defense mechanism amidst the pervasive atmosphere of post-socialist uncertainty, positioning themselves as indispensable safeguards for ensuring security, privacy, and preempting potential threats and instances of violence, such as theft. I needed to take a step back from the idea that such rather dramatic and sensational events could happen anytime and reconfigured my approach. On the one hand, I frequently went out to find out more about what was happening beyond my khashaa. The more I walked through the streets of the village, the more did I recognize the diversity of the built environment and learned about different experiences related to khashaa from people I met. On the other hand, rather than fixating on the specter of imagined external threats, I chose to acknowledge the absence of such threats and to embrace both the non-occurrence of events and the potentiality for events to unfold within the khashaa. Perhaps the protection the fence promised was just very effective? Silence and absent presences have ethnographic value, too (see Empson 2011). Eventually, I wanted to learn about life on the inside of the khashaa. I thus reorientated my focus towards my immediate social and built environment by paying stronger attention to my daily life of sharing a property with Anyaa and Tseegii as they too were spending most of their time at home.

4.3.1. "Mongolians Enclose Their Wealth"

In May, when daily temperatures rose to above fifteen degrees Celsius during the day, the khashaa became an environment of increased activity. Spring was bringing life to Khatgal, and the village was filled with the noise of power saws and hammers as people started to build houses and fences for both their homes and tourist camps. In this spring, my host Anyaa decided to renew the front wall of her khashaa and complete the construction of the cat cabin (*muuryn baishin*) that was started a year earlier. These cat cabins were tiny houses and Anyaa's intention was to use it as a guest house to host relatives and rent it out to tourists. Many households added such cat cabins to their private properties, which were popularly used as accommodation across the village. These tiny houses were built from wood with a pitched roof and a floor space of approximately twelve to fifteen square meters, and usually equipped with two or three beds and a small stove for heating and cooking. Privately rented cat cabins were popular among tourists coming to Khatgal as they were much cheaper than most tourist camp accommodation. Prices ranged from thirty thousand to sixty thousand MNT for a tiny house per night compared to prices ranging from ninety thousand to two hundred thousand MNT per person per night at tourist camps and resorts. Prices furthermore varied depending on the relationship the hosts had to their visitors (strangers were charged higher prices than relatives, friends, or acquaintances). While tourist camps often included food into their costs, cat cabins provided the opportunity to make one's own food, which many Mongolian travelers enjoyed during their vacation. Aware of these advantages cat cabins offered for both tourists and hosts, Anyaa hoped such a tiny house would generate an additional income over the summer.

To build the front fence and the cat cabin, Anyaa hired her son's father-in-law Baterdene and two of his friends. Because of these kinship-based ties to Baterdene, the khashaa would cost Anyaa four hundred thousand MNT, a price that was comparatively affordable. However, she was not sure how much she would have to invest for the cat cabin. I first met Baterdene when he arrived at Anyaa's khashaa with his UAZ minivan to bring the building material for the cat cabin. Baterdene was a calm man in his seventies who, wearing a long, Russian winter coat and a flat cap, gave a humble impression. Once he stepped out of his robust Russian vehicle, I helped him unloading planks and beams from the trailer. Despite his advanced age, he was a dedicated worker who valued physical labor. After he complimented me on giving him a good helping hand, he prompted me to

help again on the following morning when he brought more timber. Thus, I spent the following days working on the cat cabin with Baterdene and his two slightly younger friends. We were working continuously but without any haste and so the workday went on for about ten to twelve hours. While we only had occasional breaks taken to smoke cigarettes, drink tea, and eat deep-fried pastries (*bortsog*), there was plenty of time to talk about various topics ranging from social issues to working conditions.

A few hours into work, the men expressed considerable interest in my research which I took as an opportunity to talk about the distribution of land in Khatgal, Khürlee was sure that the governor of Alag-Erdene sum owned a big property in Khatgal. The cadastral register for Khatgal was made by the respective authority in Mörön, and that the large properties located between the main road and the lake were owned by people "from outside", i.e., Mörön and Ulaanbaatar. This was a narrative I frequently heard throughout my fieldwork. Many of the people I spoke with expressed their discontent with the government and administrative institutions. Many felt that land had become a commodity (*baraa*), a subject to fraud, and suspicion about corruption was widespread. Khürlee commented, "If there was [enough] money in Mongolia, it would be the most beautiful country." But money was also the biggest problem of the country, he added. When I built a small stool from leftover timber, he told me that if I built milking stools and gave them to herders, I would receive milk and yoghurt in return, another form of khöröngö that would ensure my individual growth. "This is how nice things could work around here," he added. Khürlee was frustrated with how everyone was only interested in their own business and that mutual support had become rare. When a campaign worker entered the khashaa to promote Enkhbold, the Mongolian People's Party's (MPP) candidate for the 2017 presidential election, the three workers joked and cynically titled the candidates as "trash (*khognuud*)".

As we continued construction, I raised the topic of khashaa. Baterdene quickly noted that "khashaa are all about protection" and mentioned that fences provided protection from enemies (*daisan*) such as thieves, but also from stray dogs and livestock who might disturb the domestic sphere of the khashaa. I asked what kind of things needed protection in form of fences. Khürlee intervened and directly listed "animals, property (*ömch*), springs (*bulag*, *rashaan*), water, and *ovoo*", and concluded that "Mongolians enclose their wealth (*Mongolchuud khöröngö khashdag*)". Khöröngö was considered to encompass different types of wealth from which material and immaterial growth could be generated.

Image 14: Anyaa watches carefully over the construction of her cat cabin. Khatgal, May 2017.

Khürlee's understanding of khöröngö concurred with what I have argued for in the case of Khövsgöl Dalai. The examples of khöröngö that he named were profoundly interlinked with more-than-human worlds. Bodies of water such as Khövsgöl Dalai or sacred springs, for instance, are watched over by spiritual deities (gazryn ezed and lus savdag) and enclosed by the territorial boundaries of designated conservation zones or wooden fences, respectively. To maintain khöröngö protection was needed from anything that could cause harm or pollution. In case of bodies of water that were considered sacrosanct due to their purity and healing attributes, regular milk offerings, building and repairing fences around them, and cleaning up rubbish were ways of maintaining the

wealth of the animated and cosmopolitical ecologies they encompassed. Subsequently, I delve into an examination of modes of maintaining wealth and growth within the framework of khöröngö as a form of private ownership.

4.3.2. Maintenance Work and Reimagining Khöröngö

Baterdene offered valuable insight into the maintenance work of property khöröngö. When we were building Anyaa's new front fence, he told me that he prepared the timber he used for building fences and houses at home, and he invited me to visit him the following day. I gladly accepted and when I arrived at his khashaa, I was impressed by how the enclosure was large enough for two households. It had several sheds and one living house, and in its center, a large wreck of an old bus was surrounded by other piles of metal and wood. The khashaa gave the impression of a huge, and slightly chaotic, open-air workshop. We first sat down inside their house where Baterdene's wife Bilgee served tea and biscuits.[49] Baterdene built the house by himself, and his wife decorated the interior with attention to detail. The flat screen TV stood out against the socialist furniture by which it was surrounded. The khoimor, the most valued part of the household, featured a shrine with photos of deceased relatives, a collection of certificates and awards, and embroidery made by Bilgee. To my surprise, there was also a picture of Sükhbaatar, the national hero and leader of the People's Revolution in 1921 whose statue marks the center of Ulaanbaatar's central square of the same name. I have rarely seen pictures of Sükhbaatar displayed in such a valuable spot in Khatgal households, which I associated with people's disconnection from socialist icons in favor of images of Buddhist deities and Shamanic objects placed in the khoimor due to the revival of religious practices after socialism (see Abrahms-Kavunenko 2019; Buyandelger 2013.). Only the local museum, located in one of Khatgal's oldest buildings at the central square, still had a painting leaning against the wall and showing a conversation between Sükhbaatar and Lenin. I often found the khoimor in the households of my interlocutors' fascinating as they showed similar elements (images of Buddhist gods, small bowls filled with incense, and plates with dairy and candy as small offerings) but also featured very specific items. As my eyes wandered across the khoimor in Baterdene's house, I spotted a collage of photographs that included an old picture of three large trucks queuing up, with Baterdene at the helm of the leading vehicle; recalling his role as a state-employed driver for the port in Khatgal

[49] Bilgee is a pseudonym.

during socialist times, akin to Myagmarjav whom I introduced in the preceding chapter. At that time, he explained, being a driver was an honorable and respected profession because of the high skills in navigation and mechanics, and the responsibility for transporting valuable goods and supplies. Ever since he lost his job in the early 1990s, he had to navigate the new environment of unfolding capitalism. Within the four walls of their khashaa, Baterdene was able to continue to rely on his mechanical skills to find a path through this uncertain and shifting landscape of the new market economy (*zakh zeel*) (Buyandelgeriyn 2008, 240).

After we had tea, he took me outside to show me how he produced timber, which left me in fascination. In 2016 Baterdene and his son had used a motorbike to construct a do-it-yourself (DIY) sawmill by following instructions pictured in an old magazine. The machine was unique and outstanding. It included a self-installed pump for cooling water, and he welded 4-5 m long rails across which the machine would be pushed to saw the wood. That way, his work had gotten much easier and thanks to the DIY sawmill, he was able to cut larger logs into planks and beams quickly with little effort. After sawing, he would sand and smoothen the timber using handy tools. He demonstrated his self-made machine with pride. Afterwards, Baterdene gave a tour across his khashaa. In another corner of the property, he welded scrap metal to build trailers and carts. And yet further to the back, he stored firewood, timber, car parts and all kinds of tools. He built on his skills in craftmanship and mechanics to use the khashaa as a workshop, a place for innovation, creation, and repair, a place for growth. How Baterdene transformed scrap metal into new and useful items such as carts and trailers was an impressive example of how the khashaa can be a productive unit. What was furthermore remarkable was that he did not have to rely too much on monetary investment. His expenses were kept relatively low as they predominantly included fuel and wood for the sawmill.

Through innovative ways of turning old things into something new, Baterdene transformed his khashaa into a DIY production unit. The materials Baterdene made provided the resources for construction and transport for others. For instance, he took orders for khashaa planks which he sold for two thousand MNT per piece. He furthermore offered construction services and would build khashaa and houses himself. When I asked how and from where he would get the logs, he briefly responded that they were from the forests on the other side of the lake. This response was ambiguous because wild wood cutting was illegal in the KLNP, according to a befriended herder with whom I discussed access to timber. It reflected, however, that not all activities and relations going into the

accumulation of wealth were always traceable (Empson 2011, 306). Despite the ambiguity of this response, it showed how Baterdene relied on the local environment to maintain the wealth within the walls of his property.

Image 15: Baterdene sawing a log with his DIY power saw. Khatgal, May 2017.

Baterdene was very vocal about the benefits of life under socialism and his home exuded a nostalgic impression about the socialist past. His khashaa, to the contrary, provided the base for navigating the present. However, not all his ideas and activities turned out successful and productive. For instance, he meant to remodel the large bus wreck into a food truck as a business which he imagined to run well during the tourist season. He began deconstruction from the inside, but while working on it, he soon realized that the parts were too heavy to be dismantled and remodeled on his property. Through the changing regimes of ownership from collective to private "mechanical devices […] saw their utility and value transformed" (Sneath 2018, 92). The bus reminded him of his past as a respected driver, but because he was unable to transform it in its entirety into a new source for generating growth meant that he got stuck with this past while being denied the future he envisioned. The bus was not only a material relic of the past, but it also was a "technology of the imagination" (Sneath, Holbraad, and Pedersen 2009) embedded in a new culture of competitive entrepreneurism as it unfolded in touristic

Khatgal. Eventually, the bus wreck was a liminal thing, stuck and unable to move neither forward nor backward. There was no way to bring back its original shape and function as a mobile vehicle through repair. Since its remodeling failed and rendered maintenance unnecessary, it was left in disrepair. Baterdene's nostalgic position, in this case, should not simply be mistaken for a longing for an allegedly better past. Rather it registered the past as something impossible to reach, and so was the future he initially imagined for the time being.

This did not mean that futures were simply foreclosed. Eventually, while the shell of the bus was of no more use, the vehicle's carcass still offered several parts that could be reused for creating new things such as trailers and carts (see image 3). By transforming the motorbike into a sawmill, Baterdene impressively proved that turning personal property and belongings into a means of production worked out. Technologies of the imagination (the magazine from which he initially got the idea of the DIY-sawmill) also brought forth imaginations of technology (DIY-sawmills and food trucks) as "unconditioned outcomes" (Sneath, Holbraad, and Pedersen 2009, 19) that had to be constantly reimagined depending on the limited resources available (mechanic skills, work force, scrap metal, fuel, wood). Through frequent reimagining, Baterdene managed to maintain and mobilize the economic potential of his khashaa as khöröngö.

Enclosed land emerged as a productive unit that at the same time provided the ground for experiments, experience, and expansion. Producing construction materials enabled him to simultaneously offer his workforce for building fences and cat cabins, amongst others. However, there were not many people who would order timber from Baterdene. He would usually rely on local, personal relationships to find customers. The four larger industrial sawmills in the village, to the contrary, tended to cater to tourist camp operators. My hosts too hired Baterdene because of social ties. This in turn meant that others were benefiting, too. For example, when Baterdene built the cat cabin and a new khashaa wall at my hosts' place, he never worked alone but brought friends who helped him and earned a small salary through temporary work.

Image 16: Reimagining between past and future. The wreck of a bus on Baterdene's khashaa provides parts for new creations. Khatgal, May 2017.

Back at the construction of Anyaa's cat cabin, jokes were made about the three chainsaws we used for cutting planks and beams, which were each produced in a different country including the US, Russia, and China, but none of them working. After asking for my country of origin, one of the men, Khürlee, inquired if I could bring a proper chainsaw from Germany—where German technology was highly acclaimed among my study participants for its quality—and whether there were any jobs available there, to which I replied, "All kinds of," prompting the three men, all well past retirement age, to jointly respond, "Then let's go there together." When I mentioned that I learned about Khatgal as the cradle of the working class, Baterdene, with a cynic undertone, responded that him and his friends were the working class of today. Building cat cabins and fences was good work, they said, but it was not reliable because there were just too few jobs. In Khatgal and in Mongolia by and large, they agreed, there were not enough opportunities for work. Navigating the post-socialist development landscape, for these elderly men, was a challenging task that required reimagining technological imaginations as well as physical and material limits at the same time, a task that not everyone was able to accomplish.

4.3.3. Failed Maintenance and Untraceable Thieves

Tseegii and Anyaa were in constant dispute. While I often had tea with Tseegii or Anyaa, respectively, I barely talked to them both at the same time. When such occasions did arise, tension between them invariably dominated the conversation. Both parties spoke unfavorably of each other, frequently voicing their mutual discontent and annoyance—a striking irony given that this shared trait was among their most prominent similarities. A comment made by Anyaa about Tseegii's laziness could be easily heard from Tseegii's mouth the next day. They both described each other as lazy and as slackers ("*yuu ch khiideggüi khün*", lit. a person that does nothing). I wondered if and how these accusations spoke to more nuanced perceptions of inactivity that materially affected life within the khashaa. In this section, I will provide insight into living on a khashaa I shared with Anyaa and Tseegii. From their stories and experiences will emerge a narrative of control and loss that is interspersed with contradictions, shaped by uncertainty, and provokes a questioning of security facilitated through fences and place-making. Their sharing a property will set the stage for a broader discussion of how privatized security and place-making practices intertwine in neoliberal times of competition, dispossession, and individualism.

During the socialist era, Anyaa was employed at Khatgal's wool factory, a testament to her industriousness and contribution to the local economy. In addition to her professional endeavors, she possessed exceptional proficiency as an ice skater, having garnered acclaim through participation in tournaments, securing victories, and attaining nationwide recognition for her remarkable skill and swiftness on the ice. In the winter of 2018, with an age above eighty, she even put her ice skates back on to go for a few rounds across the frozen lake to celebrate her past achievements and demonstrate her skills one more time. Anyaa was a highly agile person in both sports and work, much in line with the idealized socialist role-model actively promoted by the MPR (Enkh-Amgalan 2021). Back in the days, she once told me, people were *khödölmörch* (diligent and hard-working) and one could see the whole town rushing to their workplaces every morning. Everyone had work and unemployment did not exist, she remarked in a way that echoed a certain nostalgia for everyday life under socialism. I often encountered such nostalgia throughout my fieldwork, mostly expressed by people who were old enough to have attended school or to have worked under socialism. Once Anyaa retired from her job at the wool factory, she moved to the countryside and turned to herding livestock. She stayed in the

countryside for years on, seasonally moving between pastures in the area around the Eg River valley. But, after losing her husband and becoming older, she was not able to keep up with the hard and time-consuming pastoral labor by herself any longer (her children were not around either). She moved back to the town center and settled for a life inside her khashaa. The movement and mobility that shaped most of her life (going to work every day, ice skating, herding animals, and moving between seasonal pastures) came to a halt. While it is commonplace for the elderly to seek rest and decrease activity as they age, Anyaa found herself in a unique situation, surrounded by younger individuals who spent most of their time at home—a circumstance that left her somewhat frustrated. During our conversations she always had a bitter comment on Tseegii's inability to either make or save money but spending it on alcohol instead, or on her granddaughter's habit of incessantly staring at her smartphone instead of focusing on her studies—a behavior she perceived as emblematic of a broader issue within the younger generation.[50]

4.4.Theft, Failure and Loss

Anyaa not only criticized her daughter and granddaughter for their laziness but, having fallen victim to various forms of theft multiple times and hearing of further dramatic cases of theft, she tended to be suspicious of allegedly lazy individuals by and large, believing that "people without work team up (*negdchikheed*) and do not care to move a finger for making a living but live by stealing instead." Her rationale posited that individuals resorting to theft were inherently too indolent to engage in legitimate labor, suggesting a correlation between idleness and criminal behavior. Thus, in her perspective, laziness and theft were intrinsically linked. For instance, ever since she had given up herding, she regularly paid a certain amount of money (which she did not further specify) to a related family (the child of one of her younger siblings) to have them take care of her remaining livestock, which included approximately ten sheep and five to six heads of cattle, including yaks and *khainag* (yak-cow hybrids). That way, she always had access to fresh milk and meat coming from her animals. In the 2016-2017 winter, the family lost one of her best khainag females to thieves. While Anyaa lamented and acknowledged livestock theft as a pervasive issue in Khatgal, she attributed the loss of the animal to the hired household's inadequate care. She noted that this incident was not the first time they had

[50] Anyaa's granddaughter and Tseegii's niece was a fifteen year old high school student living with the two women at the time I rented Tseegii's house in 2017.

lost one of her cows, emphasizing that she had never experienced such losses herself. To the contrary, when she was a herder, her herds "were growing incredibly" ("*aimaar össöj baisan*"). But with a watching household ("*khardag ail*"), growth did not happen. Instead, she was concerned about their inability to take care of her animals while having to "let them watch [her animals] for payment" ("*khölsöör kharuuldag*"). Anyaa feared losing more animals, and she concluded in sorrow: "So, this household watches over my cattle until they are all gone. I am old now and I am no use to the animals [anymore]. I can only love them as long as they are there." Ultimately, dissatisfied with the manner in which the watching household managed her animals, Anyaa made the decision to suspend payments and contemplated discontinuing future payments:

> I did not give them money now. They lost my cows, what else should I do? Now I am thinking about not giving them money anymore. They were milking one of my khainag (females) during the whole winter. So now the yields are going to spoil if things will become worse.

Animal theft (*malyn khulgai*) was rampant in Khatgal, as noted by Anyaa, who remarked that there was no difference from the 1990s—a period of post-socialist transition characterized by precarity, violence, hustling, and theft, which significantly impacted the daily lives of many Mongolians (Højer and Pedersen, 2019). Moving to her khashaa, it turned out, did not spare her the trouble of theft. When I asked if it ever happened that things got stolen from inside her khashaa, she told me about her former neighbors whom she called "terrible thieves" ("*aimaar khulgaich*"). They stole two pots and other household items, things that seemed to me rather odd to be stolen. Indeed, Anyaa's concern for these stolen items stemmed from her discomfort with the carelessness she saw in her own daughter:

> Things probably got lost when she was drunk. Unlike her, I would never have things get lost. This one meets up with people to drink. And these people take our things, I guess. Is it them who steal, or other people who come after drinking and steal? She probably would not have met with that [neighbor] household to drink. Maybe they stole while she was sleeping. She sleeps without locking the door, you know? In the meantime, they come to steal, you know? What to do with a drinking woman? It is terrible (*muukhai*).

Once more, the blame for theft fell upon another individual, and once again, that individual happened to be a relative. While under her care, Anyaa's herds thrived on the pasture, but the household entrusted with watching over her livestock proved inadequate in their management. In the town, her way of connecting to people was unproblematic and good ("*sain niildeg*") because neither her nor her visitors drank. In contrast, Tseegii and her drinking guests caused her constant worry and trouble ("*khereg tövög*"). When she was there, Tseegii's drinking companions would not show up. Anyaa often stressed that theft did not, and would not, happen in her presence, suggesting that she exercised control over her property, be it in the countryside or within the khashaa.

Anyaa's paradoxical encounters with theft offer valuable insights, primarily highlighting the dual nature of her losses: theft is twofold loss. On the one hand, she experienced tangible material losses resulting from stolen possessions. These losses underscored the inherent unreliability of others. However, the specifics surrounding the incidents, such as the identity of the perpetrators responsible for stealing her animals and household items, remained elusive and ambiguous to her. While contemplating the potential link between theft and the influx of "outsiders" (*gadny ulsuud*)" in Khatgal, Anyaa grappled with discerning whether their purpose for visiting was tourism or theft. Nevertheless, this uncertain component of theft was contrasted by the certainty, in Anyaa's view, that theft would only happen in her absence. Caroline Humphrey (1993, 15) contends that during the early years of post-socialist transformation, theft was inherently linked with certainty, as unattended items were certain to be stolen. However, the certainty of theft was not an exclusively post-socialist phenomenon. Instead, it is historically rooted in the emergence of state property as "ownerless property" that developed through socialist collectivization (ibid.). Since state property was understood as detached from producers, consumers, and owners, "people got used both to theft and to endless precautions against theft, and to a concept of property that was depersonalized because the relation between people and things was conditional" (ibid.).

Because Anyaa had to leave her livestock behind, in the pasture with another household, this living khöröngö was depersonalized through distance. Through this distance, growth was not only stalled but became recessive through theft as well as bad maintenance and insufficient care on behalf of the watching household. What, though, was the situation regarding Anyaa's khashaa being the khöröngö she engaged with daily and could not be depersonalized from? Was security simply a matter of Anyaa's personal presence and absence? As a woman, a mother, and a widow at an age above eighty years,

Anyaa was the head of her household and a respected person in the village. She gave the impression of a woman who held control over her household as her immediate social and material environment. This control was undermined when her absence offered dubious others, including both relatives and unknown thieves, access to her belongings. But her narrative was more complex and controversial. During one of our conversations, she mentioned that some of her horses got stolen when she still lived in the countryside (*khödöö*). She also described our neighborhood and the village as relatively safe while bringing up further cases of theft that directly affected her. When she recalled a story of a car being stolen from someone's garage, she concluded that there was no such theft around the immediate neighborhood, which she described as very calm ("*nam jim*"). However, in the next minute, she told me how the rail of her khashaa's sliding gate recently got stolen. Anyaa constantly jumped between her statements, saying that there were plenty of thieves in Khatgal in one moment, followed by the denial of thievery as a problem in Khatgal in the next moment. While these shifting statements seemed to coincide with her personal presence and absence, respectively, they pointed to the controversy of not only having to manage property ownership individually, but also protecting one's ownership and possession individually: "If in socialist times theft from the state was part of general practice [that] has now become theft from private householders with their equivocal newly distributed property" (Humphrey 1993, 15). In Anyaa's conclusion, falling victim to theft was an outcome of laziness and alcoholism, which she associated with unreliability and stagnation as opposed to mobility. Interestingly, the responsibility for theft was put on those who have fallen victim to it. While Tseegii and the watching family were considered lazy, Anyaa did not explicitly blame the actual thieves. What did this imply about maintaining security and the efficacy of protection through fences?

Regarding the issue of blame, I surmised that another dimension of loss dwelled underneath the surface of material loss. A Mongolian saying, which I picked up during my fieldwork, goes "theft has black traces" ("*khulgai khar mörtei*") and indicating that bad luck follows the event of theft. These black traces, however, do not concern the thieves being those who committed a bad deed, as one might assume, but those who got robbed; it is the victims who will experience further misfortune, partly because they failed to properly care for their possessions and engage in the maintenance of khöröngö. Whenever Anyaa referred to belongings stolen from her, she said they were "*aldsan*" (lost) by others. Transferring the responsibility for her khöröngö, such as her animals

being watched by another family, caused her stress and discomfort. More so, it left her without control over managing her economic resources. What once was a reliable, and regenerative, (re)source for growth, was now running the risk of being lost entirely. The verb *aldakh*, to lose, is also associated with failure, but Anyaa was certain that this was not the case for her: "Personally, I do not fail (*alddaggüi*)", she firmly claimed. All her life, she was agile and mobile, for which she was praised. She worked hard for her achievements, regardless of them being high social reputation or material wealth. In navigating the challenges of maintaining her khöröngö, Anyaa occasionally experienced losses, such as animals being stolen by thieves. However, her refusal to acknowledge these losses as personal failures appeared to stem from a broader societal expectation to avoid being labeled as lazy.

4.4.1. Wolves Without Tails

Anyaa was one of many affected by theft in Khatgal. Friends and interlocutors told me stories of motorbikes being stolen from khashaa in bright daylight. A post to the Hatgal News Facebook group even mentioned the theft of two cat cabins that were stolen from a fenced property. In the comment section of the post, complaints about the inactivity of the local police accumulated. Several attempts by myself to get a hold of the local police to discuss security related issues remained unsuccessful. From asking study participants if they knew someone who worked for the police to knocking on the doors of the police office, I was never able to establish contact. Strikingly, I was often told that the local police were complicit in theft-related activities. Rumor had it that the police even collaborated with thieves and received a monetary share of the revenues made from the selling of stolen items. As a result, people who fell victim to theft rather abstained from calling the police. Whether the rumors were true or not, the alleged collaboration between thieves and police pointed to a certain suspicion towards state authorities more generally. As such, the threat of theft emerged as a phenomenon that spoke to perceptions of uncertainty that intersected with human and more-than-human entities that held authority over land and security, posed threats, and prompted diverse forms of spatial protection.

Image 17: A post to the Facebook group Hatgal News asks for witnesses of the theft of two cat cabins.

During a workshop on dairy production and microbial life I organized at the Mongol Ujin tourist camp and that brought together my scientist colleagues and local herders in July 2019, I had a brief conversation with Baasan, the elderly herder woman with whom I frequently collaborated to study dairy khöröngö. At the camp I read in an ADB brochure that she received a loan for a subproject called "Milk Road (*Süün Zam*)" that she initiated to support her dairy production and develop new recipes. Standing a bit away from the other participants, I asked Baasan if she thought developmental initiatives worked out well ever since the asphalt road was built. As a firm believer in the economic potential of dairy products she initially spoke in favor of development projects, but then she took my arm, drew me a bit closer and made me slightly bow down to quietly tell me that one of her best male yaks was stolen by "wolves without tails (*süülgüi chono*)". I asked what she meant by that, and she responded that the road benefitted thieves as it made theft easier and faster. Throughout my fieldwork, the sources of theft remained undisclosed, but the term "wolves without tails" was often evoked by victims of theft. This notion underscored how the affective character of theft extended beyond interpersonal and kinship relations as exemplified by Anyaa. It offered insight into the dynamics between temporality, spatial security, and theft as a looming threat.

Among Mongolian herding communities, wolves are considered intelligent and dangerous predators. The wolf belongs to a group of ""spirit animals" containing great

powers" (Fijn 2011, 24) and is "considered to be an animal whose actions and behaviours [sic!] make it a full-fledged subject, playing an important role in some contexts of [herders'] social life" (Charlier 2015, 25). Posing serious threats for animal herds and thus to herders' wealth and livelihood, wolves are hunted as prestigious game. However, hunting wolves was only done *after* the wolf attacked and "took" (*avsan*) one or more of their animals, herders in Khatgal explained. Otherwise, the threat wolf attacks was accepted as an absent presence that, at times, existed "more in discourse than in practice" (ibid., 16). This was also true for thieves in Khatgal. By evoking the notion of wolves without tails, Baasan, and other herders and villagers with whom I talked about theft, acknowledged theft as an absent presence, a pervasive threat that could materialize anytime.[51] Indeed, by saying "wolves without tails," the word "thief" (*khulgaich*) was intentionally avoided, as for Baasan, this was a way to deflect misfortune, harm, and crisis, all subsumed under the term "bad things" (*muu yum*) when talking about people who stole. This figure of speech resonates with how herders do "not mention [the wolf's] real name in order to avoid attacks" (ibid.). Not directly naming thieves further indicated an uncertainty about locating thieves in time and space. They were assumed to be among policemen, infamous drunkards in the village, or small gangs of criminals coming to Khatgal from Mörön or other distant urban places. Numerous assumptions surrounded the identity and whereabouts of the thieves, yet it appeared exceedingly challenging, if not impossible, to definitively identify them. In this context, the concept of "absent presence" emerged as a shared characteristic between the police, who were ostensibly responsible for ensuring security, and the thieves, who actively undermined it. In a way, to paraphrase Charlier (2015, 16), the police too was more a discursive institution than a practical one.

4.4.2. Darkness and Obscure Uncertainty

Drawing a parallel between thieves and wolves also attributed an inherent predatory nature to the former. Similar to wolves known for attacking animal herds under the cover of darkness, thieves in Khatgal operated predominantly during nocturnal hours. Darkness was more widely understood as a period when various malevolent forces roamed freely, including malicious entities such as curses (*kharaal*), gossip and injurious talk (*khel am*),

[51] Højer and Pedersen (2019, 175f.) address how thieves and pickpockets in Ulaanbaatar's markets around the Millennium were compared to "daytime stars" because of "their ability to be present and yet invisible":

and evil spirits (*ükheer*). Bad things were rarely specified by my interlocutors since naming something harmful meant calling for it as was the case with wolves and thieves. Baasan explained to me that between the realms of earth and sky, many vivid things roamed, and that this was particularly the case at twilight and during the night. Among these vivid things can be souls or spirits of the deceased who were not able to enter heaven for a peaceful afterlife. Empson (2011) elaborates on how Buryats in a northern Mongolian village navigate the presence (and absence) of bad things. According to Empson's ethnographic accounts, bad things are mobile as they can attach themselves to as well as enter and abandon both spaces and bodies (Empson 2011, 159; 165; 171). They are, moreover, subject to human action and can haunt a place or person (ibid., 296). While uncovering the identities of thieves was challenging due to people's reluctance to openly discuss the matter and the inherent secrecy of those involved in illegal activities, the following moment of witnessing illegal activity disclosed some crucial aspects about darkness, uncertainty, and the question of theft. It made me question the varying understandings of property, resources, and ownership for people in Khatgal that diverged from those superimposed by authorities that might not have been regarded as legitimate because of their lacking connection to the homeland (*nutag*; similar to the Manchu Khan legend in chapter two).

In late summer of 2019, Zoloo and I were sitting on the concrete platform of a small dock by the lake after a long day of fieldwork, seeking to relax and watch the sunset. As dusk descended, two men on a motorbike arrived, seemingly oblivious or indifferent to our presence, possibly assuming we were tourists. They disembarked from the motorbike and walked towards the lake. There, they took a boat that was laying upside down at the waterside. They carried the boat to the lake, flipped it, loaded some things onto it, got in and drove off. Although it was getting darker, the headlight worn by one of the individuals aided my sight and also my comprehension of the situation. After they gained some distance from the shore, at perhaps fifty meters, they threw out a net. They continued releasing the net while paddling further until they reached the opposite shore of the lake. After arriving, they rolled up the fishing net and remained at the shore for a while. The distance and darkness made it difficult to see what further happened, and eventually, we decided to leave. However, certain about the two fishers being far away, I decided to take a quick look at their motorbike and found out that it did not have a number plate. I took a photo and walked away as I suddenly noticed the sound of a motorboat. The lake was still in sight, but I could not locate the motorboat. Perhaps the boat went to the place where

the fishers were waiting to pick up their bounty. While this is certainly a vague and speculative assumption, the process I witnessed was intriguing. For most of the year, fishing activity was officially banned by the Special Protected Areas Authority (Tusgai Khamgaalaltai Gazar, henceforth SPAA) to protect the biodiversity of Khövsgöl Dalai. Individual hobby and sport fishers could be seen in the south of town where the lake transitioned into the Eg River, but no such activities were supposed to be seen along or on the lake with fishing being prohibited. The two men I saw throwing out their net at night violated against this ban. During my time in Khatgal, I was separately in contact with two male interlocutors in precarious living situations, who were not acquainted with each other to my knowledge, smoking and selling dozens of fish from the lake. In such amounts these fish could only be caught by using a net instead of a fishing rod. Unsurprisingly these two men were never explicit in their means of how they came to sell these fish. Whenever I asked, they would tell me that they "got them from someone (*khünees avsan*)."

These modes of resource use and illegal activity complicated clear-cut notions of security, protection, and uncertainty. On the one hand, taking fish from the lake was perhaps considered an entitlement to take a portion of a natural resource, or fortune (khishig), provided by the homeland ecology. Khishig is a "kind of fortune [that] is conceived as something that circulates outside the subject but can be harnessed and carefully contained in certain forms to secure the growth of people, animals, and things" (Empson 2011, 70). Hedwig Waters (2023) eloquently elaborates on how rural root pickers in Eastern Mongolia see themselves legitimately entitled to collect portions of khishig as a homeland resource from local pastures (Waters 2023, 60). As such, their ways of resource extraction are compared moral, contrary to those of formal companies, "because they are merely sourcing from the local landscape their 'shares' (*huv'*) or the allotted portions of the 'fortune' (*hishig*) from the environment that all Mongolians are entitled to" (ibid., italics in original). Despite the speculative character of my argument, this could much likely be true for the night fishers, who oriented their economic activities along the moral economy of nutag and khishig logics. In the present case, these logics did not always align with the ruling concepts of conservation as a mechanism of nature protection that rooted in much different, and rather external, contexts.

Image 18: The motorbike of the night fishers with its number plate removed. Khatgal, August 2019

On the other hand, darkness for the night fishers provided protection from those regimes of protection that limited their maintaining a livelihood. Removing the number plate from their motorbike was perhaps a way to keep identities undisclosed and remain untraceable. For thieves, too, darkness offered an advantage and security. As fishers-potentially-considered-thieves the two men moved along and balanced the limits of legality and homeland entitlement. Uncertainty, in this case, emerged as a field of action that was in itself obscure and blurry (*bürkheg*). If, in the early 1990s, theft was a certainty (Humphrey 1993), it seemed to have become a certainty that happened because of and within the uncertainty of everyday post-socialist life. Uncertainty, to the contrary, was nothing entirely new in post-socialist Mongolia. During socialist times, and most notably in the case of people of Buryat descent, shamans and other spiritual practitioners as well as households hiding heirloom wealth in their homes were targeted by brutal state-led persecution and raids (see Buyandelger 2013; Empson 2011; Kaplonski 1999). Kaplonski (1999, 97), for instance, writes that these persecutions and raids were carried out systematically and during the night. The threat was ever-present, but the moment was

impossible to know. With histories of persecution forming a collective memory that was documented after the downfall of state socialism (Buyandelger 2013), the linking of the police with theft was, although difficult to prove, not an arbitrary assumption. However, regarding khöröngö as a natural resource or private property, there is a crucial difference between stealing items from fenced property and activities such as illegal fishing.

Theft reproduced uncertainty in that losing khöröngö to thieves meant that the growth potential of private property and resources was temporarily stalled. Under these circumstances of living within certain uncertainty, khöröngö and its potential for growth was frequently challenged and threatened. Consequently, khöröngö appeared to be inescapably recursive. When things got stolen, khashaa owners needed to find new ways to remobilize the growth potential of their property. Because it was impossible to anticipate and pin down theft as well as to locate thieves while police was considered unreliable or even complicit when theft was raised as an issue, many of my interlocutors applied different spatial practices to enhance the protection of the khashaa and maintain private property khöröngö. Such measures were often spatial practices that related to specific Mongolian notions of threats, danger, and misfortune. During my fieldwork, I noticed that many households I visited installed specific items above or next to thresholds, including the inside door frame of their houses and the inside of khashaa doors and gates. Herbs like camel tail (*temeen süül*), hedgehog skins, or saws were supposed to protect property and household from harm. With their sharp, spiky, and rough surfaces "these objects are held to keep external threats from entering and to preserve good things from leaving" (Empson 2011, 159). Nevertheless, as much as the protection that the khashaa as a wooden fence offered was necessary, it often was undermined by its own material and metaphorical permeability.

4.5.Permeable Walls: Between Security and Precarity

So far, this chapter has shown that khashaa and khöröngö intersect on multiple levels regarding the establishment, maintenance, and protection of wealth in form of private land. Through an enclosed parcel of land, a household can initiate and develop growth through economic assets (e.g., renting out cat cabins) and productive activities (DIY sawmills as sources for income as well as serving social and kinship relations) that are always to some extent dependent on maintenance as embedded in socioeconomic relationships and technological skill and innovation. From that point of view, khashaa

figure as productive units through which wealth can be generated and maintained. Recalling Plueckhahn's understanding of khöröngö with its growth potential being conditioned by "the right circumstances" (2017, 17), my ethnographic insights from Khatgal have shown that the circumstances for mobilizing and maintaining growth through property khöröngö were frequently contested and challenged by human and more-than-human threats coming from the outside of the khashaa with theft being the most notable example for the cases illustrated above. The many cases of theft, committed by wolves without tails (and allegedly a corrupt local police), frequently reported in Khatgal further call into question the efficiency of the khashaa (i.e., the fence) as an "agent of protection" (Baasanjav 2017, interview transcript). Delegated intentions as articulated by Baasanjav, such as defining property and one's living environment, and protecting the outside from pollution happening within as well as the inside from outside threats, figured khashaa as infrastructures of security. They reflected "a process of delegating to non-humans a form of morality formally carried out by humans" (Pinch 2010, 85), namely, to not cause harm to neither private property nor to the environment. However, these delegations were rather pragmatic estimations of the usefulness and functions of fences.

In everyday life security was a much more complicated issue. In that regard even distinctions between the outside and the inside of the khashaa were not always tenable. As the case of Tseegii and Anyaa has shown, it was Tseegii's irresponsible behavior in Anyaa's absence that led to recurring harm in the form of theft, that is, from Anyaa's point of view. Khashaa were significantly porous and permeable. Once a property was established and its boundaries defined by the khashaa, it required maintenance to offer protection. Ashley Carse notes that "'[infrastructures] require human communities to maintain them, even as they shape those (and other) communities. Without maintenance, infrastructures crack, rust, and crumble and the political projects, promises, and aspirations that they carried dissipate" (2014, 219). If khashaa were "the root of security", as proclaimed by Baasanjav, security did not simply correspond to universal needs or "transhistorical givens" (Glück and Low 2017, 287) that were molded into a fixed condition of a safe life held together by the four walls of a fence. In a socioeconomic environment brandmarked by precarity – "life without the promise of stability" (Tsing 2015, 2) – and among omnipresent threats and lacking reliability of law enforcement, maintaining security was individualized.

Feminist philosopher Judith Butler (2009, 13) regards precariousness as "a shared condition of human life" that "implies living socially, that is, the fact that one's life is always in some sense in the hands of the other" (ibid., 14). In that context, precarity emerges as a highly interdependent ontological condition "that is common to all beings, by virtue of an embodied existence" (Han 2018, 332). Butler (2009, 23) argues:

> Where a life stands no chance of flourishing, there one must attend to ameliorating the negative conditions of life. Precarious life implies life as a conditioned process, and not as the internal feature of a monadic individual or any other anthropocentric conceit. Our obligations are precisely to the conditions that make life possible, not to "life itself," or rather, our obligations emerge from the insight that there can be no sustained life without those sustaining conditions, and that those conditions are both our political responsibility and the matter of our most vexed ethical decisions.

Although this quote reminds to some extent of Baasanjav's delegation of intentions to the khashaa, there is a paradox emerging from this argumentation. While life was precarious for my friends and interlocutors, they lived their lives in their nutag, an environment of wealth, and so was my initial approach to start my analysis and argumentation from a point of wealth (chapters two and three; see also Hirsch 2022). Khashaa as enclosures of private wealth complicated conviviality.

What can be seen from these ethnographic accounts of khashaa as a lived environment and material entity, is a socio-spatial interdependence within which security and precarity converge, diverge, cross, and overlap. By noting that security "is both *produced* and *productive*" anthropologists Setha Low and Zoltán Glück (2017, 281) argue that security was "produced by particular social and spatial forces which vary across historical and geographical contexts [and at the same time] *security operates as a productive process* in its own right, acting as a major force transforming institutions, states, spaces, cities, subjects and social life in the contemporary world" (emphases in original). Security and precarity eventually reinforced each other in the context of collective life. Akin to growth, security was "experiential, affective, and embodied" (Glück and Low 2017, 286f.), and thus it needed to be made and maintained. Regarding the khashaa, maintaining security was a social and spatial process that became a means to protect the potential of khöröngö to grow. Khashaa forged "*demanding environments*" (Carse 2019, 220; emphasis in

original) calling for continued and expanding forms of maintenance without which the right circumstances for the potential of khöröngö to grow were always at risk.

If “precarious life [was] the condition of being conditioned” (Butler 2009, 23), and “remaking landscapes as infrastructure, like building dams and roads, inevitably produces winners and losers” (Carse 2019, 221), it is now necessary to further investigate the limits of growth and the socio-spatial inequalities emerging along the lines of security and precarity in Khatgal. This is the task of the next chapter.

5. "Like Mushrooms After the Rain" – The Politics of Pollution and Growth

"*Khatgal bol ayuultai gazar*"[52]

Image 19: Burnt down remains of the entrance to the administration building. Khatgal, April 2017.

It was around the middle of my interview with Baasanjav when his prideful narrative about Khatgal switched to a sincere and concerned tone. I mentioned how much I enjoyed the quality of the lake water and that I was drinking it every morning, a comment I mentioned in countless conversations and that was usually met with affirmation. Baasanjav's response, however, was unexpectedly politically charged. He expressed a certain discontent with current circumstances. I asked him about how tourism impacted socioeconomic life in the village, and he responded by explaining the situation of land allocation in Khatgal:

Baasanjav: So, here is the thing. For us, we've generally reached this kind of situation because of the political framework, you know. There are

[52] "Khatgal is a dangerous place" – anonymous man during a dance event at the Cultural Center, Khatgal, March 2017. Personal fieldnotes.

as many ger camps and tourist camps being built like there are mushrooms after the rain (*boroony daraah möög shig*), and that way profitable work is made unprofitable. Because we have reached this kind of situation, we face pollution (emphasized). None of them can solve it. [It's] just like that. Is that right or not? In any case, we will get improved toilets, which will be an improvement. But I also do not believe it is [a] perfect [solution] either.

Björn: Many of the tourist camps are owned by people from Ulaanbaatar, right? Is that a problem, or let's say would it be better if they were owned by people from Khatgal?

Baasanjav: Well, tourist camps that are owned by people from Khatgal are very rare, there are almost none. Always [owned by] outsiders. From Ulaanbaatar. […] So, what now? Things were already built, the budget (khöröngö) was spent, people were found to come for work and if they worked well that was that. The only requirement was fulfilled: the toilet, right?

Following road construction, Khatgal was overrun by tourism and new forms of growth took root. By evoking the colloquial metaphor "like mushrooms after the rain", he indicated that growth had gotten out of control in both a political and economic sense. In Mongolian, this metaphor relates to something that became too much in too little time (Mongolian Encyclopedic Dictionary 2016).[53] The local administration, Baasanjav explained, lacked the political power to manage and administer on its own terms the growth that emerged from the development-conservation-tourism triad. When I asked what exactly the work of the administration looked like under these conditions, Baasanjav emphasized the importance of the administration of implementing the law of the state in the village. He emphasized that it was one of his personal key responsibilities to attend the Citizens Representatives Khural (the local self-governance body on district, provincial, and capital city level; henceforth CRK) in Alag-Erdene district center where he presented issues related to Khatgal and contributed to decision-making as well as putting these decisions into practice. He stressed that he carried out his work on behalf of and in the interest of the people of Khatgal. During our interview, he notably positioned

[53] https://mongoltoli.mn/dictionary/detail/58131

himself in a role that highlighted his service for the village community. Certainly, there is reason to believe that political figures and representatives have a general tendency to do so, especially in the context of talking to a foreign anthropologist inquiring about their work. But given the hierarchical structures of Mongolia's territorial administration, the administration's political power was indeed limited.

Baasanjav had a point. For one, he remarked, the local population benefitted from growing tourist numbers. By running small shops, bistros, or selling animal products and souvenirs, Khatgal's residents were generating profit. However, he further noted, major businesses were tourist camps run by people from the city, i.e., mostly Ulaanbaatar. The lion's share of profits generated through tourism was extracted from Khatgal through these city-based camp operators. According to him, land and the administration thereof were organized in "irresponsible and unaccountable (*khariutslagagüi*)" ways. Because Khatgal was the entrance to the KLNP, land allocation was coordinated between the SPAA and the district administration in Alag-Erdene. Under these circumstances, he elaborated, wealthy urban people could issue their wish for a certain property to the SPAA, which then coordinated with the district administration to realize the allocation of the property in question. By turning directly to district level, the law on special protected areas overrode local legal concerns, Baasanjav claimed. The legal regulations for land allocation circumvented Khatgal as a village. Because land was allocated by, and often to, people who were not from Khatgal, land was contested, ambiguous, and imbued with administrative uncertainty.

5.1.The Burdens of Standing Out

As prideful as Baasanjav initially highlighted Khatgal's special position of standing out as a place with a rich history and remarkable environmental responsibility, as much did he express his discomfort with the administrative dilemma Khatgal was facing. His criticism of the political structures in place almost implied despair and he wished that the village gained sovereignty and the power to decide over land-related issues, a wish that was echoed by many people in Khatgal I worked with and talked to. Mongolian state territory is hierarchically and centripetally structured and subdivided into territorial units including provinces (aimag), districts (sum), and subdistricts (*bag*), with the province having the highest administrative status and the bag the lowest. Large cities and small villages were accredited special statuses within this administrative hierarchies.

Ulaanbaatar, for instance, as the capital city and seat of the government and parliament where all provinces are represented, has unmatched social, economic, and political power. Villages like Khatgal, to the contrary, are not equipped with special political power allowing for self-governance but are rather subjected to the district being the next bigger administrative unit. Humphrey and Sneath (1999, 198) note that "[the district] is the place of registration of households, the holder of many types of communal property, the distribution point for state allocations to the population, and the primary unit to which people feel they belong. The district government is where the political structure of the state meets a social community." People in Khatgal, however, did not see themselves as citizens of Alag-Erdene district in the first place. First and foremost, as inhabitants of Khatgal, they echoed the hierarchical and scalar structures of nutag identity addressed in chapter two. Furthermore, in the present case, the district government did not necessarily "meet" the social community of Khatgal. Instead, the district center of Alag-Erdene was a node in the politico-territorial landscape where a rupture between Khatgal's inhabitants and the state was created. Under these circumstances, Baasanjav and his colleagues too were engaged with the task of translation. Translations, it is crucial to keep in mind, run the risk of losing detail along the way, regardless their context. The ambivalent structures as mentioned by Baasanjav pointed to how administrative hierarchies generated tense dynamics of growth and conviviality in Khatgal.

Humphrey and Sneath (ibid.) propose the term "administrative distance" as "a factor in urbanisation processes" measured by the geographical distance between higher and lower units within the administrative hierarchy. Administrative distance "reflect[s] a set of political relations which are important [but not] all of the actual practicalities of communications between settlements." Khatgal, located at a distance of fifty kilometers from Alag-Erdene district center, ninety-eight kilometers from the provincial center in Mörön, and connected through the asphalt road, Khatgal was the fastest to reach subdivision of the district. Nevertheless, the administrative distance was large enough for the village to remain at the political margin, and for the administration of land allocation and property khöröngö to be somewhat lost in translation across this distance.

5.1.1. Administrative Ambivalence

Baasanjav explained that Khatgal had a larger population than Alag-Erdene district center, meaning that there was a higher number of eligible voters in the village. In fact,

Khatgal's population continuously made up approximately fifty percent of the total population of Alag-Erdene district since 2014.[54] According to the 2017 census, the year when I met with Baasanjav, Khatgal alone had a population of 3,195 inhabitants compared to 3,331 inhabitants in Alag-Erdene's five subdistricts combined. While Baasanjav's assessment of the population was not entirely accurate, Khatgal had 3,418 inhabitants and surpassed the total population of 3,325 inhabitants in Alag-Erdene by 2019. However, these numbers were represented differently when it came to voting the CRK. Population growth and demographics did not mean much. Khatgal maintained village status and as such it faced a double dilemma regarding self-governance.

Figuring out the root of the dilemma and how it concerned Khatgal administratively was a difficult task. Study participants and local friends often stressed that it was important for Khatgal to be turned into a district so that decision-making processes, especially such regarding land allocation, could be handled locally. However, neither did conversations on the topic reach a point where precise distinctions between village, subdistrict, and district statuses were clarified, nor were potential legal ways out of this dilemma laid out. The insights that emerged out of interviews and conversations with administrative staff did not necessarily provide clarity either, but were rather marked by frustration and despair, pointing to how the affective character of developmental growth also became an institutional matter. Thus, the following attempt to unravel the administrative dilemma does not claim a singular truth but rather points to the blurred and uncertain character of the legal structures in place.

The first confusion happened at the administration building, when Baasanjav explained to me how the CRK was assembled. Because Alag-Erdene district had five subdistricts, it had twenty representatives at the CRK. Khatgal itself had one subdistrict and there were seven mandates for which representatives from Khatgal and its subdistrict competed.

As a district Alag-Erdene was subdivided into five subdistricts (*bag*) and Khatgal as a village (*tosgon*). Consequently, the population of Alag-Erdene was comprised of all its subdivisions, totaling 6,526 inhabitants according to the 2017 census. That meant that the district's CRK was composed of twenty-five representatives. Because Khatgal was not a

[54] National Statistics Office of Mongolia 2024: https://www2.1212.mn/tablesdata1212.aspx?ln=Mn&tbl_id=DT_NSO_0300_068V2&BAG_select_all=0&BAGSingleSelect=_26704_2670451_2670453_2670455_2670457_2670459_2670461&Sex_select_all=0&SexSingleSelect=_1&YearY_select_all=1&YearYSingleSelect=&viewtype=table, accessed 16 April

subdistrict, it is not counted as a legible electoral district. Because it is not a district either, it is exercising a stronger impact on the composition of the administration through. Khatgal could provide only seven mandates. But there was tremendous internal dispute among those seven representatives. Without going into detail with the dispute's subject, Baasanjav complained that those disputes amounted to such an extent that no representative was provided for the legislation period from 2012 to 2016. As a result, Khatgal was entirely excluded from any elections. Losing political representation was a "poisonous consequence" (*khor urshig*) and the administrative situation needed to change, Baasanjav remarked. It would be best for Khatgal to gain district status and become more independent. He concluded: "That's why we, the people of Khatgal, have the wish to become a district (*sum*). If we become a district, we will lawfully allocate land, certify contracts, and do proper monitoring and accounting." Acquiring district status would provide Khatgal with more political power in organizing local development, safeguarding economic benefits, and steering economic growth.

In his work on development and extractive care in Peru's Andean highlands, Eric Hirsch (2022, 11) proposes that "growth is not an objective description but an aspirational composition, a public feeling rendered palpable through specific socially constituted evidence that is actively orchestrated, deliberately staged, and constantly managed." This definition of growth is based on the preposition that Andean Peru is a place of wealth and abundance instead of poverty. By asking "what it means to grow" Hirsch's work furthermore frames "growth as an *affective* project that requires ongoing physical and emotional labor" (ibid., 6; emphasis in original). Representing Khatgal's administration in our interview, Baasanjav, too, spoke from a position of collective wealth. He repeatedly highlighted the wealth of Khatgal by referring to the environmental richness of Khövsgöl Dalai, the number of inhabitants that exceeded those of several districts in Khövsgöl province, and the ever-growing livestock numbers of local herder households. By pointing to the profits that Khatgal's citizens generated from tourism, he acknowledged that "growth is *made*" (ibid., 11; emphasis in original). The problem was that the making of growth was done by others who were unfamiliar, or not familiar enough, with the wealth that was already there. Growth as promoted from a developmental background seemed to have exceeded its limits but stayed insufficient at the same time. From Baasanjav's perspective there was not only wealth, but there was now too much growth, too unregulated.

Managing growth as it happened post road construction, for the local administration, became a matter of reduction as exemplified by the dismantling of fenced properties mentioned in the introduction of this chapter. But because growth was also out of political control, the (physical and affective) labor of deconstructing uninhabited fences was sort of pointless, too. Since land allocation was administered by the authorities in the Alag-Erdene district center located at fifty kilometers to the south of Khatgal, new property could be purchased and fenced by outsiders repeatedly. Eventually, the Khatgal administration had to compromise on the reduction strategy as a new strategy was enforced following a visit by the district governor and the Minister of the Environment and Tourism who visited Khatgal a few months before I met with Baasanjav. Instead of confiscating fences, the new imperative for the Khatgal administration was to ensure proper supervision of existing and new properties and their built structures.

It is also noteworthy that, as Hirsch suggests, "growth is experienced as a partial truth" (ibid., 25). While Baasanjav was politically representing the administration and the village, he shared his subjective views as one of about a dozen employees. As a state employee, he was also in a relatively privileged position. It was no secret, for instance, that employees at the administration were running tourist camps themselves, or at least owned multiple properties. This fact does not tell if administration employees had to rely on the tourism sector to secure their livelihoods as many others did in Khatgal, or if they rather secured profits in addition to their salaries to increase their personal wealth. It implies, however, that their position was one of privilege that allowed for easier access to land ownership.[55] Baasanjav furthermore spoke as an inhabitant of Khatgal who lived on a fenced property himself and who experienced Khatgal in both flourishing and devastating times. I would thus add in response to Hirsch by borrowing from Lila Abu-Lughod (2008 [1991], 53), that in the case of Baasanjav and the Khatgal administration, growth was also a "positioned truth".[56] Similar to the village itself, the administration as

[55] I learned early on during my fieldwork that Tseegii, who used to work for the administration and whose house I rented, owned three properties. During the later summers of my fieldwork, Dalaimyagmar frequently suggested I should stay at a tourist camp next to the main road run by her friend Oyunaa who worked at the administration and was responsible for property relationships and procedures such as applications for land ownership.

[56] I reckon with the argument made by Abu-Lughod that the relationships between anthropologists and the subjects of their studies are deeply marked by power dynamics, especially in case of Western anthropologists like me who are often, and mostly still, favored by, co-productive of, and benefitting from these power relations. At the same time, I consider her notion of "split selfhood" (ibid.) conceptually useful to highlight and question the experiences of those positioned between the self and the other through writing "ethnographies of the particular" (ibid., 58). Given that the Mongolian concept of nutag, as mentioned in

a representative body of both the state and its own inhabitants was in a liminal position where it had to cope with "multiple accountability" (ibid., 54). On the one hand, it had to implement the rules and laws as prescribed by the district and the state through which developmental growth became an affective force in the village. On the other hand, the administration wanted to follow on and realize the public desire to turn the village into a district. From the interview with Baasanjav, who spoke as a representative of the public and political life in Khatgal, it became clear that the affective character of growth did not circumvent the local administration. The administration seemed to be placed between a wish for more sovereign authority over its land and the imperative of adhering to state law. It was furthermore stuck between a moral responsibility for the protection of Khövsgöl Dalai and dealing with an ostensible indifference of urban business operators, district authorities, and SPAA officials. The village was placed between an externally orchestrated politics of exponential growth and internally affective growth that generated disproportionate benefits.

The affective character of growth did not pass Baasanjav without trace. He gave the impression of a split self who was torn between serving the people and implementing the law. He thus, to paraphrase Abu-Lughod (ibid., 54), uneasily spoke from the perspective of and for the citizens of Khatgal. Despite the dilemma that he and the village faced, this situation of the split self "enables us to see more clearly that dividing practices, whether they naturalize differences, as in gender or race, or simply elaborate them, […] are fundamental methods of enforcing inequality" (ibid., 54). Our conversation indicated that land was a central issue for collective life and encompassed significant tensions in Khatgal. These tensions, I argue, can be traced to, and were deeply intertwined with, the dynamics from which Khatgal emerged as a marginal hub. Road construction, tourism, and conservation were the processes that made Khatgal a marginal hub and through which it was "integrally connected to wider, and often exploitative and violent, processes that are shot through with multiple and overlapping forms of inequality" (Marsden and Reeves 2019, 760). Such processes "are rarely associated with the emergence of harmonious forms of collective living or, indeed, of the type of social contexts in which such modes of life take root" (ibid.). Baasanjav's views quoted above imply that such inequalities and tensions formed around disproportionate growth that was strongly shaped by the ambivalent administration of land ownership and allocation.

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chapter two, produces self-other distinctions, Baasanjav and the administration are posited as both self and other as well as in between self and other.

In her book *Shaping Urban Futures in Mongolia: Ulaanbaatar, Dynamic Ownership and Economic Flux*, Rebekah Plueckhahn impressively demonstrates how "[s]ocial tension (*zörchil*) arose over differing perceptions of property, urban change and accountability" (2020, 80; italics in original) in the context of urban redevelopment programs that promised to transform ger areas into multistory apartment complexes. Redevelopment and construction were frequently delayed, abandoned, or insufficiently materialized, not least because obscure investments and changing possession and ownership rights that were constantly in flux and often difficult to trace. As a result, "everyone […] was in a position of failure" (ibid., 83) and because construction was several years behind, or never commenced at all, accountability for failure was up in the air and economic uncertainty expanded. Accordingly, in the case of the Ulaanbaatar district where Plueckhahn conducted her research, tension "formed a crucial part of the attempted creation of alliances between disparate residents. It formed a part of the negotiation of potential initiatives that formed in relation to property and attempts at urban renewal" (2020, 81). In Khatgal, tensions over property rights emerged for a different reason. Here, discontent with development policies emerged because real estate construction was happening too fast, too plentiful, and too disproportionate. These dynamics generated, on the one hand, inequalities and tensions that permeated deep into the local ecology as well as the everyday life, the built environment, and the bodies of Khatgal's inhabitants. On the other hand, accountability for these developments was aimed at the administration and those businesses who were visibly generating profit.

5.2.Omnipresent Uncertainty

On a day in late April, I received a shocking message from Sükhee. I met Sükhee at an event at the Cultural Center (*Soyolyn Töv*) and we quickly became friends once we found out about our shared fascination for tattoos and heavy rock music. Ever since, it became common to wake up to messages from Sükhee who would ask me what I was going to do during the day. On that morning in late April, however, the message was shocking: The local administration building was burning since the early morning hours. I went to the administration to see what happened with my own eyes and when I arrived, there was nothing left but a few walls standing within rubble and smoke (see image 20) Dozens of people helped clearing the area while policemen took photos of the scenery and the fire brigade followed tiny clouds of smoke to extinguish the last glowing ambers.

Image 20: Collective clean-up. Khatgal, April 2017.

I joined the group and helped removing rubble by loading it onto pickup trucks that lined up at the main road, next to the administration's property. During a break, I was handed a cup of hot liquid curds (*aarts*) and deep-fried pastries (*bortsog*) and saw a chance to inquire about the reason of the fire. However, no one I asked knew what caused the fire, at least not yet. With time passing by, I inquired about the reason of the fire from various people I visited or ran into in town center. While some replied that it supposedly was an electricity accident, others would refuse to talk about the fire at all as if it were a topic that should not be addressed. Rumors started circulating as well. The most prominent talk was that the administration was burnt down because the guard (*manaach*) had gathered friends in the building to drink. They lit up a prayer candle (*zul*) and because they got too drunk, they passed out and left the candle unattended until its flame took over the whole building. People were at odds with the cause of the fire, and it thus remained sort of a mystery if the reason was to be found in technological or human failure. I wondered why this fire was such a delicate matter and if the fire caused further impacts for Khatgal as a place of growth.

5.2.1. Black Traces and Misfortune

Two days after the fire, big machinery rolled across the administrative property and cleared it of the last rubble. I decided to pay Odonchuluun a visit at his home on the property of the Elderly Palace (*Akhmadyn Örgöö*), a few meters further up the main road. I first met Odonchuluun after my interview with the governor. He was in his sixties and lived with his wife, daughter, and her infant in a small, sparsely furnished ger where he would watch over his grandchild. Once I entered his ger, I only met his daughter and decided to wait for a moment. Odonchuluun and his wife entered shortly after I arrived. They were with another man who was one of the persons responsible for heating (*galch*) the administration. He was calm with his head bowing down. His eyes carried a cold stare that seemed to be magnetically drawn to the floor. He was utterly concerned and crestfallen. It was his shift when the administration burned to the ground. He was present when the fire broke out, yet he was unable to do anything against it, because the whole building was quickly filled with smoke. The fact that it was him who was responsible for making fire and heating up the stoves on the day of the fire aroused suspicion that he was either responsible for, or even purposefully caused, the burning. The police took him to Mörön for interrogation. In the meantime, his wife contacted a local shaman (*böö*) to ask about the reason of this tragedy. The shaman found the root of the bad luck in an earlier incident of the man's life when he was involved in a fight with another person who broke a window at the administration and tried to steal things. The *galch* was able to get a hold of the intruder, upon which they started arguing and fighting. The intruder, according to the shaman, was a person of malicious talk (*khel amtai khün*) with a bad spirit and energy (*energi*).

As noted by anthropologists (Abrahms-Kavunenko 2019; Højer 2019; Højer and Pedersen 2019; Empson 2012; Buyandelgeriyn 2008), *khel am* is a form of injurious talk and gossip (*khar khel am*; black talk) or exaggerated praise (*tsagaan khel am*; white talk) that can cause bad energies and spirits to be inflicted on the person being addressed by the talk. Furthermore, violent fights can lead to a decrease of someone's *süld*, a kind of metaphysical life-force that refers to "relative rather than absolute properties of the self" (Højer and Pedersen 2019, 198 referring to Empson 2011, 69-70). In the case of the *galch*, explained the shaman, bad energy was transferred from the intruder to the *galch* during (or because of) the fight. Eventually, the transfer of this bad energy brought about further bad luck for the *galch* such as the burning of the administration. Learning about these

reasons through the shaman, the *galch* was terrified and feared for his future (and perhaps for the loss of his *süld*) to such an extent that he, having no quick solution at hand, could not eat and drink properly ever since the fire happened. This case reminds of the idea that theft had black traces, which I addressed in the previous chapter, and which meant that theft leads to bad things happening to those who have fallen victim to theft.

5.2.2. Burnt Wealth

The burning of the administration building, and fire more generally, had ambiguous effects that were related to maintenance and misfortune. For the public, it remained unclear if the fire was caused by the failure of electric infrastructure, or by a guard failing to properly watch a burning candle. For the *galch*, the fact that he was first and foremost considered potentially responsible for causing the fire and interrogated by the police did not seem to concern him at all. The reasoning of the shaman, to the contrary, caused him much more trouble and concern. In fact, it was less the event of the fire that stirred up his worries, but the preceding events and the revelation that he was contaminated by misfortune coming from a bad-spirited person that were considered unsettling. Being attached to misfortune was a form of pollution that called for purification, which he needed to figure out. Fire and smoke are widely considered to have purifying forces (see Abrahms-Kavunenko 2019), but for him it was a result of preceding processes of pollution. While I was not able to further trace how his personal pollution was dealt with, the incident of the burning administration drew me to consider the role between fire, purification, pollution, and property. One way to approach this relation is through arson, which can feature similarities to khel am and theft with regard to their characteristics of being omnipresent (Empson 2011, 303):

> When arson is attributed to a variety of causes, it appears as a generic form of attack that encompasses a range of different motives. In contrast to the experience of arson as a specific kind of event that is confined to a singular moment, arson also appears as an omnipresent, swirling, and continuous threat that permeates people's interactions with each other on a daily basis (even when it has been physically absent for some time).

Was the burning of the administration an arson attack, an act of purification, or both? My ethnography does not feature material that supports any of these options as a definite

answer and I am in no position to make claims about the cause of the fire. An answer to this question can thus not go beyond speculation. Nevertheless, the burning of the administration provokes questioning of the political power structures in Khatgal and how these were perceived by local citizens. Throughout my fieldwork, I learned about several cases of fires that broke out in Khatgal prior to and after 2017. These fires always happened at night or morning twilight, and outside of the tourist season. They were talked about as arson attacks, and they exclusively targeted tourist camps and other businesses that were either visibly large or appeared successfully managed and profit-generating. Others that weren't as outstanding in their appearance were known to be run by urban elites or people who were considered to not be originally from Khatgal and displayed wealth and economic success. Among these burnt down places were a café owned by a U.S. American missionary (2016), a building at the Ashihai resort that attracted wealthy travelers and was run by an Ulaanbaatar businessperson and enclosed a large area in the north of Khatgal (2017-18 New Year), and a restaurant led by an Ulaanbaatar based businessperson (2018). According to Empson "through a focus on Mongolian ideas about fire, arson appears as a form of purification, as people question the morality of one another's new means of accumulating wealth and power" (Empson 2012, 27). Another case of arson was the main house of the Mongol Ujin tourist camp (2018), which was run by Davaa with whom I frequently worked during my yearly visits to Khatgal from 2017 to 2022. Davaa's case offers insight into how arson was not only relating to accumulated wealth but also generated further uncertainty.

Davaa was a young woman from Ulaanbaatar coming to Khatgal with an entrepreneurial spirit. She studied and worked in the US for several years. After her return, she married Maya, a calm and modest appearing man her age who was born and raised in Khatgal. Together, they engaged in cross-border trade between Ulaanbaatar and Irkutsk in Russia for almost ten years before they established the Mongol Ujin camp. Having experienced different forms of precarity, the perks and perils of cross-border trade, and neoliberal capitalist lifeways in the US, Davaa became a committed businesswoman and a true believer of her own ideas. Davaa had a talent for building connections and networks, short-term and long-term, with people from outside Khatgal. She and Maya started the tourist camp from their private khashaa and expanded their property by acquiring adjacent plots of land. By 2017, their camp comprised ten ger, four small cabins, a two-story house with a kitchen, reception, and dining hall on the ground floor, and a

shower house with hot water (which was a rarity in Khatgal at the time). She also received a loan worth a couple of million MNT through the ADB's MON9103 project.

In the village, Davaa was known for her dedicated ways to run her business, which also attracted khel am in both praising and envious ways. In early 2018, in the first night after the yearly Ice Festival taking place on Khövsgöl Dalai during the first weekend of March, the Mongol Ujin camp fell victim to an arson attack. At the time, Davaa hosted about forty guests from Germany, including embassy staff. Luckily, she said, nobody got hurt and neither did her children have to see the house on fire since they spent the night elsewhere when it happened. Davaa was sure that this was an arson attack. She and Maya had built the house with special attention to meeting precautions against fire such as installing a high-quality stove and insulating the chimney from any direct contact with wood. Moreover, she explained, the electricity was not strong at all on this side of town (the camp was located on the lake side of the main road) und thus could not have been causing the fire either. Davaa called the police, but they did not investigate the scene much. Although there was a neighbor claiming to have seen a person passing by the property on motorbike and throwing something across the fence at around dawn and traces of a motorbike were found in the snow right next to the fence, the police stayed inactive on the case, following none of the leads. Instead, Davaa was charged one million MNT by the police because the house was allegedly not fireproof. This measure was beyond comprehension for her because it left her with an additional burden. Similar to cases of theft described in the previous chapter, the blame for the damage was placed on the victim.

When I asked Davaa if she did not find it unusual that the targets of arson attacks were mostly successfully run businesses owned by people from outside of Khatgal, she remarked that many people in town considered the Mongol Ujin camp also as a place operated by "outsiders", even though her husband Maya was originally from Khatgal. The fire was an inscrutable event that left Davaa with many open questions. At the same time, she did not want to look back and think about it in negative ways, but, she remarked, "people started to talk". This sidenote was important as talk can "have its own life" (Højer 2019, 59). Similar to the case of the galch who was deeply concerned to have been affected by khel am, "it is […] the dispersive or 'nomadic' capacity of talk and gossip that makes it such a dangerous and sensitive domain of human relatedness in the Mongolian countryside" (ibid., 60). Maya was much more devastated by the burnt house and concerned by the danger that the talk of people might generate. He immediately visited a

shaman (*böö*) in Mörön to seek for advice on how to avoid further misfortunate black traces. The house was eventually replaced by a huge palace ger of approximately ten to twelve meters in diameter. In summer 2018, I checked in at the Mongol Ujin camp to use it as a base camp for my field trips to herder households in Khatgal's countryside. One evening, after returning from an exhausting day of field research, I lay on the floor of the new, huge ger. Looking up, I noticed that the *toono* (circular roof opening of the ger), was designed as an *ochir*, a protective symbol widely used by Buddhist lamas, which was surrounded by the twelve zodiacs of the lunar calendar. Commenting on its beauty to Maya, he responded that this design was chosen to protect the camp year-round from further dangers and potential attacks in the future.

Similar to rural life as studied by Lars Højer (2019, 66ff.) in Chandman' Öndör district, which is located at only about eighty kilometers to the southwest of Khatgal, khel am comprised an agentive force with an omnipresence that made it uncontrollable and untraceable. It was a form of dispersive knowledge through which "the information is present as a possibility (often counter-balanced by no other information), as a *definite possible*" (ibid., 69; emphasis in original). As dispersive and injurious talk, the cases of the galch and the Mongol Ujin camp demonstrated, it created a certain climate of fear among people in Khatgal. Khel am, arson, and theft were altogether a definite possible that could never be pinned down and thus contributed not only to an uncertainty of everyday life (theft as discussed in chapter four) but turned wealth accumulation in form of disproportionate growth and profit generation, as well as the politics of distribution in form of ambivalent administration inherently uncertain and potentially dangerous endeavors.

As a foreign visitor myself, I was never affected or harmed by the dangers roaming around in Khatgal. However, I was warned. Shortly after moving to Tseegii's house in February 2017, Zoloo and I attended a dance night at the Cultural Center. Such events happened regularly and more frequently outside the tourist season. People gathered in colorful *deel* (Mongolian robe) to dance in pairs or individually to the rhythms of Mongolian and international songs. Usually, men asked women for a dance, and so was Zoloo frequently asked for a round of waltz. During a round of freestyle dancing, one man who danced with her asked me what brought me to Khatgal. I briefly explained my research purposes upon which he told me that "Khatgal can be a dangerous place" and suggested I better watched out. This statement left me puzzled, and it instilled a certain uncomfortable and uncertain feeling in me.

Uncertainty, I conclude, was not only a result of post-socialist socioeconomic calamities that became "chronic" (Buyandelgeriyn 2007, 130) through the introduction of a capitalist market economy. In Khatgal, uncertainty *was made*. Through theft, talk, and arson, uncertainty was made an omnipresent agentive and dangerous force in such ways that it appeared as a mode to navigate another form of uncertainty, that is, externally administered growth through land allocation.

5.3.Pollution, Purity, and Precarious Lives

One question that remains unanswered so far is the question of land and pollution. If arson, for instance, was a way of navigating uncontrollable growth in the village environment through purification, how did pollution occur and unfold? In addition to claiming land and disproportionally benefitting from remote land allocation, tourism was considered one factor that generated pollution in form of environmental harm. The waste left behind by thousands of travelers, in the eyes of Baasanjav, created an additional burden for the people of Khatgal and the environment:

> We are facing the huge task of protecting and preserving Khövsgöl lake in its sacred, pristine state, and use its water in clean ways, but we cannot fulfil it. We cannot accomplish (*kheregjüülekh*) this task. It breaks my heart. So many tourist camps were built, but they can't solve the problem of the dirty toilets. Therefore, we do not know about all the things that go [into the lake] through the underground and into what we eat and drink (*khörsön dooguur yu ordog, yu idej uudgaa bid nar medekhgüi)*.

Pollution, accordingly, was perceived to not only take place on an environmental level but also affected the health and the bodies of the local population. Furthermore, through evoking the notion of the "pristine state" of the lake, purity emerged as an important notion for the well-being of the village and its people. According to Alexis Shotwell (2016, 6), "[p]urity politics arise not only in our response to potential physical contamination; it is also an issue for our ethical and political situation in the world". Pollution was regarded as a multiscalar, biopolitical issue emerging from new land and ownership relations, and permeating the boundaries and bodies of the lake, the village, and the bodies of its human and non-human inhabitants. In the following section, a narrative that emerged during conversations with Oyunaa highlights how pollution was

perceived as an issue that was encompassing the animated ecology of Khatgal and the Khövsgöl Dalai watershed.

5.3.1. Pollution and the Paradoxes of Purity

During a conversation inside a shop for souvenirs and homeland products (*nutgyn büteegdekhüün*) in spring 2017, Oyunaa explained how she noticed pollution and expressed her concerns about it. Every morning, she went for a walk along the shores of the lake to fetch ten liters of water for daily use and collect trash that was washed ashore. Oyunaa worshipped the water of the lake and even offered it to the gods in her homely shrine, a practice that is usually done with dairy products (see chapter two). The pollution of the lake troubled and saddened her:

> Yes, it's so dirty and polluted. It used to be such a clean lake (emphasizes), very clean! It ranks 10th among the cleanest waters around the globe. It provides 0,2% of the world's fresh water. It's such a beautiful, clear lake, you know? But then, with the tourists it became like that. When tourism developed, it became [polluted]. […] Now, on Khövsgöl Dalai, dust has fallen on the water, you know. Yellowish dust has fallen. Stones (in the water) used to look like this (shows a souvenir stone), so beautiful. One could see stones in all possible colors, now none of that. They have turned into that color [pointing to the bare soil outside], exactly like the dirt. And when you think about why [the ground of the lake is] now appearing in the color of the dirt … Now on this land there is this kind of dirt, you know, dirt. Loose dirt, it has become extremely loose dirt. And that kind of dirt is lifted by the wind and reaches the lake.

Oyunaa noticed pollution not only through trash accumulated along the shores, but also through thorough observation of the lakes ground. She considered this dirt the result of uncontrolled growth sparked by increased human activity. Dozens of thousands of tourists came to or passed through Khatgal every summer since road construction was completed. Their cars raised dust when driving along the many unpaved roads that meander through the village. This dust was blown across the lake where it eventually settled, sunk into the water, and covered the lake's ground. Such a perception of "dirt, pollution, and dust", Abrahms-Kavunenko (2019, 4) points out, "opposes light, purity,

and enlightenment, along with movement and wind." The layers of dust, dirt, and accumulated trash across land and water blurred Oyunaa's perception of natural purity and disrupted her understanding of security and living in a safe environment.

> I want to protect Khövsgöl Dalai. That's my general mindset. I only… I don't wish to become rich, don't wish for money, I only wish for nature and earth to be clean and pure, for forests to be clean and clear, and for the earth's land to be pure and clear. […] So, we take (…) water from Khövsgöl Dalai. Without water, people can't live. That's why I think [it is important] to keep the water clean. That's why I'm always thinking how the water can be cleaned. And then it's not cleaned, just going to the water to collect trash can't be it, I don't know. I'm wondering. I don't understand. Perhaps we need a cleaning organization [for the lake].

According to Oyunaa, trash and dust generated dangerous pollution that entered the cycle of life starting with the lake's water, which nourished the pastures on which livestock grazed. These animals ultimately provided the milk and meat that nourished humans. She further elaborated:

Oyunaa: A person needs to live in a secure and healthy environment (*erüül orchin*). So then, […] food needs to be healthy, right? The air needs to be healthy. Also, the environment one uses daily like the ger (home). In the recent past, generally everything that could be called a secure and safe environment (*ayuulgüi orchin*) [has] turned into a danger, it became a dangerous environment. When you enter your home and are loaded with stress and other burdens, and then the TV's sound is loud. It feels like something is following you. […] But then, how wonderful is it in places without anything, open space, and in forests, right? This is a secure environment.

Björn: Do you mean living close to nature?

Oyunaa: Yes, a person who enters a relation with nature might be in a safe environment. Or we're just distancing ourselves from nature, right? We go to live in five-story buildings, and we don't connect with the land and earth, do we? We live without coming close to the natural world. We don't connect with the sky and

the mountains, right? I think this is life in a dangerous environment. Also, the foods we eat are perilous, too. Right? For example, livestock. When you take your cows to graze and they eat grasses strongly covered with dirt, you know.

Image 21: A landfill of waste and trash located only ten kilometers to the south of Khatgal, and just outside of the national park boundary. A herd of sheep and goats graze in the background. Khatgal, June 2017.

Healthy living under these conditions became impossible according to Oyunaa. Having worked with tourists since 1998, development as it happened in Khatgal did not bring about wealth and progress for her. Instead, uncontrolled growth sparked by land privatization and administrative ambivalence generated another form of growth that was conditioned and compromised life on a biopolitical level. This did not mean that growth would have been unlimited without pollution. Recalling Livingston's work, it is suggested that "[i]n an animated ecology […] limits on growth are always present in some form. But in a developmental state where nature—now separated from humans—becomes an object with limits to be overcome, domesticated, quantified through technology, endless growth is the very point" (2019, 34). The problem was rather that this developmental approach to growth fueled negative forms of growth such as environmental pollution, too.

Negative growth undermined security in terms of living in a safe and healthy environment for Oyunaa. Her idea of security was based on a purist framing of the environment. Land, water, and the living space of the home needed to be pure for her to lead a healthy life. However, her narrative and views were not coherent. On the one hand, she saw pollution as a result of development and wished for ways of living that were closer to nature and thus considered healthy and safe. On the other hand, she subscribed to the idea that "if Mongolians do not develop, Mongolia will not develop", a popular statement made by Nambaryn Enkhbayar, former Prime Minister of Mongolia (2000-2004), President of Mongolia (2005-2009), and chairman of the Mongolian People's Revolutionary Party (2010-2021).[57]

Oyunaa's relationship to development was strikingly ambiguous and paradox. While she considered herself affected by the negative growth and pollution generated through development, she wished for Mongolians to develop, nonetheless. By quoting Enkhbayar, she echoed an individualistic approach to development, yet she also told me that she felt left alone with her wish to protect the lake and create safe and healthy environments and called for collective action instead ("we need a cleaning organization"). She considered technology, such as electric devices, a pollutant of the home environment, yet she was convinced that a scientific study was necessary to evaluate the water quality and degree of pollution of Khövsgöl Dalai. She valued pastoralism and noted how it was more common for Mongolians to live a mobile lifestyle, share pastures, and use land collectively. Yet, later in our conversation, she noted that even pasture use became an issue that created tensions in Khatgal and "brought up a lot of fog (*manan ikh gardag*)".[58] Ultimately, she wanted to move to a new khashaa and generally considered fences indispensable to living in the village.

Through Oyunaa's paradoxical perceptions paired with Baasanjav's statement quoted at the beginning of this section, purity was merely an ideal projected to the past and the future, but out-of-reach in the present. When it comes to purity in life under capitalism, Alexis Shotwell (2016, 6) argues that "[w]e cannot look directly at the past because we

[57] Enkhbayar is also notoriously known for corruption scandals for which he was sentenced to a seven-year prison term starting from 2012. The term was initially reduced to four years, and Enkhbayar was ultimately pardoned in 2013.

[58] Sorace and Jargalsaikhan (2019) point out how the term for fog, *manan*, is a proxy for uncertainty, particularly in political contexts. The two main parties in Mongolia are the Mongol Ardyn Nam (MAN, The Mongolian People's Party) and the Ardchilsan Nam (AN; the Democratic Party). Their acronyms form the word *manan* and because they interchangeably took the offices of prime ministers and presidents, and conflate in their political programs and practice, they stand in for uncertainty.

cannot imagine what it would mean to live responsibly toward it. We yearn for different futures, but we can't imagine how to get there from here." Yet, while Oyunaa and Baasanjav were stuck with this impure state of being, notions of purity and pure living further complicated the dynamics of pollution in Khatgal. Land, once again, assumed a key role in terms of pollution as it was the point of reference that challenged the inside-outside dualisms circulating around property and land allocation.

5.4.Dealing with Land and Life

Oyunaa and I had another encounter prior to our conversation in the souvenir shop. I met her by coincidence on a morning in late May 2017, about one month after the administration fire. On that morning, I was struck by a photo a user posted to the Hatgal News Facebook group. Given the dynamic interactions in that group, I checked it every morning after waking up to stay updated on village activities, events, and other happenings. The mentioned image showed a large crowd of people queuing up in front of the Elderly Palace. I contacted Sükhee to ask if he knew what all this was about, and it turned out that he was waiting in line as well. Since he waited together with his mother, he could afford to leave for a moment to pick me up from home without running the risk to lose his spot in the queue. The administration moved to the facilities of the Elderly Palace to set up office and reestablish daily business to reorganize itself. A few minutes later, I sat on the back of Sükhee's motorbike. As we went to the administration, Sükhee told me that people went there to submit applications for private property. When we arrived, the queue was already much shorter. Nevertheless, inside the building, the atmosphere was busy. Individual departments that used to be divided into separate rooms were now merged into a shared pop-up office under one roof. Trying to get a hold of the busy environment, I came to talk to an administration worker called Naranbaatar, who occupied the office for environmental protection. He explained that many people came to apply for land but by far not all of them will be successful because land allocation ultimately had to go through the authorities in the district center. District status for Khatgal would make everything much easier, he remarked. Furthermore, because the administration building burnt down, important documents were lost to the flames, which made the process even more difficult. Through the fire, growth was effectively suspended. Although this suspension of growth was temporary, it affected predominantly the citizens

of Khatgal who had to rush to apply for land and hope that their applications were accepted.

People of all ages who waited all morning long walked the small alleys up and down, and back and forth from desk to desk to make sure they filled out their applications correctly. Those who submitted searched for a seat to sit down, take a breath, and to exchange news with others. As I was already sitting, Oyunaa took a seat next to me and she told me that she applied for a new property:

> I live like this for many years. I feel like moving to another place, since I've spent many years on my khashaa. Before, there used to be a family that was kind of poor, and I want to change from a bad family's khashaa. And if I say I want to change, [the administration] won't give me land. Therefore, possessing land is something odd to me, I don't like it. So, I'd prefer to move and go to the place I like. I want to live in a healthy environment, right? For that reason, I don't relish land possession (*gazar ömchlökh taashaal avdaggüi*). Well, I might not completely understand all of this, but I just don't like it.

Applying for a parcel of land that one wished for, however, was not an option; "you have to take what you can get", Sükhee later explained to me. His application went in for a property in the northwestern part of Khatgal, between the old airport and the graveyard. He eventually received the property, and the next step was to fence it. First, four pillars needed to be erected at the property's four corners to demarcate the cadastral reference points. Subsequently, the fence needed to be built. Fencing the property, according to Sükhee's mother who worked as a teacher at the elementary school, was an imperative prescribed by law. The fencing would elevate the status of the property to *ezemshil*, "a form of legal tenure over land [that] forms a conceptual and legal framework" (Plueckhahn 2020, 100). If a fence was not built within two years, the local administration would have the right confiscate the land. Sükhee's property was fenced in due time, but he never lived on the property. Instead, he decided to sell it to a distant older relative (*akh*) after he decided to go to Czech Republic to work in a meat factory in 2019. Because the property was fenced, Sükhee and his mother explained, they were able to sell it.

A few days after the land allocation event, I visited Naranbaatar and his wife Indraa[59] at their home located to the southside of the school, close to the house I rented. On their

[59] Indraa is a pseudonym.

large property, which exceeded the usual seven hundred square meters and featured a handful of cat cabins as tourist accommodations, Indraa was breeding poultry with the aim to sell eggs to local shops. The birds were her whole pride (*bakharkhal*), and after I mentioned that my grandfather was a successful and prize winning poultry breeder, we started to converse about improving the living conditions for her birds to lay more eggs. As an elderly couple with a large khashaa and diverse sources of income, the two belonged to the wealthier households in the village. Nevertheless, Naranbaatar mentioned that there were many rich people (*bayachuud*), Mongolian and international, who had an interest in owning land in Khatgal:

> The citizens of our village cannot find land here. People are thinking about their livelihood and if they found land they sell it. They are trading it. Because of the right of land possession (*ezemshikh erkh*) and the right to dispose of it, land can be bought or pledged to the bank because everything is open (*neeltei*). […] Land has become a commodity.

When I left their khashaa, I noticed a copper coin and three straps of cotton nailed to the door frame of their khashaa entrance. This was installed by a Buddhist lama for protecting their khashaa and to stop bad things from entering the property, Indraa explained. The open and liberal market economy and the enclosure of property and wealth were inseparable in Khatgal. The paradigm of private land ownership, promoted by the ADB since 1994, as a necessity to "cast [land] as another economic asset that producers must own in order to protect and invest in it" (Sneath 2018, 82) was taking hold in Khatgal.

In a conversation I had with Oyungerel, who was Khatgal's land officer (*gazryn daamalch*) since 2004, we talked about land allocation, fences, and the future of Khatgal. She pointed out that events such as the one that happened in late May were organized exclusively to allocate land to residents of Khatgal who did not own or possess a khashaa. She remarked that while in 2016 only fifty applications were accepted, the administration was able to accept one hundred applications in 2017. Back in the old days, she told me, there were plenty of empty properties along the alleys (*gudamj*) of the village. Oyungerel's term as land officer covered a period that saw significant legal changes. In 2002, the Law on Land Ownership (henceforth land law) was introduced nationwide and put into effect in 2003. This new law did not have a strong impact on property relations in Khatgal, she told me. Things rather changed after 2010, Oyungerel remarked, which

was a year where the land law saw an important modification as noted by Plueckhahn (2020, 103): "Prior to 2010, ownership rights of individual land parcels were assigned to whole families. Since then, however, following a constitutional reinterpretation, temporary possession rights and ownership rights have been assigned to individuals." Things were different since then, Oyungerel continued, explaining that there were now three modes of land tenure, including use (*ashiglal*), possession (*ezemshil*), and ownership (*ömchlöl*). Sitting at her desk in the intermediate administration office one month after the land allocation event, she explained why this legal shift created an important impact on land relations in Khatgal:

> According to the law, a Mongolia citizen has the right to own one piece of land (*ömchlökh*), and people want to own land. That's the first point. Secondly, it is important because when people own the land, they have the right to sell and manage the land (*zakhiran zartsuulakh*), putting it into economic circulation (*ediin zasgiin ergeltend oruulakh*).

She further noted that "the people of Khatgal gave land to outsiders a lot" and currently, there was no more land to allocate to local citizens in the central areas of the town. As the above ethnographic insights have shown, land was transformed into an economic asset that not just became subject to investment and protection as promoted by the ADB. Situated between uncertain ownership dynamics, legal security, and economic circulation, khashaa were liminal entities that only in theory were accessible to all. The administrative situation of land ownership in Khatgal, as it turned out, was not entirely orchestrated by external authorities. More so, fenced property was transformed into an asset that was circulated to such an extent that it became alienated from being a living space. Tsing (2015, 5) argues that "[t]hrough alienation, people and things become mobile assets; they can be removed from their life worlds in distance-defying transport to be exchanged with other assets from other life worlds, elsewhere". Alienated land as a mobile asset in Khatgal, effectively excluded those who needed it the most. Among them was Odonchuluun.

5.4.1. Precarious Life

Not long before I met Odonchuluun, he suffered a stroke which, he explained, caused him to speak fast and oddly, move arduously, and gave him a left leaning body posture.

His living conditions were precarious and paradox. Although he was the guard of the property, and thus provided a service to a public institution, he had to pay a monthly rent of eighty thousand MNT to the local administration for living on it. Unlike for rich people who can buy and sell land as they wished, he was quick to tell, there was no khashaa "for people like him". Although the land law entitles Mongolian citizens above the age of eighteen to possess, or own, seven hundred square meters of land, Odonchuluun was denied this entitlement because he was poor, he claimed. He tried to apply for land and talked to Oyungerel at the local administration. Having known her since she was little, he could not understand why she did not issue him a permit. As a result, his disappointment in governmental institutions rooted deeply. Because of the fire, the administration decided to move their offices temporarily into the facilities of the Elderly Palace, and since there were already three guards employed by the administration, Odonchuluun and his family were expelled from the property and forced to move and find a new khashaa. His daughter was devastated about being expelled since, she remarked, it was extremely difficult to find a khashaa in Khatgal.

Odonchuluun considered himself a victim of social inequalities and injustices he experienced. In 2016, he told me, he was involved in an accident on the asphalt road. He was driving with his motorbike and had two more passengers with him. They were hit by a car driven by a drunk person. One of Odonchuluun's companions had their leg amputated and the other person, an old lady, was severely injured. Although Odonchuluun said he only had minor injuries, he still hobbled. His hurt leg significantly impacted his health and his physical and social mobility. Although they were hit by a drunk driver, it was him who was accused of causing the accident:

> "[Police] took me to the province center in the spring and put me in front of the police station. I might have a conflict, right? I am waiting for that. I am the victim of that situation, there is no alternative. I am telling you, a drunk person was driving a car and hit me. But no … Last spring there were many interrogations. So, I said one thing. I did not cause the accident. I am the victim. They are afraid when these young people drink alcohol. Police is police, administration is administration, they are both useless."

He felt stripped off his rights: "If a person kills someone, will [the police] arrest the person that was killed? […] People are always discriminated against." During socialism, Odonchuluun worked as a driver for the state, too, and he even had a few livestock. State

employment and livestock gave him stability. With the dissolution of state socialism, this stability vanished and precarity took over. Unlike Myagmarjav (chapter three) and Baterdene (chapter four), who had been working as drivers during socialism, Odonchuluun did not navigate the new, capitalist landscape as well as they did. He was excluded in multiple ways: from the promises of the market economy, from justice and the legal system, and from the ownership of a khashaa that would provide at least some security. If khöröngö was to generate growth under the right conditions (see Plueckhahn 2020), Odonchuluun's situation reminds of how precarity, according to Judith Butler (2009, 25), "designates that politically induced condition in which certain populations suffer from failing social and economic networks of support and become differentially exposed to injury, violence, and death". Odonchuluun's troubles were severely impacted by the precariousness of life in Khatgal under the precursor of development. Today, Odonchuluun commented while shaking his head, there would be too much "*khuvia bodokh üzel*", which translates as egoism and individualism.

This statement resonated with Oyungerel who told me with reference to tourism that the benefits of development reached those who were able to operate camps and work well and meticulously. Those who were not able to work properly (*sain ajillaj chadakhgüi*) would simply stop (*bolikh*) engaging in tourism and other development-related businesses and needed to find alternative ways to sustain their lives and livelihoods. "We are living the capitalist way after all (*zakh zeeliin zamaar l yavna shüü dee*)", she concluded. Since she had a secure government employment for more than a decade and was running a tourist camp as well, Oyungerel was speaking from a position of privilege. This privilege was not available to anyone, and certainly not to Odonchuluun who was physically and economically not able to benefit from the developmental dynamics in Khatgal. The precarity he experienced was a result of these dynamics as they unfolded within the growth paradigm of millennial capitalism – a condition that promotes a political logic of radical individuality asking us to see precarity as the result of the moral failure of individuals (see Butler 2009). Under such conditions of structural violence and the politico-economic worship of individual abilities, Odonchuluun and his family were left in poverty and precarity.

At some point, he suggested that I bought land in Khatgal and have it registered under his name, which was necessary because foreigners could not simply purchase and own land. He would then watch the property for the time I was not in Mongolia, a deed he considered an appropriate offer. Having had to turn down this desperate offer, I lent him

money instead so that he could organize moving house after being evicted from the property of the Elderly Palace-turned-temporary-administration. He returned the money in no time as he eventually managed to find a khashaa to live on, but it remained unclear under what terms he could use the property. The khashaa was messy. There was no house, only the carcass of a car wreck and a lot of trash people have thrown over the fence. Odonchuluun pointed out that he had to accept "living among trash (*khogiin dund am'drakh*)," and continued in a withered voice "when I have died it will be ok (*burkhan bolood zügeer bolno*)."

Conclusion: Separated Khöröngö

In Khatgal, the growth potential of property khöröngö was interspersed with and challenged by administrative ambivalence and dangerous threats that created a climate of uncertainty. Although the local environment was one of wealth, everyday lives were precarious and marked by looming insecurity, suspicion, and socioeconomic inequality. Land was not only privatized following the implementation of the Law on Land in 2003 and the shift to land allocation to individual citizens instead of households in 2010. Land was also politicized following "the intertwining relationship of politicization and economization in the modern capitalist form of economy in Mongolia" (Plueckhahn and Bumochir 2018, 347) through which the post-socialist economy, ediin zasag, was framed as the "governance of property" (Sneath 2002, 201). Regarding land allocation, Khatgal's administration was exempted from this form of governance. This exemption brought forth further uncertainty for everyday life in Khatgal.

Consequently, khashaa were regarded as indispensable infrastructures of growth and security. One key concern for infrastructures, be they fences, national parks, or roads, is maintenance as noted by Carse (2014, 219): "[Infrastructures] require human communities to maintain them, even as they shape those (and other) communities. Without maintenance, infrastructures crack, rust, and crumble and the political projects, promises, and aspirations that they carried dissipate." However, maintenance was not a collective matter in Khatgal. Those who possessed and owned khashaa as a continuum of property and wealth were cast entirely responsible for the protection and maintenance thereof. Cases of theft, injurious talk, or arson were considered failed maintenance for which the blame was placed on those individual citizens who were the victims of these attacks. Along with the privatization of land, then, it can be argued that security, too, was a highly privatized ideological endeavor of neoliberal policies and law making.

Some of the individuals with their stories featured in the preceding two chapters were successful in navigating these new socioeconomic formations. Others struggled to keep up with maintenance, and yet others fell through the gaps of administrative ambivalence altogether. Property ownership alone was thus not enough to secure a livelihood as the conditions of ownership were difficult to meet and frequently challenged. I agree, once again, with Judith Butler (2009, 33) who argues that "[i]t does not suffice to say that since life is precarious, therefore it must be preserved. At stake are the conditions that render life sustainable, and thus moral disagreements invariably center on how or whether these

conditions of life can be improved and precarity ameliorated." Khashaa, considered as the root of security and agents of protection, were not enough to provide for the right circumstances for khöröngö to grow. They were undermined by their own permeability and porosity. Under precarious living conditions that many of my interlocutors in Khatgal needed to navigate due to the absence of continuous and reliable employment and income, this permeability and porosity called for additional measures to protect one's khöröngö.

Notably, a similarity between khöröngö as a conceptual paradigm of growth and property khöröngö in form of khashaa was that they not only represented processes of growth directed towards socioeconomic security, but that they were supposed to be physically separated in order to set such processes of growth into motion. In the pastoral context, *khöröngö tusgaarlakh* refers to the process of establishing a new household in the course of a wedding through separating a portion of wealth (ferment, ger, animals, furniture, dowry) from its root or origin (parents' household). In the case of khashaa, however, the separation of khöröngö was rather risky. Anyaa, for instance, gradually lost control over her khöröngö. First, she lost control over the growth of her herd of animals which she had to leave in the pastures outside of the village. While Anyaa had to permanently move to a khashaa and compromise on her mobility, the herd was watched over by an irresponsible family who recurrently lost individual animals to thieves. Secondly, she lost household items to thieves several times when she was not at home and only her daughter Tseegii was there to watch over the property.

On the scale of the village community, khashaa as separated forms of khöröngö were rather a form of expropriation through enclosure where a portion of land was allocated from a higher authority (district). Because khashaa were portions of land separated from the larger land around, they resemble a form of "violent dispossession" (Lawrence and Buller 2022, 24) through which citizens were practically excluded from shaping spaces of conviviality in the village. Acts of purification in reaction to exceeding growth embodied by the burning of tourist camps were similarly violent and might have temporarily suspended externally orchestrated growth. Yet these acts remained indifferent to the trade of land as carried out by Khatgal's residents, who saw the selling of land as a necessity to navigating socioeconomic inequalities. In conclusion, khashaa were inevitable to life in Khatgal, but they did not save households from the uncertainties and the precariousness that resulted from the manifold socioeconomic and political transformation processes that the village experienced throughout post-socialist times.

III. Enduring Cycles

Image 22: Baasan holds a two-year-old portion of khöröngö made from yak's yoghurt. Khatgal, August 2019.

During the past century, Khatgal saw contrasting political ideas with unidirectional visions of progress turned into crisis. With the onset of the 1990s, the dissolution of state socialism crushed visions of progress and stable futures altogether. Economic growth and prosperity were promised on the base of market liberalization, infrastructural development, and new property regimes. Yet, new forms of social disintegration, economic disparities, and socio-ecological precarity prevailed. Following Rosalind Williams (2021, 543) who writes "[w]hat gets left out, in this convergence of progress talk and crisis talk, is the third possibility for history's pattern: the cyclic one of stability, sustainability, renewal". Among extractive tourism, administrative ambivalences, and new forms of environmental pollution, I argue, milk and dairy produced by pastoral herders and their animals provided for subsistence, stability, and security. Through multispecies, multisensory, and multi-sited ethnography, I study khöröngö and investigate how fermentation, as a mode of interspecies knowledge-making, engenders recurring cycles of growth.

Milk is life in Mongolia. It is a precious substance that carries important nutritious, biological, sociocultural, economic, and historical value. Milk and dairy represent purity and create material and metaphysical bonds with the environment. Milk fermentation happens through the work of microbial starter cultures, communities of lactic acid bacteria that enable the transformation of perishable fresh milk into storable, consumable dairy products. In turn, by making fermented dairy products pastoralists support unique microbial ecosystems within their households and within their bodies by feeding their gut microbiomes with probiotics. However, pastoral herders do not refer to microbes in the context of dairy production. In fact, given that milk is considered pure, the herders I worked with during my fieldwork considered microbial activity in milk as pollution, echoing the pathogenic paradigms of both socialist and capitalist biopolitics (see chapter eight). Nevertheless, situated dairying knowledge (see Haraway 1988) offered insight into unique interactions between humans and microbial communities.

Khöröngö as a ferment is shared across maternal generations, or between households, to initiate new beginnings in form of dairying cycles. Herders know a good ferment as it is made of quality milk coming from healthy animals feeding on rich pastures. Khöröngö, I argue in this final part of the present thesis, forges more-than-human relationships, supports biosocial knowledge systems, and bundles multispecies biowealth. Sharing portions of khöröngö is a future-oriented practice of growth that builds on past knowledge.

In this chapter, I emphasize the importance of biosocial interactions between humans, livestock, microbes, and their environments for maintaining pastoral knowledge systems and collective life. Khöröngö, in this context, embodies continuity. Yet, this continuity is neither a natural given nor does it remain unchallenged. Considering the ever-growing social and environmental damage as present in Khatgal (and other regions of Mongolia), milk and khöröngö are also fragile. Under these conditions, the knowledge and labor of pastoral women was what maintained continuity.

6. Milk: Growing Collective Life

The first thing that happens when someone visits a pastoral household is being served dairy. During my fieldwork, whenever I visited rural herder households, I immediately encountered milk and dairy in multisensory ways. As soon as I stepped inside the *ger*, I noticed the pleasant scent of fermenting milk. Once I took a seat on the western side, the area reserved for guests, I was immediately handed a cup of hot milk tea (*süütei tsai*) and offered to try something from a large plate filled with a variety of dairy products such as dried sour curds (*aaruul*), cheese (*byaslag*), or fried cheese curds (*eezgii*). Often, the sound of milk being ladled on the stove, or airag being strongly stirred in the respective container placed at the ger's wall shaped the acoustic scenery of the entire household. In the northern part opposite the entrance door (*khoimor*), smaller portions of milk tea and curds were placed in front of sacred images of gods, sacred animals (*seter*), relatives, and ancestors as offerings to these precious and divine beings. Outside the house, the pastoral landscape is dotted with sacred sites such as stone cairns (ovoo) and special trees, which are usually worshipped and honored with milk and dairy. To the northwest of Khatgal, for example, the trunk of a sacred tree named Snake Tree (*mogoin mod*) according to its twirly and twisted shape, was entirely covered in clarified butter (*shar tos* lit. 'yellow fat') and matches to protect its healing powers for human health and well-being. Ovoos, usually located on mountain tops, passes, or next to springs, rivers, and caves, are commonly offered dairy products such as milk and dried sour curds (aaruul) to worship and please the land spirits they embody and personify. Even the buzzing environment of Ulaanbaatar provides the stage for milk offerings, and one can occasionally see women sprinkling milk towards the sky from playgrounds encroached by concrete buildings, or from windows and balconies of high rising multistory apartment blocks. In summary, milk for rural and urban Mongolians, in the words of anthropologist Eric Thrift (2014, 496), is a precious, highly valued, and symbolically charged substance "representing purity, the pastoral heritage, and maternalism." Thrift (ibid.) further argues:

> Milk, along with various other pure white objects, is associated generally with the concept of 'purity', which encompasses goodness – including thoughts unadulterated by selfishness or guile, in the sense of *tsagaan setgel* ('white mind' or 'white thought') – and, through association with pure white milk (*ekhiin tsagaan süü*, 'the mother's white milk'), maternalism or the mother–infant relationship (italics added).

This passage, and particularly the associating of milk with purity, by and large strongly resonates with how people related to milk in my ethnography. Nevertheless, neither purity nor maternalism can be simply considered a natural given but need to be questioned as relationships. It remains unclear *how* milk and maternalism relate and *how* mother-infant bonds are generated and sustained through milk. Thrift provides a thorough discussion of how purity is represented and understood through milk regarding the contrasting dynamics of sensitive and politically charged identity politics across divisions between the rural and the urban, the pastoral and industrial modes of production, as well as Mongolian and Chinese nationhood. However, the biosocial purity of milk as a presumably fragile and perishable substance needs to be further explored.

In this chapter I investigate milk as biowealth in Mongolian pastoralism and offer a thorough ethnographic account of milk processing practices, dairy knowledge, and more-than-human relationships between milk, herders, animals, microbes, and spirits in the rural areas of Khatgal. In this context, milk fermentation emerges as a key practice that encompasses specific multisensory knowledge systems. Furthermore, with fermentation playing a central role in the transformation of milk, the lactic ferments used as starter cultures, become "matters of care" (Puig de la Bellacasa 2016). Maria Puig de la Bellacasa argues that "[c]are is a force distributed across a multiplicity of agencies and materials and supports our worlds as a thick mesh of relational obligation" (ibid., 20). In line with Jackson and Leslie (2022, 22-24) who discuss milk as a substance that is "primal, but also multiple" as much as it is "complicated" and "versatile", this chapter ethnographically investigates the transformative potential of milk and khöröngö. This transformative potential is not only realized in the context of fermentation and food production more generally. It equally relates to the potential of milk to generate growth beyond fermented foods. Biowealth thus refers to the biological as well as the historical, spiritual, social, cultural, and scientific value of milk. Milk studied as a biosocial fluid rejects the bifurcation between nature and culture and acknowledges that these categories conflate in Mongolian pastoralism. Furthermore, while milk is a source of wealth in the broadest sense of the term, it is also ambiguous, fragile, and even fraught with risk. Milk is highly perishable from an anthropocentric point of view, while it simultaneously provides the breeding ground for the bacterial life.

Throughout this chapter, the focus is on milk fermentation and the multiple relationships it engenders and sustains in Mongolian pastoralism and beyond. Through ethnographic insights, this chapter will emphasize the importance of biosocial

interactions between humans, livestock, microbes, and their environments for maintaining pastoral knowledge systems and collective life. I will first draw on the history of dairying in Mongolia under consideration of historical resources as well as studies in archaeological sciences. This will highlight the uniqueness of milk consumption and underscore the biosocial significance of dairying in Mongolia, while simultaneously bring up the question of continuity. After these historical considerations, I will turn to my ethnographic work and elaborate on multispecies relationships in contemporary pastoral society exemplified through the practice of milking animals. Here, multi-sensory practices and knowledge will point to the relational character of milk. Subsequently, I will turn to milk fermentation as practiced in Khatgal's rural areas. I will focus on the knowledge and work of herder women and how milk and fermentation are embedded in biosocial relationships. This will lead me to a discussion of the notion of khöröngö and how starter cultures become agents of transformation. Furthermore, I will reflect on the processes of value translation I was deeply involved with through my work as an ethnographer and field scientist. Occasionally drawing on ethnographic insights from other pastoral regions I visited in Khövsgöl, Bulgan, and Dundgovi provinces will both deepen the narrative and expand its geographic scope. The final subchapter will be concerned with the question of how dairying practices can be considered a science of life. Ultimately, I will conclude this chapter by returning to the multiplicity of milk as a biosocial substance and its transformation of wealth across species, space, and time.

6.1.Milk History: Incomplete and Paradoxical Continuity

The history of milk and dairying in Mongolia reaches deep into the past. Nevertheless, this history is difficult to trace in detail because of the sparse availability of archaeological and historical sources, including material culture and written accounts. For instance, because steppe pastoralists lived and produced dairy in mobile households, archaeologists frequently face the challenge of finding "intact and dateable habitation sites from early prehistory in the region" (Taylor *et al*. 2019: 4; see also Wright 2016) that would offer more detailed insight into past dairying practices. Recently, however, archaeologists were able to provide evidence for the earliest consumption of ruminant milk and dairy from sheep, goats, and cattle in today's Khövsgöl province, dating back to the early Bronze Age around 5,000 years ago (Wilkin *et al*. 2020). The earliest consumption of mare's milk in Mongolia was dated to 3,200 years ago (ibid.). This evidence was provided through the

application of recent cutting-edge technologies in archaeological science, such as using protein tandem mass spectrometry as a tool that offers direct insight into past food consumption through the analysis of proteins extracted from dental calculus (Warinner *et al*. 2014).

These studies imply that in arid environments and continental climates as found in the mountainous steppes and deserts of Mongolia, where access to fresh water can be scarce, milk offered a valuable resource for seasonal and perennial nutrition. Taking into account historical sources furthermore underscores that for steppe pastoralists the value of milk went far beyond nutrition. Several references in the Secret History of the Mongols indicate that milk was considered more than a food, but, for instance, also regarded a substance that relates to "softness and loving kindness" (de Rachewiltz 2015, 176), which was prone to spoil and thus needed to be treated with care and diligence. Fermented milk, especially in the form of *airag* (fermented mare's milk), as reported by the 13th century Franciscan Friar William of Rubruck, was a beverage consumed in large amounts, served to guests, and offered to the environment and its elements (of Rubruck 2010 [Dawson 1980], 257, 265). Jumping to the 19th century, milk and dairy were integrated into the feudal tax system and had to be paid to religious nobilities headed by the Javtsandamba Khutugtu (Tsedev [1964] 2010, 778). These references resonate with the argument made by archaeologists that the development of value systems and economic exchange in, and between, pastoral and sedentary societies was substantially impacted by the exploitation and use of secondary animal products such as dairy (Honeychurch and Makarewicz 2016). Milk has thus always been more than food for own subsistence.

6.1.1. A Milk Paradox

Despite its depth, the history of milk and dairying in Mongolia remains spotty and complicated. It is filled with gaps stretching over centuries and millennia. Descriptive ethnographic research, based on the fact that Mongolian herders continue to rely on domestic dairy production, could offer considerable insights and contributions to this scientific challenge and help tracing the past of dairy consumption and production. While it is not my aim in this thesis to fill these gaps, it is striking that the presence, use, and

consumption of milk has *continued* for such a long time.[60] It draws my attention to continuity itself, especially because of the equivocal nature of milk.

Let us consider, for instance, the actuality that the vast majority of the Mongolian population today (more than ninety percent) are by definition genetically lactose intolerant. Lactose intolerance refers to the lack of the enzyme lactase as a genetic adaptation to the consumption and digestion of lactose, or, in other words, genetically lacking the ability to digest milk sugars. Mongolians consume large amounts of milk and dairy products yet, by and large, without showing symptoms of lactose intolerance such as diarrhea or bloated bellies. For Tina, the head of the Dairy Cultures project, this phenomenon, which she called the "milk paradox", formed one of the main problems that motivated her research. Contemplating on this milk paradox with my colleagues, one initial hypothesis for why milk consumption was possible despite lactose intolerance was provided by the fact that most of the Mongolian dairy products are fermented. The activity of microbial cultures such as lactic acid bacteria (LAB), it was assumed, lactose would break down and make dairy products consumable without health risks. Nutritional analysis of the fermented dairy foods I collected from Khövsgöl, Bulgan, and Dundgovi provinces in 2018 however has shown that most of the consumed products still contain a significant amount of lactose, rejecting the fermentation hypothesis as a single answer to this milk paradox. Metagenomic analysis of the gut microbiome – "the community of microbes that inhabits the human gastrointestinal tract" (Amato *et al.* 2021, 2) – of both rural and urban population groups in Mongolia has demonstrated the presence of unusual high amounts of LAB, with the LAB species, diversity, and quantity depending on region, local ecology, as well as the dominant animal species and the type of milk consumed. One striking example is the outstanding presence of Bifido bacteria, a community of bacteria usually present in human infant microbiomes that help break down lactose in the small intestine (Zhang *et al.* 2013). Humans largely lose these Bifido bacteria when growing into adulthood, but Mongolian herders keep them alive and thriving in their gut microbiomes (ibid.). While the reasons for this continued presence of Bifido bacteria are still being studied by my colleagues, one assumption roots in the dietary patterns of seasonal pastoral diets. For example, during interviews conducted in 2018 and 2019,

[60] Archaeological studies on dairying evolution suggest that milk was consumed by European populations despite the presence of lactose intolerance for approximately three thousand years before lactose tolerance developed as a genetic adaptation. This genetic adaptation did not happen among Mongolians (personal conversation with Christina Warinner, Harvard University/Max-Planck-Institute for Evolutionary Anthropology, May 2019).

herders described how fresh mare's milk (*saam*) or whey from cheesemaking (*shar süü*) were consumed during the beginning of the milking season in spring and late summer. These products are not part of the herders' regular, daily diet. Whey and fresh mare's milk are extremely rich in lactose and caused diarrhea upon consumption. The reasoning of this form of consumption was explained with the idea of cleansing the gastrointestinal tract from the prolonged consumption of meat and animal fat during winter. Taking these bio-cultural facts and practices into account provokes questioning of the label lactose intolerance as an adequate term for Mongolian dietary and biological patterns. Contrary to what is described as symptoms of lactose intolerance in a Western science context, lactose-rich products were consumed consciously as a medical treatment to cleanse the body and initiate a new dietary season by preparing the gut for an increased consumption of milk before the dairy season sets in.

6.1.2. Continuity

According to Serrano and Díaz (2022, 14), "[t]he consideration of milk's historical entanglements […] implies acknowledging a series of relationships animated by both human and non-human agencies, while composing new ways of thinking, valuing, and inhabiting the range of systems and ecosystems across these relations." The milk paradox presented above offers a starting point for ethnographically unpacking the relationship between milk and continuity vis a vis the socioeconomic and political ruptures as well as the ecological hardships that happened, and continue to take place, during the twentieth century. Considering that anthropologists have challenged the notion of continuity thinking (Højer and Pedersen 2019), I ask how continuity is practiced with special regard to the manifold biosocial challenges it was confronted with.

Milk and domestic dairy production saw significant interventions and changes throughout the twentieth century. Following the establishment of the Mongolian People's Republic in 1924, dairying underwent tremendous change through collectivization, industrialization, and new forms of education. New regimes of hygiene and standardization, inspired by Pasteurian views on microbial life, were imposed on rural dairy production juxtaposing the purity ascribed to milk with the peril of bacterial pathogens (Reichhardt and Abrahms-Kavunenko 2022). Newly introduced technologies and forms of sanitation and cleanliness privileged sterilized milk and production techniques over the organic materials used by herders. Herds of livestock, and property

more generally, were reassembled through collectivization, and pastoral life was newly stratified. Dairying needed to meet quota, while milk and material culture were sterilized (ibid.).

The increase of rural-urban migration trends that accelerated during the 1950s and 1960s left rural areas with fewer and fewer pastoral households, consequently putting the continuation of domestic dairying practices across the country at risk. After the dissolution of state socialism, the number of herder households saw a temporary resurgence during the 1990s and domestic milk production provided for food and the means for trade and barter, as explained by Dalaimyagmar, one of my pastoral research participants in Khatgal. As such, among a general state of precarity and food scarcity, dairy regained economic relevance on the household level. However, as privatization proceeded, soon those households that continued to produce dairy gradually saw themselves struggling with the lack of infrastructure providing adequate access to markets for selling dairy as well as access to regular veterinary services, resulting in an increased application of traditional animal medicine (Fijn 2011, 30f.). On the other hand, development initiatives lead by international organizations increasingly spread across the Mongolian countryside with the aim to support pastoral milk production through introducing standardized technologies, and with the aim to improve rural livelihoods by optimizing value chain integration and marketing to increase the profitability of dairy production.[61]

In summary, milk became deeply embedded in shifting dynamics of domestic and industrial production, a profit-oriented market economy, and new configurations of biopolitics throughout Mongolia's post-socialist transformation. The continuity of milk and dairy production was put to the test, but pastoral herder women managed to maintain dairying practices that nourished their households as well as multispecies and social relationships. To provide an understanding of how continuity was put into practice among socioeconomic, political, and environmental shifts, I will now turn to my ethnographic work on the more-than-human relationships that are deeply embedded in dairy pastoralism and milk fermentation.

[61] See, for example, ADB (2019): https://www.adb.org/news/adb-mongolias-milko-sign-deal-expand-dairy-operations-and-improve-rural-livelihoods, accessed November 9, 2023

6.2.Milking – Manifesting Multispecies Intimacy

During the summer months, Dalaimyagmar and Byambaa's days began early. When I stayed with them in July 2018, they rose at around 6:30 in the morning to milk their yaks and *khainag* (yak-cow hybrids). By that time, the sun had already risen too and sent smooth beams of light through the round roof opening of the ger. The chilly air that spread across the vast river valley seemed to be contained by a swath of vespertine fog and the cool winds that softly blew across the Egiin Gol valley even allowed them to sleep a bit longer than usual. At their usual summer pasture at Ulaan Davaa, the two would have had to get up much earlier because at around seven o'clock, they explained, there would have been already too many flies making milking an unpleasant procedure for both animals and herders. Lower temperatures made the yaks much more comfortable during milking as they did not have to deal with heat stress. After waking up, Byambaa would take a sip of yesterday's milk tea before stepping outside to herd the female yaks into the milking pen. The milking pen was compartmentalized into a small and a big pen, with the former holding the calves overnight. Knowing that their calves waited for their milk, the yaks walked into the pen much less reluctantly than during the evening when their offspring were fenced. Once the twenty-three females entered the corral, the gate was shut with two large logs and milking was about to begin.

6.2.1. Multi-Sensory Interactions

The calves already waited for their mothers. Longing for milk, they impatiently grunted and stuck their snouts through the bars of the smaller pen which separated them from the milking pen and inside which they spent the night to be protected from predators such as wolves. The calves were released from the small into the large corral one at a time. Byambaa carefully opened the small door to only let one calf pass through. Thirsty for milk, the calves competed to be the first to be released into the larger pen. Once a calf slipped through, it quickly ran to find its mother. Calves were allowed to drink from their mothers' udders for roughly thirty to sixty seconds before the herders began milking. Letting calves suckle first had several purposes. On the one hand, it feeds the calf and calms down the mother, while simultaneously reinforcing the mother-infant bond. Furthermore, the teats are moistened by the saliva of the calf which, once herder hands touch the udder, makes it more comfortable for the mother to be milked. Dalaimyagmar and Byambaa used these moments to tie the female's hooves and prevent the animal from

shying away, tripping, or kicking during milking. After drinking, calves were pulled away and tied to the corral in vicinity to their mothers. Dalaimyagmar then took a small stool to sit down on the right side of the yak, placed a bucket between her knees and gently removed some of the long hair to reach the udder. She squeezed the udder to collect a first few drips of milk into which she dipped her fingers. That way, she further moistened her hands and made sure that she would not hurt the animal and irritate the udder's sensitive skin through the strong grip and fast squeezing she applied when milking properly. The first contact with the udder and teats also served as a health check: by touch herders can recognize if the udder was unusually hard, a potential sign for infection (Reichhardt *et al*. 2021).

Image 23: Dalaimyagmar during morning milking. Khatgal, September 2022.

The sensorial interactions during milking are multiple and have notable impacts on the milk yield. Attentiveness to touch, scent, sound, and vision significantly shapes interspecies dynamics. For every milking session, Dalaimyagmar wore the same lavender colored silk kimono. Decent colors were important, she pointed out, since colors that were too strong and flashing, such as red, might make animals nervous. She furthermore wore a bandana as a headscarf for milking because covering one's head during milking, she told me, was a way to show respect to the spirit rulers of the environment (gazryn ezed).

Other herder women I worked with confirmed that wearing the same clothes for milking was important for their interaction with their bovine counterparts and for moving within the milking pen. While Dalaimyagmar preferred wearing her kimono, which was a gift her daughter Daagii brought from Japan, Baasan wore her milking robe (deel) for years onward. Baasan's deel was covered with sprinkles of milk to such an extent that these lactic residues formed a hardened crust across the torso area of the robe. As such, the deel absorbed animal substances – milk, saliva, hair – over time, which created a distinctive smell that was in turn recognized by her yaks. Scent, in this case, forms a sensory relationship facilitated through microbes (Sonnenburg and Sonnenburg 2019 elaborate a bit more).

Yaks are considered moody (*aashtai*) animals, having individual characteristic traits such as stubbornness or waywardness. Given the high temper of individual animals, the movements of Byambaa and Dalaimyagmar inside the crowded corral were careful and slow, led by precaution and vigilance. When they noticed signs of agitation or unease among the animals, they shouted "*Khaa*!" and in case a yak blocked their way, they made the animal move by patting its lower back. Hasty movements could irritate the yaks and cause stress and nervosity. When I practiced my milking skills, Dalaimyagmar made sure that I would get an animal that is older and calmer. Some animals were known to be particularly aggressive and are likely to trip or ram their human peers out of the blue. Byambaa approached these individuals with special precaution and made sure that his movements were extremely slow when he put a rope around their collar and fixed it to the corral. When several females have been milked, they were released from the corral together with their offspring, making the inside of the corral a bit more spacious and therefore more relaxed.

Pastoral milking requires sensitivity, diligence, and multi-sensory attention. Herder and animal step into close physical contact and recognize each other through their sensory capabilities. Contrary to large-scale industrial farms for intensive dairy production where cows are sent through mechanized stations and have no contact with neither their calves nor human hands, this pastoral way of milking was not based on the sole extraction of a food resource from an animal. During milking, every single action and movement was well coordinated and carried out with precaution and care. Milking is part of a larger multispecies relationship that is organized around reciprocities. It forms a highly intimate moment within the more-than-human relationships between pastoralists and their herds.

6.2.2. Knowing Animals Through Milking Relationships

Anthropologist Natasha Fijn (2011, 19) remarks that "herders and herd animals live with each other in a shared landscape, inhabiting a co-domestic, ecosocial sphere: the herding encampment (*khot ail*)" (italics in original). However, most pastoral activity widely disperses across space and features little physical proximity. Often, once animals are taken to pasture, there would be no direct contact between herders and herds for most of the day. In fact, Dalaimyagmar and Byambaa's cattle moved to pasture independently, finding places to graze at several kilometers distance so that they could only be spotted using binoculars if not entirely running out of sight. Milking, to the contrary, marks an incomparable moment of close human-animal contact.

When I conducted interviews with herder women in Khatgal and asked about their milk yields from their cattle, I was told that a yak gives an average of one liter of milk during one milking session, differing by individual. According to Dalaimyagmar, yak-cow hybrids (khainag) gave more milk compared to yaks. With twenty-three yak and khainag females being milked only once per day, her and Byambaa collected a total of about twenty-five to thirty liters of milk daily.[62] While each female was milked for up to two minutes, completing one milking session took the herder couple approximately two hours in total. As such, milking did not exclusively serve the extraction of milk. It was a multi-purpose practice through which multispecies care and knowing is engendered.

On a chill morning at Ulaan Davaa in September 2022, I woke up at around 8:30 am, and to my surprise, Dalaimyagmar and Byambaa did not get up much earlier than me. Outside the ger, the pastures' colors altered from green to a yellowish gold to brown resembling a large, dry camouflage that was spotted with countless Edelweiss. The surrounding forests of Siberian larch started to occasionally feature yellow-colored trees, indicating that the deep green color of the summer was about to fade. It was autumn and the mornings got colder as the sun gradually rose later, allowing Dalaimyagmar and Byambaa to sleep a bit longer and start milking only at ten in the morning. When I walked to the milking pen approximately fifty to seventy meters south from the ger, the herder couple was already fully involved with milking. Since my milking skills proved to be not the most efficient, to put it kindly, I focused on observing the situation and talking to Dalaimyagmar during this milking session.

[62] Cattle, i.e., cows and yaks, are often milked twice a day during the morning and evening. Dalaimyagmar and Byambaa, being by themselves most of the time, lack the additional work force for evening milking. Moreover, larger daily yields would exceed their capacity to process the milk into dairy products.

The first thing I noticed that morning was the presence of a (Mongol) bull inside the milking pen. Curious about this unusual appearance, I asked Dalaimyagmar why the bull was there among all the females of the herd. Her response was that they had purchased the bull only this year from Tsagaannuur sum in the far north of Khövsgöl province and that he was supposed to bring "new blood" to their herd of yaks and khainag. Keeping the bull inside the milking pen therefore was a way to let him become familiar (*taniltsakh*) with the herd, especially the females. Another remarkable animal inside the corral was a large sandy-yellowish colored khainag that looked almost closer to a cow than a yak. That animal was the strongest and most expensive animal of the herd, Dalaimyagmar explained, and it has been with the herd at least for the past four years. Dalaimyagmar grew up in a family that took care of many khainag during socialist times, and her love for these animals never ceased. She elaborated that in socialist times, khainag were the preferred and highly valued animals for the state-owned herder collectives (*negdel*). This was because of their qualities that included longevity, intelligence, strength, high milk yields of around four liters per milking session, a high fat amount in milk, and their resilience towards cold, snow, and natural hazards such as *zud* (a specific kind of dangerous winter storms recurringly happening in Mongolia).

Dalaimyagmar further told me that similar to yaks, khainag were also moody and dangerous. As such, they were considered livestock (*mal*) that only very skilled herders could handle. Elderly people, she noted, would face difficulties managing khainag. The characteristics of khainag were also perceived in positive terms. For instance, in a mixed herd of yaks, Mongol cattle, and khainag, the latter would be the "head of the heard (*sürgiin tolgoi*)". Khainag knew where to go and were leading the herd to the pasture and back home. When it was the yellow khainag's turn to be milked, Dalaimyagmar let her two years-old calf (*byaruu*) loose to let it suckle from its mother's teats. But the khainag was "getting angry" and would not let the calf drink. Dalaimyagmar tried to milk nonetheless, but without success. The khainag moved around, acted up, and did not let down any milk forcing Dalaimyagmar to leave it. Dalaimyagmar's milking was not guided by domination for the sake of extraction and production. It rather unfolded as a process of interspecies care and negotiation based on the thorough, mutual knowledge of and familiarity between herders and animals. Fijn (2011, 19) argues that these human-animal interactions in Mongolia form a "co-domestic relationship [which] is the social adaptation of animals in association with human beings by means of mutual cross-species interaction and social engagement." Elaborating on this form of "co-domestic co-

existence", White and Fijn (2020, 166) emphasize that such human-animal relationships as found in Mongolia are "based on nurturing, care and reciprocity."

6.2.3. Multispecies Care and Milking Relationships

Doing fieldwork concerned with dairying was centered around women and their meticulous work. Scholarship on Mongolian pastoralism points out how milk, dairying, and maternalism are deeply interconnected through strong bonds between mothers and their infants (Humphrey 1992; Thrift 2014). It is furthermore argued for milk to be "perceived as the manifestation of a 'pure' maternal spirit" (Thrift 2014, 493) and that "Mongolian dairying practices are rooted in the idea that the mother's continued giving of milk is contingent on her ongoing maternal care for her offspring" (ibid. 496). How, though, are these bonds established, how do they develop, and how are they maintained?

While milking, Dalaimyagmar began to talk about milking relationships and how she knew her animals, their needs, and their characters so thoroughly. She pointed to different individuals inside the milking pen and explained that grown female yaks, cows, and hybrids were classified into three types of milking stages according to their age. After milking, Dalaimyagmar and I continued our conversation inside the ger as she started processing the fresh milk collected during the morning. She described the following specific milking relationships that underscored how herder women engaged in nuanced forms of multispecies care through which human-animal dualisms were dissolved.

Evlegekh/khökhüülekh refers to when a cow lets down milk after its calf suckled as well as when women release breastmilk without actually breastfeeding. Interestingly, while the same terms are used for humans and animals, *evlegekh* means 'to become harmonious' and 'to negotiate' while *khökhüülekh* means 'to breastfeed' and 'to nurse' as well as to 'provide an incentive.' *Khaidaglakh* describes when a cow who lost its calf to death still lets down milk during milking. These cows are referred to as "cows searching for their calf (*khaidag ünee*)". Dalaimyagmar exemplified this phenomenon with a story of one of her cows who lost her calf but got so accustomed to Dalaimyagmar's milking her that she continued lactating and giving milk. However, to make that happen, Dalaimyagmar had to be constantly there to milk her, sing soothing and comforting melodies, and occasionally feed her minerals (*khüjir*) as well as whey from curds (*aartsiin shar süü*). Recognizing Dalaimyagmar through smell and touch, that cow would not let anyone else milk her except for Dalaimyagmar. In fact, the cow even kept looking for

Dalaimyagmar as if she was the cow's new calf. *Teleelekh* describes when a calf feeds on the milk from two mothers. This is initiated when a cow lost a calf and another cow's calf is taken to drink from the one who lost the calf, a process I understood as a form of adoption, but in favor of the new mother. Dalaimyagmar further explained that this process was like "bringing together two ends of one rope" and that it was facilitated through comforting melodies (*böövii duu*). The term *telee* also relates to the word orphan more generally, but in this case the mother who lost the calf was the actual orphan.

Milking is a practice that significantly shapes the co-domestic relationships of nurture, care, and reciprocity. That means that, similar to reciprocity, nurture and care are multidirectional in that the agency of individual animals goes as far as them taking care of and nurturing their human counterparts whom they may recognize as their kin, as Dalaimyagmar's story of the khaidag ünee exemplified. On the other hand, Dalaimyagmar liked to feed her cows whey that was separated from curds, and especially her favorite animal the yellow khainag liked it a lot. She learned this way of nourishing animals from her mother. Worried that too much whey might be bad for the animal's stomach, just as it was with humans, she gave a maximum of ten liters to one animal. Because she considered the dietary behavior and digestive properties of cows similar to those of humans, Dalaimyagmar noted that the yellow khainag "became like a person (*khün shig bolson*)" (fieldnotes September 2022). Through milking relationships human-animal distinctions were blurred (White and Fijn 2020, 173). Milk was crucial in this context as it built bonds and connections. Addressing this concern of blurring human-animal boundaries in multispecies ethnography, White and Fijn (ibid.) argue that "material objects can intercede between humans and domestic animals" while simultaneously pointing out that "[r]ather than getting in the way of relations, however, certain objects are what make such relations possible, and they may be imbued with an agency of their own" (ibid. 173f.). The ethnographic cases I have presented above demonstrate that this is true for milk, regardless of to what extent milk can be categorized as a "material object" (it is more than that).

Milking unfolded as a sensitive practice formed in nuanced ways around multispecies relationships based on multisensory interaction and negotiation between humans and livestock. As I have shown above, milk can only be won when these relationships are properly facilitated through care across species. This practice of care, however, did not account for a guarantee either since the mood, and thus the agency, of individual animals could always get in the way.

6.3.Domestic Dairying: A Sensory Nomadic Science

When milking was completed, the fresh milk collected in containers made from various materials such as aluminum, wood, or plastic, was brought to the *ger* where it was processed into a variety of dairy products. However, fresh milk was not immediately processed, at least not always. Coming from the udders of female cattle, the temperature of fresh milk was at over thirty degrees Celsius, close to the body temperature of the animal. To let the milk cool down, Dalaimyagmar placed the milk-filled containers in the kitchen-area in the southeastern part of the ger where they sometimes stayed for up to two hours. In fact, other herder women I spoke with would place milking cans filled with fresh milk in a nearby stream to keep it cooled when there was no time to process it right away. In households where cattle were milked twice per day, i.e. in the morning and evening, the yield from the evening milking would be placed in a cool spot inside the ger and kept untreated overnight. In the households I visited, milking buckets rarely were covered, leaving the fresh milk exposed to the household atmosphere and environment. This approach of storing milk somewhat contradicted industrial practices where milk needed to be sealed from any possible contamination based on understandings of milk being fragile and there being no time to waste for pasteurizing fresh milk to avoid spoilage.

In industrial and mechanized dairy systems, milk is considered fragile due to its liability to bacterial contamination causing spoilage. In these contexts, fresh milk's perishability requires several techniques and technologies to make it a "safe" product, free from microbial, pathogenic contamination. For fresh milk (or raw milk), microbial contamination can originate "(1) from within the udder, (2) from the exterior of the teats and udder, and (3) from the milk handling and storage equipment" (Chambers 2002, 39). Heat treatment erases pathogens inside the milk. The most common way to rule out microbial contamination inside milk is pasteurization, which is carried out by either heating milk for fifteen seconds over eighty degrees Celsius, or by heating it up to sixty to seventy degrees Celsius for approximately forty minutes. Either way, through pasteurization all bacteria inside the fresh milk are erased. The pastoral approach to processing fresh milk was counterposing Pasteurian dairy production. In the following section, I introduce pastoral dairying practices to point out what modes of care formulated around nuanced techniques, labor, and knowledge were crucial for activating the growth

potential of khöröngö, maintaining fermentation cycles, and translating biowealth into biosocial wealth.

6.3.1. Perishable Milk: The Working of, With, and Against Time

Dealing with the perishability of milk was a delicate matter in the domestic environment of the ger. At some points, dairying resembled a race against time, whereas at other times during the process of making dairy products time needed to be relied upon to accomplish the expected outcome, e.g., by waiting. Perishability, as a concept that challenged desired growth, created temporal tensions through which dairying is embedded in sensitive and fragile temporalities. The herder women I worked with attuned their daily lives around these temporalities.

In her article on the global mobility of artisanal cheese, Paxson (2021, 334) argues that the "timescapes and transformations of *perishability*" unfold "along a continuum from maturation to rot" (emphasis in original). The key agents in this context are the microbial communities that enable the ongoing fermentation of cheese. Regardless of where it is placed (or stored), cheese continues to ripen through microbial activity anywhere along the cool chains of global trade networks. Along this space-time continuum, a tipping point is reached when the edibility and palatability of the cheese cannot be provided anymore. This tipping point is highly dependent on the standards of national and international food safety protocols, but also on the taste preferences of European and US-American cheese mongers and other consumers. As a commodity traded from Europe to the US east coast, cheese thus needs to maintain a certain quality to simultaneously maintain its economic value and generate profit. To achieve that, cheesemakers, traders, buyers, and sellers rely on a variety of infrastructures to provide for a relatively stable product, such as in affinage caves, refrigerators, and shipping containers. While these infrastructures ultimately cater to consumers, they are tailored around the microbial activity of cheese and are meant "to slow the irreversible process of fermentation" while "keep[ing] things moving" (ibid. 334, 338). Only when these infrastructures work without any interruptions can the fermentation value - the entirety of biological and social benefits that fermented foods bring with them – of artisanal cheeses be maintained to some extent. Paxson (2021, 342) concludes that "Time, not unlike fermentative and flavor-enhancing microbes, is a tool used in the commodity production of cheese, a tool over which producers […] may have mastery but never absolute control" (see also Bear 2014).

In such industrial and global contexts shaped by and dependent on high-tech infrastructures, perishability constituted both an ever-present element and an unwanted outcome of fermentation that falls beyond human control. How did the dynamics between perishability, time, and fermentation unfold in pastoral dairying? In Mongolian pastoral dairying, milk and microbes are brought into the home. The ger is kitchen, living room, sleeping room, and workshop altogether and it thus constitutes a versatile living environment where many things happen at the same time. The care for dairy products in this domestic space depends on infrastructures much different from those of European cheesemaking. While the latter rely on precise measurements and calculated environments, Mongolian herder women use their senses and household technology to make sure dairying turns out successful.

6.3.2. Handling the Heat - Relying on the Senses

Once Dalaimyagmar started processing the fresh milk, dairying demanded her full attention and needed her to always be vigilant by using all her senses. The sound of the milk streaming back from the ladle into the pot was voluminous and filled the whole household. Dalaimyagmar moved her arm rhythmically and carefully when she lifted the ladle to pour the hot milk back into the large pot. She was entirely focused on the stove and her movements were smooth. Well-rounded bubbles, rising to the top of the milk, merged into a thick layer of foam that reminded of roaring waves in a hot, white sea. The continuous and rhythmic pouring of milk resembled a carefully practiced choreography.[63] Despite this impression of rhythmic calmness that Dalaimyagmar's ladling gave, processing fresh milk into various dairy products kept her busy all day long. More generally speaking, dairying is a time demanding practice that occupies most of the day for herder women during the milking season. During one of her rare moments of rest in between making dairy products, I asked Dalaimyagmar to explain her dairying workflow when she produced *öröm* (clotted cream), which she described as follows:

> First, you milk the cows, bring the milk into the ger, and then filter it. Then pour it into a well-cleaned, cold pot. Put the pot on the oven, heat the oven with slow and mild fire, and heat up the milk under constant ladling (*khöörüülekh*). Then, the boiled milk (*khöörüülsen süü*) needs to be

[63] In Mongolian *bilgee* folk-dance, women repetitively lift their arms and shoulders to imitate various practices that relate to dairying, including milking and ladling.

> skimmed well by ladling it from a height (*samrakh*) before you pour it into several pots to separate the fat and let it congeal. For fat from boiled milk to congeal properly, it must be protected from wind for two hours. During these hours the foam (*khöös*) must not be blown away by the wind. After these two hours, it is basically safe and not much care is necessarily needed anymore. Once the foam turns into cream and gets a yellowish color it will not drop so fast and easily anymore. If it gets cold, the cream layer will be thin. That is why it must not be stored in cold temperatures. You leave it for one night and skim (*khamj avakh*) the öröm in the morning.
>
> The most important thing is to stir well. If the ladled milk develops a lot of foam or many bubbles on top, you get a thick layer of öröm. Moreover, you should bear in mind that the milk foam and fatty bubbles should drop slowly. Only then will the cream layer become thick. In autumn, you should put the pot with boiled milk on the oven and leave it there for a while to let it warm up a little bit for it to congeal well. In summer, just boil, ladle, and take the pot from the oven and put it somewhere else. You don't need to keep the pot on the oven. But it must be kept in an environment where there is no wind.

Making clotted cream only covered a few steps of the dairying practices Dalaimyagmar carried out daily. Nevertheless, her description pointed out how some of the most significant aspects and elements of milk fermentation and dairying interrelated. These aspects included time, temperature, and the activity of starter cultures.

Heating and ladling took up to forty to sixty minutes at approximately seventy degrees Celsius. This process thus resembled, at least in theory, the pasteurization of fresh milk since most pathogenic bacteria cannot survive in environments of such high temperatures (Paxson 2008, 21). Erasing bacterial pathogens for safe consumption was not a concern herder women raised when asked about the use of heating milk. Rather, my study participants saw a double function in the heating process: First, although not carried out immediately after milking, heating was indeed considered a necessary way of preventing milk from turning sour. Second, it was simultaneously a method of skimming milk to separate fat and thin milk. Highlighting the right treatment of milk being a precious resource, Dalaimyagmar pointed out that the fire needed to be "slow and mild" to prevent the heating milk from getting burnt. To regulate the temperature and keep the fire smooth,

she fueled the stove interchangeably with logs of wood and yak dung. While using only wood heated up the stove too strongly, dung fire could be tricky, too, she noted: Because it appeared slow and soft, one tended to pay less attention, and the milk might get burnt. Dalaimyagmar warned:

> When the milk is burnt, everything will go bad: Cheese and clotted cream will taste like they are burnt. Even dried sour curds (*aaruul*) will have this taste. Thus, it is better to not burn the milk, but to ladle from height continuously and heat it properly. Almost everything depends on how milk is ladled from height. Besides, if milk is on the fire for a longer time, it gets spoiled very fast. Because it was on the fire for too long.

Similar to pasteurization, this practice of heating and ladling milk (*süü khöörüülekh*) constitutes a "time-temperature relationship" (Paxson 2008, 21). To bring time and temperature into balance, Dalaimyagmar carefully watched over the milk filled pot on the fire. She relied on her senses of touch and vision to know if the milk heated up long enough and reached the right temperature. When she spotted bubbles on the top it meant that the time was right for ladling. In addition, by dipping her finger inside the heated milk, she recognized if it had the right temperature to start ladling. When she began stirring the heated milk, she used her ladle to feel the bottom of the pot and make sure that no crust developed, indicating if the milk was burnt. Heating and ladling milk was a crucial moment that initiated the transformation of milk into dairy. Furthermore, considering that the growth potential of khöröngö depended on the right conditions (see Plueckhahn 2020, 17), ladling was not only a crucial step for further processing milk, but it also contributed to creating the right conditions under which the growth potential of khöröngö could unfold in form of fermentation.

6.4.Khöröngö: Back to the Source / Lifecycles of Growth

When I visited Baasan at her summer pasture, she invited me into her wooden cabin for milk tea. Since I came to collect dairy samples for microbial analysis for the Dairy Cultures project, Baasan presented her dairy storage, a small extra room attached to the house where various fermented dairy foods were stored. Upon entering the room, the smell of dairy products was overwhelming. Pots filled with yoghurt (tarag), trays of dried curds (aaruul), and spare equipment bearing thick layers of milk crust were kept in the

room, alongside Baasan's milking robe (*deel*), which was covered with years of old milk sprinkles. Altogether, these items and products archived decades of dairying and contributed to a home ecology that was noticeable through its outstanding scent. When I asked her about the starter culture she used, Baasan took out a small cotton bag from the dairy storage and gently opened it to present its content. The bag was filled with a small, crumbly portion of semi-dried yoghurt. This was her khöröngö, the ferment that she had kept there for two years (image 22). With the end of the milking season by November, when outside temperatures began to drop far below freezing, a small portion of yoghurt was either frozen or pulverized and dried for winter storage. It can be revived and reused in the coming spring when new batches of yoghurt (tarag) were produced daily again. It was important, Baasan noted, to store khöröngö in cool and dark places where it was also protected from dust. That way, the quality of the ferment did not fade and by reactivating these small portions through mixing them with fresh milk every spring, new fermentation cycles were set into motion.

Khöröngö was deeply embedded in and coproducing pastoral lifecycles. In *Living with Herds: Human-Animal Coexistence in Mongolia*, Natasha Fijn (2011) describes the seasonal calendar of Khangai region[64] pastoralists in Arkhangai and Bulgan provinces, which, while there are always nuanced regional differences, largely coincides with the seasonal spacetimes of pastoralists in the wider Khatgal region. Fijn describes pastoralists' conception of time as cyclical by pointing to circular movements in everyday spaces, while identifying "seasonal movements to new pastures and the milking routine" as "two crucial activities in Mongolian nomadic herders' lives" (2011, 177). Migrations, by and large, coincide with the four seasons and are oriented towards animal needs and the ecological conditions of pastures. From early spring (March) until early to mid-summer (late June), herders are highly occupied with helping their livestock give birth, feeding lambs and calves, as well as collecting wool. This time also marks the beginning of the milking season and dairy production, which continue until late autumn (October/November). During this period, herders collect plenty of milk which is processed into fermented dairy products such as yoghurt (tarag) and soured dry curds (aaruul). Khangai region pastoralists usually spend their summers in vicinity to fresh water sources. During autumn, haymaking is a main task to prepare for the winter. Animals are slaughtered and their meat is consumed privately or sold to local markets.

[64] The Khangai region refers to the mountainous steppe that features larger areas of forests and spreads across northern-central and northwestern Mongolia.

The long winter, then, is spent in higher altitude landscapes that offer protection from icy winds. This is a time when "herding families and herd animals resume a period of semi-hibernation in which activity is kept at a minimum to conserve energy" (Fijn 2011, 175).

Pastoral timescapes in the Khangai region are complex and nuanced arrangements of human and more-than-human temporalities. Khöröngö and milk fermentation were key components of these temporalities that were rhythmically and recursively engaged following daily, seasonal, and yearly routines. When Dalaimyagmar made yoghurt, paying attention to the right temperature of the fire and the home environment was a key factor to reach the desired outcome. Dalaimyagmar described the process as follows:

> After you took the clotted cream off the milk, you make yogurt (*tarag*) with the rest of the skimmed milk. You take one or two spoons of starter culture (*khöröngö*) from the last batch of yogurt and add it to ten liters of skimmed milk and heat the oven not so strongly, rather mildly. Then pour it into a bucket or pot and stir it well. You can also pour it into several smaller buckets. After this process you should cover it with a thin blanket if it is warm or hot inside or outside the ger. But if it is cold, you should cover it with a thicker blanket and the yogurt will be ready in two to three hours.

Adding khöröngö in form of small portions of yesterday's yoghurt to the skimmed milk induced fermentation. This technique resembled the practice of backslopping, which refers to how "fermentation practitioners around the world use old batches of whey or yoghurt to inoculate a new production with a stable and safe microbial community" (Reichhardt *et al*. 2021, S345). Backslopping can be described as a technique that was oriented towards consistency reliability, and continuity. As such, it reached far beyond the temporal scale of daily fermentation. Through the techniques of backslopping and carefully storing ferments, unique microbial ecologies together with their distinctive flavors, probiotic characteristics, and nutritional values and that varied from household to household were kept alive for generations. They provided for enduring cycles of fermentation.

6.4.1. Noticing Collective Life through Multisensory Dairying

Despite the nuanced microbial engagements pastoral women daily carried out with their lactic ferments, Mongolian herders rarely spoke of microbes and probiotics in the

context of milk fermentation. Instead, noticing microbial activity happened through attending to the multisensory character of dairy production. During my fieldwork, emphasizing "a focus on the senses [offered] an opportunity to relate to other beings as subjects with the ability to communicate beyond language and to engage in a more meaningful way toward interspecies knowledge-making" (Fijn and Kavesh 2021, 13). The herder women I worked with constantly cared for their dairy products through taste, smell, touch, and listening.

A striking example was provided by *airag*, which usually refers to fermented mare's milk, but can also describe a strongly soured and mildly alcoholic version of yak's yoghurt. Airag is a highly valued beverage produced and consumed in large quantities across Mongolia, from early summer to fall. It is considered a beverage of joy and purity, which is said to have medical benefits for the human gut (Zhang *et al*. 2010) and even to alleviate scurvy and tuberculosis (Enkhtsetseg *et al*. 2015). In the case of mare's milk, airag is made in large bags made from cowhides or large plastic barrels which need to be stored in a cool place. When made from yak's milk, it is contained in tall wooden barrels and placed next to the stove as it needs warmth. Listening to the fizzing sound of airag and checking for the presence of bubbles dancing around on the top were two methods used to check whether the ferment is alive and healthy. Given its invigorating qualities regarding health and sociability, and its noticeable liveliness when fermenting, the beverage in its most fizzy stages is considered to be "airag that is alive (*am'd airag*)" as noted by my friend and colleague Erdene-Ochir Tumen-Ochir, and his brother Namsraisüren who is a young and successful horse herder in Saikhan district of Bulgan province.[65]

The longevity of fermentation cycles and multisensory noticing of microbial activity are furthermore expressed in proverbs. For instance, one proverb goes "the smell from a vessel that was filled with milk will never go away, a hungry dog that bites leather straps will always stay" and means that long learned habits are hardly lost (Mongolian Encyclopedic Dictionary 2016). As such it registers the continuous and recursive usage of dairy equipment that absorbs microbial residues, which contribute to future fermentation cycles. When I brought Baasan a wooden milking bucket as a present, she immediately decided that she would not ever wash it with water because water would wash out the fortune (*buyan*) of pure milk that was absorbed by the bucket. Such handling

[65] Saikhan district in Bulgan province enjoy nationwide popularity for its high-quality airag production.

of milk equipment as the material culture of pastoral dairying demonstrated that milk ecologies needed to be maintained by all means to generate continued cycles of growth.

6.4.2. Growth Through Separation and Sharing

Despite the reliability and endurance of backslopping techniques, starter cultures were still sensitive ecological assemblages, and milk fermentation was occasionally prone to failure. Should a yoghurt-based khöröngö become too sour or unexpectedly not induce fermentation, alternatives were needed. One option to find a suitable substitute was to ask respected and trusted neighbor households for khöröngö.

Image 24: Returning a milking can that was filled with yoghurt and filled with cookies in exchange. Khatgal, July 2017.

When neighbors or relatives would be asked for a portion of khöröngö in form of yoghurt, Baasan remarked, it would be important to bring an adequate reward in return. Reimbursements can be done through either dairy products, candy, or money. However, Baasan warned that it was important to not ask for khöröngö. Given the many, and sometimes ambiguous, meanings of the term, it was important to ask for *ekh*—which means source, origin, and mother—instead of khöröngö. Asking for a household's khöröngö, she explained, suggested that one intended to take away a household's

economic resources and wealth. Ekh, on the contrary, translates as mother and origin and points to the quality of dairy starter cultures to initiate new beginnings. Asking for and referring to ferments as ekh echoes a widespread pattern in fermentation practices where starter cultures are termed "mother [who then] turns raw materials into something entirely new while simultaneously replicating itself" (Bebenek 2017, 6).

Similarly, in Mongolian pastoralism and milk fermentation, growth and wealth are created through separation and containment (Empson 2011). All herder women in my fieldwork told me that khöröngö was passed down through the generations from mother or mother-in-law to daughter. *Khöröngö tusgaarlakh*, as a practice of combined separation and sharing, and when viewed from the perspective of passing on microbial communities across generations as a form of heritage, melts down the boundaries between attachment and detachment. As a process of taking away a portion from a larger entity with the intention to generate a new cycle of growth, khöröngö tusgaarlakh speaks to the essence of pastoral dairying practices, be that making yoghurt through backslopping on a daily basis or inducing fermentation on a seasonal basis. It reminds of Anthropologist Rebecca Empson's (2011) take on separation and containment. In her book "*Harnessing Fortune: Personhood, Memory, and Place in Mongolia*", she uses the examples of the severing of the umbilical cord, the first cutting of children's hair, and the expelling of the placenta after giving birth, and points out how these things are stored in valuable places for maintaining mother-child relationships and possible connections (p. 177f.).

Empson furthermore elaborates on how a small amount of animal and dairy products are withheld from being given away and rather kept in small bags or the household chest. That way, they become important elements for generating growth and khishig (fortune). Empson explains separation and containment as mutual and complementary processes: "By creating a physical distance and by giving a part of oneself away, a liveable [sic!] version of the relation is formed. It is because of this that, when people are physically separated from each other, a part is often produced during the act of separation. This part is carefully retained in order to maintain the relation in a separated form" (p. 177). Regarding the practice of passing on dairy khöröngö from mother to daughter, or mother to daughter-in-law, dairy khöröngö served as a type of dowry which was meant to generate growth and independence by facilitating separation. However, once separated, khöröngö demanded care "as a concrete work of maintenance" (Puig de la Bellacasa 2016, 5). Throughout my fieldwork, herder women explained that dairy products needed to be cared for like a human baby or child. Comparing dairy fermentation to childcare

pointed to processes of microbial care and interspecies mothering, a reflection of how we all—microbes, livestock, and humans—rely on milk in order to grow. In this way, microbial starter cultures were widely viewed as precious.

Image 25: Baasan and her granddaughter Badamkhand during morning milking. Khatgal, August 2019.

With the passing down of khöröngö through maternal generations, a process of sharing knowledge from the past to supply nourishment and growth for the future was completed, as Dalaimyagmar explained:

> This is also khöröngö, that which teaches you practices, techniques, and methods. We learned how to milk animals and process the milk from our parents traditionally. Perhaps this was not always considered special in the past, but if you think about it, it is a culture that has been passed down for many centuries. That means it is khöröngö, intangible khöröngö (*biyet bus khöröngö*).

According to Dalaimyagmar, even silver jewelry and flowers such as cutleaf anemones can be used as khöröngö, techniques that she learned from her mother and grandmother. Through all these entanglements, khöröngö forms complex biosocial assemblages. Herders often pointed out that techniques for making starter cultures are ancient practices,

but the experience and skills to do so were decreasing across the country (Bat-Oyun *et al*. 2015). Furthermore, khöröngö was not only shared cross-generationally and between neighboring households. The biogeography of khöröngö expanded across the country, as the following section demonstrates.

7. Excursion: Seeding Growth in the Desert

"They are about to start, so let's go there now," yelled Baatar, our driver. Luvsandorj was already sitting inside the car and his usual calm appearance seemed to remain undisturbed by the slightly hectic call from Baatar. I grabbed my camera and notebook and rushed to the car. After having spent several days of collecting dairy samples from camels, horses, sheep, and goats together with my colleagues Matthäus and Zoloo at our host Luvsandorj's autumn pasture in Dundgovi province, we were invited to attend the celebration of this year's first mare's milking at Erdenebulgan's home, Luvsandorj's son-in-law. We were short on time and Baatar pushed the gas pedal to quickly reach the household located at about two kilometers to the west to make sure, with success, that we arrived before the celebrations started. It was late August in 2018, and Luvsandorj had only recently moved to his autumn camp. Luvsandorj was an elderly successful herder who was well-known and respected throughout Khuld district as the head of a household with all five livestock species (*tavan khoshuu maltai ail*), including camels, horses, sheep, goats, and even a few heads of cattle "walking around somewhere", as he liked to say. The time for the first milking of mares was unusually late. Milking would usually start in early July and the postponement had Luvsandorj concerned: "The time/weather is bad,"[66] he repeatedly said during our stay. Elaborating on this statement, he pointed to how the ongoing drought was the reason for both early migrations due to the quick exhaustion of pastures, and the delay of mare milking due to the scarcity of water and fodder.

Mongolian pastoralists milk their mares to make *airag*, fermented mare's milk, which is a highly valued and popular beverage with a small alcohol content. Across most of rural Mongolia, airag is consumed all summer long until deep into the fall (October, sometimes even November) when the alcohol percentage has increased to up to ten percent from about three percent in the beginning of the season due to non-stop fermentation. Airag is a beverage of joy and purity, and as such it is included in various celebrations and rituals. The most popular example is the Naadam fest, which is a national holiday of multiple days of celebrations in early July, including games and competitions such as wrestling, bow and arrow shooting, and horse races. For Erdenebulgan's family, the long waiting for making, consuming, and sharing this outstanding beverage was now finally over.

[66] "*Tsag muu baina*" is what Luvsandorj said in Mongolian. It is important to note that the word *tsag* relates to both, time itself as well as weather (*tsag agaar*), pointing to the drought and the hard time it created for the herders and their animals in Khuld district.

Image 26: Milking mares. Khuld district, August 2018.

7.1.The Seeding Ritual: Multispecies Place-Making

When we arrived at Erdenebulgan's home, a group of ten young boys stood in front of the ger, carrying an *uurga* (lasso pole) that was holding a wooden bucket filled with *saam* (fresh mare's milk).[67] A few men gave them some last instructions on how to properly carry out the ritual they were about to start. Once everyone seemed ready, the oldest boy in the middle dipped a ritual spoon for milk offerings (tsatsal) decorated with a blue sacred scarf (khadag) into the milk-filled bucket and gave three milk libations towards the sky. While offering milk, he shouted "Tsöön tsad!" – literally meaning "sprinkle the white."[68] After these three libations, the boys walked off towards the mares and their foals who were tied up about 40 meters to the north of the ger. While walking to the horses following sun rotation, the boy in the middle continued to give libations while the whole group rhythmically continued shouting "tsöön tsad." The boys walked steadily, and once they reached the horses, they circled them for three times. During each circulation, the middle

[67] During the celebrations following the ritual, guests explained to me that this was a custom from old times and that boys had to carry out the ritual because of their *khiimori* (fortune) and the special bond between horses and men.

[68] Erdenebulgan explained that the call "*tsöön tsad*" is a derivation from "*tsegeend tsad*" which related to fermented camel milk offerings (interview with Erdenebulgan, Khuld district, Dundgovi province, 26 August 2018).

boy dropped out from the group and poured a few drops of milk on the two posts of the rope (*zel*) to which the horses were tethered in a west-east direction. By doing so, he took care of showing respect to the horses. When the boys finished circulating the horses, they walked back to the ger under continued milk libations and shouting. Once they arrived, they gave another three libations in front of the ger to finish the ritual in the same way it started and close a full circle. After putting down the bucket and the lasso pole, each boy received a one thousand Tögrög note as a monetary gift after which they entered the ger.

This festive ritual was called *ürslekh yos*, which translates as seeding ritual.[69] This title might seem a bit odd considering the sparse vegetation of the arid and dry Gobi Desert environment. Nevertheless, it points to how deeply interlinked and interdependent land, milk, and more-than-human relationships are in terms of generating growth and prosperity in pastoral Mongolia. After the ritual, the middle boy fixed the lasso poles before entering the ger. He turned to me and said: "As a seeding household (*ürseldeg ail*), we do this to let the vegetation (*nogoon*, lit. green) grow and turn seeds into yields. […] This is a Mongolian tradition (*ulamjlal*) and ritual/custom (*yos zanshil*)" (video recording 26 August 2018). Sprinkling milk, as it was later explained to me, was a means to worship the land, invoke good fortune for the household and horses, and to bring rich yields from milking mares. The drops of milk that touched the soil were the seeds supposed to engender growth.

I followed inside the ger, where Matthäus and Zoloo were already seated in the western part, which is usually reserved for guests. Inside the ger, a large wooden bowl was passed clockwise. The bowl was filled with several liters of fresh mare's milk on top of which a few pieces of grass floated. As I was puzzled by finding grass inside the milk, I asked Erdenebulgan about it:

Björn:	So, the first thing I drank after I arrived at the celebration was fresh mare's milk. There was grass in the bowl. What kind of grass was that?
Erdenebulgan:	We simply took it from outside, it is called Mongol [grass].
Björn:	Do the horses eat that grass?
Erdenebulgan:	Yes, this is a grass that the horses eat.
Björn: [	And mixing grass with milk] was also part of the ritual?

[69] The description and interpretation of the ritual stems from my handwritten fieldnotes, recorded in August 2018.

Erdenebulgan: Yes, we should taste the fresh milk with this grass together. It is first tasted by the firstborn foal of the year. After that, everyone tastes it.

In pastoral Mongolia, dairy foods are portioned and shared according to hierarchical patterns following patrilineal structures where the first portion is usually offered to more-than-human entities such as land masters (gazryn ezed) or fire spirits (gal golomt), and then served to the head of the household, who is mostly, but not necessarily, a man (*geriin ezen*; see Empson 2011, 79). Within these food sharing practices herders consider the first portion (deej) as sacred and hierarchically significant.

Image 27: Seeding the desert. Khuld district, August 2018.

While it was not clarified if the foal drank from the grass seasoned milk before or after the seeding ritual was carried out, it is important to note that the first portions of the first milk were not consumed by humans. Instead, they were reserved for the firstborn foal as the youngest and the land as the oldest (land masters) beings of an ecology of circular growth rooted in more-than-human agencies. The sprinkling of milk to the land during the ritual was a form of worship to land masters, who are spiritual, more-than-human entities in control over the well-being of animals and humans (Empson 2011, see also

High 2017, Abrahms-Kavunenko 2019). Through milk libations, the land masters were asked for a prosperous milking season. Letting the firstborn foal drink from the fresh milk reminded of daily milking practices where foals (as well as calves and colts) are always allowed to drink from their mothers' milk and receive their portion of nutrition before milking by humans begins. Only after land and animals received their portion were hosts and guests allowed to carefully sip from the bowl and taste the sweet fresh milk and receive a blessing one at a time. Subsequently, the celebration continued with the serving of foods such as accredited portions of mutton and a variety of dairy products under joyful conversations.[70] The new airag season was set to finally begin.

The seeding ritual underscored that fermentation practices have an important spatiotemporal significance. It marked the beginning of the milking season and the initiation of a new fermentation cycle that will nourish the household biologically, socially, and economically. At the same time, it was also an initiation of the land, being at the root of any growth as the household just moved to that area and the land became fertile only recently. The circling of the horses starting and ending at the door of the ger was a form of place-making that connected horses, household, and land through milk. Thus, the relationships between land and vegetation, animals and milk, and humans were gathered and manifested in one place. For example, it was no coincidence that the horses were tethered in the north of the ger as the organization of Mongolian homes and pastoral encampments follows spatial hierarchies similar to the concept of the khoimor as the place of highest value (see chapter two).

In Khuld district, tethering the horses in the north correlated with the spatial hierarchy of the household. Erdenebulgan elaborated: "In general, it is said that [the horses] should be [tethered] in the good direction of the head of a household (*geriin eznii sain züg*). […] In fact, we Mongolians value horses very much. They are intelligent and spiritual animals. That's why it's customary and mandatory to keep them in the khoimor." Horses, and livestock in general, are a living, mobile form of khöröngö (Humphrey 2002, 71; see also Empson 2011, 306) and as such, the horses needed also special protection. When the boys arrived by the horses during the ritual, one of them dropped out of the group to take a

[70] Luvsandorj's daughter-in-law explained that these celebrations are also referred to as *baga ürs* (small root) and are carried out for three days. During the first two days, specific portions of meat are shared according to gender and social status with visitors. On the third day, specific portions of meat are given to herders who were out in the pasture taking care of the horses not being milked. By sharing the meat of a castrated ram, a guest at the celebration explained to me, every visitor receives a portion of fortune (*khishig*) for the upcoming milking season.

small vessel with smoking incense and circled it around the herd. The burning of incense is often used for rituals of purification, protection, and prosperity of both human and more-than-human bodies and lives (Abrahms-Kavunenko 2019, 126). Erdenebulgan confirmed: “Oh yes, for protection (khamgaalalt). It is a ritual to purify and cleanse the horses, and to keep them safe and free from disease.”

7.2.Situating Growth, Locating Khöröngö

The seeding ritual was carried out to ask for continued growth and prosperity for household, herd, and land. Although the seeding ritual marked the beginning of a new fermentation cycle, he could not share any airag for the first three days after starting fermentation as it invoked bad luck, he explained. Once these three days passed, growth was generated through fermentation inside the home and sharing airag with daily visitors. As anthropologist Rebecca Empson (2011, 72) has demonstrated in her study on harnessing fortune among Buryats in Mongolia, milk and dairy products, and the sharing of food more generally, occupy an important role for generating growth for rural households in both the narrow and extended sense of the term within and beyond the domestic sphere. When milk or dairy, as material, consumable forms of animal fortune (*khishig*), are given away by sharing or selling, a small portion is always kept back to make sure that this fortune “is retained as a collective resource for the herd that remains. Containing this portion/piece allows for growth beyond the animal, person, or thing from which it has been separated” (ibid., 77). However, milk does not generate growth by itself, at least not in the way it is intended to and desired by pastoralists. Intervention is needed, and this intervention is provided through fermentation. How, then, is fermentation carried out and how does it start?

To initiate the new fermentation cycle, Erdenebulgan needed khöröngö, a starter culture. Despite the restriction of sharing airag before three days of fermentation passed by, airag was served frequently to all guests during the celebration. This airag was provided by Luvsandorj, who brought dozens of liters from his own production which started only about a week earlier. It also provided the khöröngö for initiating Erdenebulgan’s production, by adding a small portion (about two to three liters) of this batch to the dozens of liters of fresh milk that was just taken from Erdenebulgan’s mares. While it was thus clear from where Erdenebulgan received khöröngö, the question of the

origin of Luvsandorj's khöröngö remained to be answered, given that his household started fermentation under similar conditions.

There are many ways to start fermenting mare's milk. Yoghurt from goat's milk can serve as a ferment just as much as sour mixtures of raw mare's milk, grains, cereal water, and distilled fermented milk (shimiin arkhi) would be used in some regions (Enkhtsetseg *et al*. 2015). Since airag was made in a *khökhüür*, a large leather bag made from softened cowhide, at Luvsandorj's, I assumed that fermentation was induced by microbial residue inside the leather of the khökhüür. This type of fermentation would not require an external starter culture since it relies entirely on lactic acid bacteria from previous productions that were absorbed into, and conserved inside, the leather. These residual microbes could be reactivated once they were fed with fresh milk, which then had to be churned constantly and daily. Churning needs to happen after each time fresh mare's milk was added to the airag. Carried out for up to several thousand times a day, churning causes aeration and is thus crucial for fermenting mare's milk, regardless of if an external starter was used or microbial residue was reactivated. In any case, my assumption proved wrong. Luvsandorj, too, used khöröngö. To my surprise, I learned that to purchase khöröngö his son, Tömörsükh, with whom he shared the encampment and in whose ger the airag fermentation took place, travelled to Saikhan district in Bulgan province, a region that is famous for its airag.[71] I was bewildered. First, the fact that Tömörsükh travelled approximately 1,400 kilometers for a ferment was fascinating. What did this effort of extended travel mean for the significance of khöröngö in fermentation practices? Second, I came to this area to collect dairy samples and study fermentation practices that were supposed to be representative of this particular locality and later compared with those I collected and recorded in other places in Bulgan and Khövsgöl provinces. But the microbial composition and biogeographical distribution of airag was more complex than I expected. How could airag, as a prime example of Mongolian pastoral dairy, be representative of the local if the khöröngö used, as a key component of airag, was in fact not local? How local was fermentation?

Khöröngö complicates both Mongolian pastoral notions of the local as well as Western categorizations within biological sciences. It challenges the coherence of the social and biological local as bounded entities. To explore these complex entanglements of khöröngö within and beyond pastoral livelihoods and ecologies, I draw on "ethnographic siting" as

[71] In fact, khökhüür-based airag production in Bulgan province's Saikhan district was registered as UNESCO intangible cultural heritage in 2019 (UNESCO 2019).

a practice that acknowledges "the malleability of the categories that underpin discussions about what constitutes biology and how biology is localized" (Yates-Doerr 2017, 381). By critically questioning the localizing of biological differences and categorization, the geopolitical scaling and "b/ordering" of space, and local-global binaries, Emily Yates-Doerr (2017, 387) proposes ethnographic siting as a practice that focuses on relationality, care, and authorship as modes through which anthropologists, and other scientists, bring objects, materials, and worlds into being. Investigating knowledge production in activism, scientific fieldwork, and policymaking shifting between the local and the global, Yates-Doerr argues that it is crucial "to treat research as relational: knowledge and materials emerge through what is done with them" (ibid., 382). Thus, space is not segmented "into smaller and smaller measurable units" but expanded by "drawing subjects and objects into a network of fluid relations" (ibid.). Ultimately, by focusing on khöröngö and the spatiotemporal complexities of generating growth and translating landscapes into wealth, I use ethnographic siting to investigate "how the local is *done*" (ibid. 383, emphasis in original) in rural Mongolia.

In her study on more-than-human world-making in the Peruvian Andes, Marisol de la Cadena argues that "territory—or, more properly, place—emerges with the relations that bring together human and other-than-human beings; it cannot be severed from them" (de la Cadena 2015, 133). The seeding ritual as a spatial practice strongly resonates with this argument. However, in the following, I will further explore the spatiotemporal particularities of growth to demonstrate that these relations through which a place is brought into being expand far beyond the boundedness of the notion of territory in the case of Gobi Desert dairy pastoralism. Consider the above case of the seeding ritual in Khuld district: The land provides the vegetation on which horses feed. The nutrients of the pasture let the animals' bodies grow and are transformed into milk and meat, ultimately extracted, and consumed, by humans. On a more metaphysical level, the circling of the horses starting and ending at the door of the ger was a way of bringing a place of growth into being by connecting land, horses, and household through milk libations and offerings. From this perspective it would be tempting to argue for pastoral fermentation as a coherent, self-sufficient food system that is based on human-environment relationships and rooted in locality. But pastoral growth is not a one-way-road. It requires nuanced care, skill, and knowledge. It unfolds multidirectional and thus the local is done in much more nuanced and expansive ways.

Throughout my fieldwork, herders explained to me that high-quality khöröngö has a major impact on the taste and aroma of airag. Good quality airag, then, brings good reputation among neighbors and weighs in on social relationships. Herders would invest a lot of effort to make sure their airag would meet their own taste preferences and that of others. Four years later, in August 2022, I revisited Luvsandorj and his family. Together with Amarjargal, Luvsandorj's oldest son, I went to see Tömörsükh and asked for permission to take hair samples from his flock of sheep. Before we set out to chase sheep and pull their hairs, we had a sip of airag. Again, a drought hit the region and airag fermentation was delayed and Tömörsükh started milking mares only a few days ago. While I enjoyed the drink after having missed it for too long, the two brothers conversed about khöröngö. Tömörsükh had his older brother taste from three different types of airag filled in reused plastic bottles. These were all khöröngö, with one purchased from herders in the central Mongolian Töv province (in form of airag), and two more produced locally.[72] He wanted to find out which one would work best with his mare's milk and needed feedback from Amarjargal, who concluded that one of the local is the best and mild (*zöölkhön*). Back in 2018, Erdenebulgan indicated that making mild airag was a desired characteristic of airag production, which was one significant reason for using a ferment from Saikhan district in Bulgan province.

The quality of khöröngö can change from place to place and time to time as it depends on a variety of factors, including pasture vegetation, climate and weather, animal health, the material culture of fermentation equipment, and the microbial composition of milk and other ingredients (see Reichhardt 2022). Through fermenting airag by mixing a distant khöröngö with local milk the ecological qualities of one landscape were translated into those of another. Thus, khöröngö related to localities as an "incommensurate [concept]" (Yates-Doerr 2017, 391). Luvsandorj and Tömörsükh obtained their ferment from a distant district and shared it with Erdenebulgan whose airag production was going to provide the starter culture for Luvsandorj and Tömörsükh in the following year. In this case, khöröngö became part of intra-household circulation. More than being strictly local,

[72] My fieldwork in 2022 focused on sampling animal hairs for modern fauna DNA analysis for the Dairy Cultures project. As I often had to adjust my schedule to those of the pastoralists and their animals, I had to act quickly and be ready to collect samples when, e.g., sheep and goats were fenced, or horses were tied up. Samples needed to be stored immediately after collecting to protect them from potential spoilage through sunlight, dust, and dirt. These fieldwork circumstances often left little room for deeper, extended conversations and follow-up questions in an ethnographic sense. Thus, it remained unclear, for instance, if the local starter cultures were self-made or acquired from other households.

khöröngö was literally *made local* as it was integrated into and, to some extent, set in motion new cycles of domestic fermentation.

However, as much as herders in Khuld district localized distant ferments and despite the efforts they put into fermentation practices, as much were they part of cross-regional and global dynamics that created significant impacts on their lives. In the Gobi Desert, and in other parts of Mongolia, pastoral dairying faced several challenges that put fermentation cycles and pastoral livelihoods at risk. I briefly address these challenges in the following section to point out that the local was always made in specific relationships with the global, and not as a strictly opposed binary to it.

7.3.Managing Growth: Changing Lives in Changing Environments

Managing livestock and growth in changing environments demands skill and knowledge. Luvsandorj has been a herder all his life. In 1991, just when state socialism began to dissolute, he was awarded the renounced title "champion herder" (*avraga malchin*) for his outstanding herding capabilities. In 1992, livestock was privatized, and ten camels were added to Luvsandorj's private herd of twenty head. In 2018, he managed to grow his herd of camels to about four hundred heads. He recalled:

> Yes, after the negdels were closed, we became individual herders. The properties of the negdels were privatized. The state gave us those blue and pink tickets (*tasalbar*) for receiving our own accredited share of property from the negdel. We got livestock in accordance with the amount of these tickets. And that was it. Our herd has grown [since]. The old man [himself] manages everything and plays with the rules of the free market. Otherwise, the camels get old and become unprofitable expense (*ürgüi zardal*). There are such camels that can't survive the harsh weather and lack of food. The camels are just like that; you have to use them while they're still profitable. Otherwise, you can't use such weak and thin as skin and bone camels for food consumption, they'd be a waste. Except for the wool and the young ones. When you use them for food, they'll give you more benefits.

Playing with the rules of the free market was beneficial for Luvsandorj, and he was good at it. When we talked about selling dairy products, he explained that the price for fermented milk products was determined in the district centers to the south, for example,

with the price for airag ranging from two thousand five hundred to four thousand MNT per liter, with the lower price applying to plentifulness and the higher price to higher demands. But because Luvsandorj's camp was close to the road, it was easy for his household to sell dairy at their own rate. Generally, he mentioned, many travelers coming from the asphalt road stopped at his ger to buy airag and *khoormog* (fermented camel's milk). If prices were too high in the southern district centers, people from these areas would rather travel north to buy airag and khoormog from his and other households in Khuld district.

Despite Luvsandoprj's talent for finding ways to gain economic benefits from herding, growth needed its limits, too. When asked about controlling herd size, Luvsandorj explained how he relied on a set of practices and strategies, including breeding and castrating, but also selling animals to make sure animal numbers would not become too large and create too much pressure on the sparse pastures available. Growth needed to be constantly navigated, from year to year, and from season to season. The availability of pastures, water, and fodder, the access to markets, and utilizing animal gene pools from faraway places to introduce new blood to the herd and avoid interbreeding were significant factors to keep growth in balance. By 2018, navigating these factors became increasingly challenging:

> We manage all these things by ourselves. […] The state doesn't care about such things, so we manage it privately because we also don't want to fall behind (*khotsrogdokh*), right? It is hard. We can't herd them [too many camels]. If there is not enough grass, we could change the pasture and move to someone else's pasture with our four hundred camels. […] There is not enough water for all these camels. That's why we must manage or reduce the number always, otherwise it grows constantly.

Luvsandorj demonstrated that not only herds and property were privatized in the early 1990s, but that responsibilities for doing this work were entirely individualized as well. Navigating the free market, then, became a competitive endeavor that provoked herders to find their own ways of sustaining their livelihoods. At the same time, events and developments that fell beyond the control of herders, and even of the state in some cases, such as infrastructural development and climate change, constantly brought forth new challenges that called for new adjustments.

The 2018 seeding ritual was a case in point. While it marked the beginning of a new milking season and fermentation cycle, it happened unusually late in the year due to a draught. Conversations with Luvsandorj, his family members, and further guests during the celebration revealed that droughts became a serious problem. In the same year, for instance, Luvsandorj's household milked less mares than usual, while several families reportedly did not tether their mares for milking at all due to the little availability of grasses and water.

The delay of summer and water scarcity were outcomes of shifting weather conditions that complicated the seasonal rhythms for herders as they were required to move more often and thus even had to suspend milking. During a field trip in early September 2019, Luvsandorj told me that he and many other households did not milk neither camels nor mares because of another draught that was even more severe than the one in the previous year. In late August 2022, when cruising through the Gobi landscape with Amarjargal on his motorbike, he told me how bad the conditions for herders and animals had become because of the changing environment and severe weather conditions. The decrease of nutritious pastures, the lack of rain, and more frequent draughts made feeding the animals with additional fodder inevitable. As a result, herding required much higher investment (*orlogo*) of money and labor than it created benefits. A dynamic that was supposed to work the other way around, Amarjargal concluded.

7.4.Conclusion

Infrastructural development such as road construction brought forth challenging impacts for pastoralists in Khuld district. These impacts related to tourism, market access, seasonal migration, household organization, and human and animal health. Despite these challenges, Erdenebulgan highlighted some benefits of the road. Because of asphalt roads, he explained, he was able to travel to Saikhan district in Bulgan province to purchase airag khöröngö much faster. Furthermore, many herders in the area traveled the road to access shops and markets in the district center from where they purchased industrial yoghurt to use it as a starter culture for fermenting their own goat's milk. By doing that, standardized dairy was introduced to domestic production cycles, rendering the microbial diversity of domestic dairy ecologies at risk of decrease. Healthy microbiomes depend on microbial diversity (see Sessitsch *et al*. 2023), which is higher in homemade fermented foods than in industrial foods, where only a small number of standardized cultures is used

for large productions. Thus, an increased use of industrial goat yoghurt over domestic ferments could potentially lead to changes in the gut microbiome and health of Gobi herders (Zhang *et al.* 2013; Bromage *et al.* 2019).

As for tourism, more and more travelers visited the area, mostly with the goal to visit the White Stupa canyon. Furthermore, the establishment of a luxury resort and music and arts festivals taking place at the canyon attracted hundreds of seasonal visitors. While tourists were potential customers for dairy products, the large number of cars crossing the desert disturbed Luvsandorj as it turned the land "from livestock pastures to pastures for cars" ("*maliin belcher mashinii belcher bolood*", Luvsandorj at autumn pasture, Khuld sum, 24 August 2022).

8. Cultures of Purity and Pollution

"Doesn't it taste so much different from the [industrial] milk they sell in shops?" Dalaimyagmar poured me a bowl of hot yak's milk from the batch freshly collected in the morning. I drank a first sip and told her how much I liked it: "It is so different!" Dalaimyagmar further elaborated:

> I heard that they use machines (separators) for processing the milk sold in the shops. They separate the fat from the milk, and you know not separated milk, Mongolian milk so to say, raw milk… They mix this raw milk with the machine-skimmed milk and then bottle the mixture. […] I asked Tuul[73] about it… I asked if we build our dairy, what will happen [with the milk] and the reply was that we will use separators, then mix some percent, well mainly this thin, watery milk (*shingen süü*) with a little amount of fresh milk (*tüükhii süü*). That way, the amount of fat is reduced. But, I guess, it will of course be sterilized, too. I heard that the packaged milk is produced in exactly this way. That's why they have this different taste.

For Dalaimyagmar, the best quality dairy products were made by hand from the fresh milk of grazing herds. She seemed unconvinced by the milk production strategies that were laid out for the dairy facility that was planned to be built for the cooperative of which she was still a member.

Attempting to connect Khatgal's herders to new market potentials, the Danish-based Khövsgöl Dairy Project helped to establish the delightfully named Blessed by Yak Cooperative for commercial dairy production and distribution. In mid-June 2017, along with the members of the cooperative who were mostly women, I was invited to a guest house by a team of NGO workers to attend a three-day-workshop that aimed to educate dairy cooperatives about commercializing local dairy production. In one of the workshop's seminars the NGO workers advocated the use of disposable gloves, sterile dairy equipment and certain kinds of plastics as ways of improving food hygiene. One NGO educator gave a presentation explaining how milk was likely to spoil under "unclean" milking conditions. It was explained that organic equipment such as wooden vessels as well as human hands, "dirty" udders, "dirty" milking environments, and dust could cause bacterial contamination in dairy products. These ideas of hygiene

[73] Tuul was a manager at Global Communities and worked on coordinating the Blessed-by-Yak herder cooperative in Khatgal.

contradicted local understandings of purity, wherein milk from grazing livestock was pure and metonymically associated with the generation of life and growth. Milk in Mongolia is used to purify the body and is frequently incorporated into rituals for purification. The workshop presented ideas of hygiene that saw milk as a potential carrier for pathogens and biological contamination. In this view contamination needed to be purified through sterilization and the dairy then needed to be contained in specific metal and plastic containers before consumption was deemed safe (Rest 2021).

Image 28: Handmade and industrial dairy equipment in Dalaimyagmar's ger. Khatgal, July 2018.

For the pastoralists with whom I worked in various regions throughout my fieldwork, plastics, both the kinds recommended and those explicitly discouraged in the workshop above, were increasingly present in herding households. Ladles, milking buckets and large barrels for fermenting mare's milk were now frequently made from plastic and could be found for sale at markets in district and province centers. Plastic tools were popular as they are cheap, lightweight and widely available. For the herders in Khatgal the use of quality plastic materials was encouraged in the workshop above, as a means to disconnect from domestic microbial communities that were seen by contemporary industrial food processes to be a source of potential contamination. Although many herders I talked to during fieldwork preferred to use dairy equipment made from organic materials such as

aspen wood, sheep's stomach or cow's hide, these materials were increasingly replaced by plastic items. Furthermore, as capitalist markets provided cheap alternatives to traditional dairying equipment and opened up new potentials for selling dairy, local herders had to compete with large-scale Mongolian dairy enterprises that packaged and branded milk and used imported starter cultures (Rest 2021). These changes presented challenges for maintaining the heritage microbes which have co-existed with herding communities for centuries. These diverse microbial communities were supported by the use of leather bags, bare hands and wooden vessels, together with which they built, shaped and maintained unique domestic microbial ecosystems.

The increased presence of plastics in herding households reflects two interwoven trends associated with Mongolia's change from a planned socialist economy to a market economy in the early 1990s: the need for affordable domestic tools and the pressures for sterilization and containment that came from attempts to access, or respond to, capitalist markets.

8.1.Cultures of Purity

During the socialist period Mongolian dairying was transformed by the introduction of new kinds of veterinary care and the industrialization of milk production. Owen Lattimore (1962, 190) describes these changes in his observations of Mongolian negdels (socialist collectives) in the 1960s: "In the old days, the Mongols kept milk in containers of wood or leather; now they use aluminium. They have also zealously adopted the idea that everything connected with milk must be clean and sanitary. For milking, making cheese or working in a buttercentral, a white gown must be worn." Accompanying these changes to herding, dairy production, and new kinds of medical interventions, ideas of purity and purification changed significantly. Through socialist education campaigns purity (*ariun chanar*) came to be associated with modern hygiene and cleanliness, often expressed in the term *ariun tsever*, meaning pure and clean (Stolpe 2008, 66). These new ideas of hygiene were presented in opposition to religious practices. As the renowned poet D. Natsagdorj (1906-1937) wrote in his treatise Infectious Disease:

Devils, demons, dragons, spirits,
Gold and silver, exorcisms,
Fees and offerings, pious worship,

Do not do anything to help.

Drum and cymbal, bell and skull-drum.
Useless, however much they're struck.

Sin, misfortune, evil spirits,
Useless, though you watch and pray.

Living germs of catching illness,
Tiniest of living creatures,
Invisible to human eye,
Will not be moved by silly noises.

Blessed with elixir, germs in saliva,
Just the same with shared tobacco.
Methodic scientific medicine
Destroys them easily, without fuss.[74]

Here Natsagdorj (who studied in Germany during the 1920s) identifies microbes (*bichil biyeten*) as dangerous living entities that pose an even larger threat to human life than spiritual contamination and spirits. This perspective, along with its explicit anti-religious tendencies, was developed throughout the socialist period. By the 1950s, the socialist government focused its efforts on cultural campaigns that aimed to educate rural areas about hygiene (Kaplonski and Sneath 2010: 854). Through these campaigns they introduced ideas of progress that reflected socialist ideas of modernity, ones which did not involve religious specialists (Abrahms-Kavunenko 2019). By the 1960s, these programs had linked the notion of culture (*soyol*) and of being cultivated (*soyoltoi*) to secular education and hygiene (Stolpe 2008, 65f.). This emphasis on hygiene changed the material culture of rural Mongolian homes. Ger and houses were equipped with sinks, soap, and toothbrushes so that socialist citizens could achieve and maintain cleanliness in the new era (Tserenkhand 2015). As a result of these changed notions of purity, bacteria

[74] Translated by Bawden 2003: 1236.

were considered entirely pathogenic, a perspective that also permeated into pastoral dairying.

In late July 2018, in order to collect dairy samples in the pasturelands surrounding Khatgal, I visited Nyamka at her summer pasture on the southeastern shores of Khövsgöl Dalai. [75] Having spent the past weeks visiting herder households to collect samples of a wide variety of dairy products for microbial, nutritional, and genetic analyses including fresh and boiled milk, clotted cream (öröm), yoghurt (tarag), and dried sour curds (aaruul), finding products made from cow's, rather than yak's, milk was proving to be a difficult task in Khatgal. Nyamka was a middle-aged woman who was one of a few herders with Mongol cows (*mongol ükher*) in the region. Though relatively difficult to rear in this region due to the cold climate, cows, as Nyamka explained, provided more milk than yaks. While Nyamka ladled the fresh milk of the morning yield, I was preparing my sampling tools inside her ger. I asked about the presence of bacteria or microbes inside the milk. Nyamka took a colander from her kitchen shelf and stated that all the bacteria were removed from the fresh milk when she filtered it through the colander before boiling it. According to Nyamka, bacteria and microbes were harmful and had no place in her dairy products. As she explained to me, resuming stirring the heating milk with a plastic ladle, her cows' milk and the dairy products she produced were healthy and pure.

Nyamka demonstrated that herders had a different perspective on microbial activity than, for instance, Post-Pasteurians. As Heather Paxson describes in her research among raw milk producers in the United States, Post-Pasteurians see raw milk as "a traditional food processed for safety by the action of good microbes – bacteria, yeast, and molds – that can outcompete bad bugs for nutrients in milk" (Paxson and Helmreich 2014, 172). Instead, Mongolian herders tended to recognize bacteria and microbes as individual entities that posed a threat. On the other hand, through positively engaging with collective microbial communities on a daily basis herders recognized the living potentials contained within Mongolian dairy. These living potentials are under pressure from the large-scale production of dairy and the standardization of pastoral dairying practices that come from imported Pasteurian approaches to hygiene. These Pasteurian approaches are carried through the materials that are used for the sterile production and packaging of dairy products for sale in capitalist markets, as earlier highlighted by Dalaimyagmar's comment on industrial milk. From these divergent ways of noticing microbial activity, either as

[75] Nyamka is a pseudonym.

individual pathogenic entities or as life-supporting collectives, tensions between pastoral milk fermentation and market-oriented dairy production emerged. The Blessed by Yak cooperative was a case in point.

8.2.Milk and Markets

The Blessed by Yak cooperative members were mainly women who were herders seeking to sell their dairy products to tourists in Khatgal. When it was first initiated, the cooperative had ten members who occupied different roles, including one chairwoman, a board, an adviser, and a communication coordinator. The general plan and long-term goal of the project, particularly on the side of the KDP, was to improve local livelihoods through the marketing of dairy products. The description of the cooperative on the KDP's website reads:

> The herders are mostly living of barter economy on products from their livestock. This makes the herders very vulnerable, as they don´t have an economic buffer, to handle emergencies like diseases, accidents or extreme climate conditions. If their livestock dies or they must sell it in order to survive, their only opportunity is to migrate to the capital Ulaanbaatar where unemployment and the slum awaits. KDP wants to make the herders capable of selling the surplus products of their livestock by providing counselling, adequate education and production equipment and help [Blessed by Yak] organize and develop their cooperative.[76]

One crucial element to achieve these goals was to establish a dairy facility for production and sales in the center of Khatgal. The production and marketing strategy of the KDP followed a simple logic based on the premise that through centralizing production and distribution with the establishment of this dairy facility, dairying will provide a way to mitigate pastoral vulnerabilities and advance economic benefits. On the one hand, by stressing pastoralist vulnerabilities, this approach echoed a general developmentalist paradigm where "[p]roponents imagine growth as the way to ensure that the needs of the poor are taken care of. There is a sense that if everything grows then finally there will be enough" (Livingston 2019, 7). On the other hand, the KDP acknowledged that there already was dairy wealth that even generated surplus. The

[76] http://www.khovsgoldairyproject.org/sarlagiin-saikhan-khishig-cooperative/

problem was rather, as suggested by the quote above, that herders lacked the knowledge and infrastructures to mobilize that wealth for their own well-being.

From this logic emerged a linear trajectory: Fresh milk would be transported from the pasture to the dairy facility where it would be processed into dairy products. The products would then be packaged and brought to the market to be sold to local shops and tourists and generate profit. Along this trajectory, herders would be provided with education and tools enabling them to transform dairy khöröngö into capital khöröngö. This developmental approach to market milk created various tensions that not only disrupted the aimed for linearity of production. It also created tensions between pastoral, developmental, and capitalist notions of purity, pollution, and collective life.

8.3.Coming to Terms with Capitalism

On 26 May 2017, I attended a meeting of the Blessed by Yak cooperative at the Mongol Ujin tourist camp. It was the second time I went to a cooperative meeting. Going to these meetings, I thought, would be a good idea as I hoped to establish new contacts with some of the members and get an insight into how local herders dealt with the tourist season and the economic opportunities it provided.

Davaa, the owner of the Mongol Ujin tourist camp and the communication coordinator of the cooperative, opened the meeting with a reflection on the cooperative's accomplishments ever since it was founded in 2015.[77] One issue that was quickly raised was the question of how to establish the infrastructures needed for marketing the dairy products of the herders. The lack of adequate means of transport necessary to bring the milk from the pastures to the village center, as well as the problem of finding an appropriate place to store and sell the products were frequently addressed during meetings without any solution in near sight. But the cooperative members felt the urge to make progress and find ways to market dairy products during the upcoming tourist season, better sooner than later. However, they did not come to terms with the issue. They were confronted with a set of decisions about what needed to be done to move forward: should they buy a car for collecting milk and transport it to the town? Where should they store the milk and dairy products once they have been brought to the town center? There was still no facility they collectively owned after all. Would it thus make more sense to buy land and start business from there? What were the best products to sell, then? The KDP's

[77] As soon as the meeting began, I asked for permission to record, which was given to me immediately.

budget was tight, and these issues seemed to make things more complicated. Therefore, the cooperative's dependency on international and national NGOs being their funding sources did not necessarily make things easier either but was perceived as creating delays and distortions of the progress they were promised.[78]

The NGOs' approach involved delegating power of decision to the herders. During a cooperative meeting which I attended six weeks earlier, the topics were similar to those addressed during the meeting in May: finding a date for a workshop, deciding on a topic for the workshop, deciding who would occupy which position within the cooperative, deciding upon a selection of products they wanted to market, and finding people who could help building the dairy facility the project planned to establish. The herders, on the contrary, often felt overwhelmed, frustrated, and concerned with having to take on these decisions. Notably, their concerns were not about the act of making decisions, but about what kind of decisions were left for them to be made.

To me, the situation seemed tricky. On the one hand, the NGOs wanted to grant the cooperative collective autonomy regarding the decisions that needed to be made in terms of volume of production, infrastructures, and division of labor. On the other hand, agreements were hardly made, and it occurred that when a decision was made by the herders, plans changed due to interferences on behalf of some of the organizations involved. For instance, the KDP teamed up with Global Communities (henceforth GC), a USAID-funded NGO that focused on educational programs and skill development for rural communities. In 2017, they planned to organize a workshop with the herder women in Khatgal with a focus on hygienic standards in food processing. The herders were asked about the best time to organize this workshop. After discussing extensively, they suggested a date in early or mid-May only to learn by the end of May that the organizers from GC switched the date to mid-June. Whereas such events always transmitted a certain promise of progress for the cooperative, they often took place at a time when the pastoralists were heavily occupied with taking care of their newborn animals, and thus happened to the detriment of the herders and their herds. Furthermore, omitted in their collective decisions by external agents such as GC courted the herder women's resentment. Many felt as if the cooperative was stalling. Promises of progress were frequently on the verge of turning into disappointment.

[78] The KDP collaborated with further NGOs and international organizations based in Europe and Mongolia, among which were Dairy Without Borders and Global Communities (USAID related).

Dalaimyagmar was not shy of expressing her discontent with the slow, or even absent, progress of the cooperative and the uncertainty it created instead. “If we all had no work to do, it would be easy [to deal with these things]”, she commented. One major point she made was to emphasize that the herder women were very busy throughout the day, every day. To her, there was no point in neither waiting for more advice nor in having seemingly endless discussions about how to proceed. Instead, while knowing that everyone was highly occupied with their domestic work, it was more important to her to know if they were going to proceed at all. When Zoloo raised the topic of making a decision towards a loan offer by one of the NGOs, Dalaimyagmar spoke up: “Now we are talking about *if* we will do something or *if* we will not. We can talk about taking a loan or not thereafter. If we will not do something, this loan is nonsense anyway.” She wanted to make one step at a time and preferred action over talking.

Davaa, in a conversation after the meeting in May, cynically commented that the herders simply did not understand capitalism and the market economy (*zakh zeel*), which was why they would struggle to come up with a good strategy for marketing their products (*borluulakh*). Davaa’s background was very different from that of her pastoralist peers in the cooperative. She was a tough businesswoman and with her entrepreneurial spirit she was never shy of attempting to make her ideas palatable to potential business partners. In fact, during cooperative meetings Davaa tended to not only push her ideas but also to push the herders to do more work for the sake of the cooperative by telling them to think about new dairy creations. Dalaimyagmar, on the other hand, provocatively asked Davaa if she were the one at the table who milked yaks, suggesting that she did not know well about the hard physical work herders carried out daily.

What might appear as a simple internal dispute, or perhaps as interpersonal disagreements, rooted in deep tensions between accommodating production and marketing strategies and the everyday lives of herders. Dalaimyagmar’s comments were critical in this regard. She wanted to underscore the hard work that she and the other herder women invested into their dairy products. For Dalaimyagmar this hard work was unseen labor which she wanted to be seen and acknowledged. The tensions illustrated above demonstrate that the problem was not the herder women not understanding the market economy, as postulated by Davaa. Instead, they understood the laid-out structures very well from a providing position. While they knew what their role was in the cooperative’s capitalist market mechanism, their rewards remained uncertain and indefinite. Confronted with responsibilities for making decisions for an infrastructure

they expected to provide for them was not simply a matter of unfamiliarity. These responsibilities were additional responsibilities superimposed upon them while they saw their work and living conditions disregarded. Additional to their domestic work they were now expected to navigate new time regimes and the provision and maintenance of new infrastructures.

8.4.Translating Khöröngö

The cooperative work in its initial years was experienced as challenging and demanding by Dalaimyagmar and other members of the Blessed by Yak cooperative. Nevertheless, interest in finding ways to market dairy and find ways for generating additional income through milk remained strong among the cooperative members. In late summer 2022, when I visited Baasan once again and shortly after I gave her the wooden milking bucket, I noticed another new item in her repertoire of dairying tools. This item was a sealable milking can made from stainless steel and carrying the logo of the cooperative. Upon my asking about the use of the new container, we started discussing the cooperative's latest developments.

By 2019, the construction of the dairy facility was started, and it went into operation in summer 2020, which was a low producing year. In this initial operating year, Baasan provided roughly four hundred liters of fresh milk over a period of two months. However, she provided milk for free which was necessary to get the dairy production started. In the following years, herders who were cooperative members provided fresh milk to the dairy facility for which they were reimbursed with one thousand five hundred MNT per liter. The dairy facility had the capacity to process one hundred sixty liters per day into a variety of dairy products, including sour cream, yoghurt, dried curds, and soft cheese. The one hundred sixty liters were easily provided, and thus a competition was introduced as a means to both keep milk flowing and reward the herders. With a seasonal total delivery of one thousand liters of fresh milk Baasan was successfully participating in this competition of best milk providers, ranking second in 2022 for which she was rewarded with five hundred thousand MNT and a medal.

Baasan also mentioned the impact the tourist season had on the economy of the dairy facility, which became not only the site of production but also the central unit for economic organization of the cooperative, including tasks such as accounting and distribution. During the tourist season, Baasan said, prices for fresh milk rose, i.e., herders

were able to charge more money per liter because there was a bigger demand. Market competition, the cooperative soon became to realize, was a significant economic factor throughout the village. If the dairy was not able to generate profits and compensate herders' milk deliveries with the set price, herders often turned to stores, supermarkets, or directly to tourist camps to sell their milk. Consequently, the dairy had to pay the herders the same amount of money *continuously*, because otherwise they risked receiving insufficient amounts of milk, the substance on which the whole organization relied.

Within the new linear trajectory that the cooperative dairy production followed, milk was the generative unit that was supposed to create growth through the selling of dairy products made in a central facility. From these products, a different type of khöröngö ought to be generated: capital and profit. Put bluntly, without milk, there was no market khöröngö. But how did dairy khöröngö factor in?

8.5.Incompatible Ecologies

I asked Baasan from where the dairy got its starter culture for fermentation, and she replied that she did not know from where they got the "*ekh khöröngö*", the mother ferment. I further asked if she thought if they used a local khöröngö or a standardized ferment. Baasan was convinced that it must be a local khöröngö from a pastoral household because a standardized starter would not be of any comparable quality to provide for good local dairy products. She furthermore stressed that the quality of the khöröngö has a significant impact on the quality of the dairy products made from it. She concluded that if the milk came from pastoral households, the khöröngö ought to as well.

The growth potential of milk fermentation, facilitated and shaped by khöröngö, was planned to be translated from a recursive and cyclical pastoral ecology into a new linear trajectory that had a beginning and an end. Khöröngö, by following this logic, was meant to be transferred into what anthropologist Heather Paxson (2013, 31) has termed an "ecology of production [which is] an assemblage of organic, social, and symbolic forces put into productive play in the service of a post-pastoral form of life, one that seeks to work with the agencies of the natural world in a way that revitalizes rather than depletes those forces."

In order to facilitate this translation and market dairy products, a dairy facility, i.e., land and infrastructure was needed. Land was another type of khöröngö that adhered to the transformation of value. An ecology of production encompasses all kinds of agentive

forces that contribute to the creation of value through labor, including microorganisms such as bacteria and yeasts, pastures, livestock, cheesemakers, infrastructures, as well as social and legal conditions. In the case of artisanal, post-pasteurian cheesemaking in the US, especially living entities beyond the human (but also including humans) are regarded as active contributors to the creation of artisanal cheeses as both "living substances" and "unfinished commodities."

Although artisanal cheesemaking in the US and pastoral dairying comprise different modes of dairying and multispecies interactions, khöröngö was also inherently unfinished. More than that, khöröngö was regenerative. In case of the cooperative and the endeavor of marketing pastoral dairy, a twofold problem emerged. First, while khöröngö was inherently unfinished, it was not a commodity as compared to the market orientation that shaped the production of artisanal cheeses. Second, the unfinishedness of khöröngö rooted in the cyclical dynamics of (re-)generating growth as practiced in pastoralism in contrast to the linear trajectory of dairy production as envisioned by the NGO-supervised cooperative, which was oriented towards finishedness. Because pastoral dairy khöröngö and fermentation were all about beginnings while centralized dairy production was all about end products, an incompatibility emerged that materialized in the summer of 2023.

In September 2023, on a final visit to Mongolia for the Dairy Cultures project, I had a meeting scheduled with Miigaa at the Blessed by Yak dairy facility. Miigaa was a woman who joined the cooperative in 2020 and quickly after took up the position of the local accountant and manager. The meeting with Miigaa was arranged by Urana, the cooperative's manager who lived in and worked from Ulaanbaatar. When I arrived at the dairy facility Miigaa was already waiting for me. She was by herself, and the facility was standing idle. That summer, the dairy only operated from 23 June to 23 July. Miigaa pointed out that there were several factors that brought production to a halt, including the late arrival of summer following a cold spring, extraordinarily high milk prices of two thousand five hundred MNT per liter due to inflation, and expenses that stood in no relation to the income the dairy cooperative generated. The latter referred to running costs for electricity, water, and waste. Furthermore, the workload was barely manageable. According to Miigaa, she and another member who managed daily business at the dairy

facility struggled to combine the cooperative work with their pastoral work at home. Everyday tasks that fed their families, such as milking and fermenting were falling short.[79]

In early July, three technicians and engineers from Denmark visited the dairy facility and herder households for a survey on productivity. They were affiliated with the NGO Dairy Without Borders, which also paid a small salary for Miigaa and her colleague. The conclusion of their survey was that the dairy and the cooperative were not profitable in the way they operated. One factor they highlighted was the quality and range of products made. They assessed that the products of the cooperative did not stand out from the usual pastoral dairy products present in the region. Moreover, they argued that the fermented products, such as yoghurt, had a far too sour taste for which they saw the reason in the acidity of local khöröngö. Consequently, they decided to introduce an industrial and standardized starter culture engineered by the Christian Hansen company, a global bio-tech giant based in Denmark that also sponsors Dairy Without Borders.

Image 29: Dairying in action as Dalaimyagmar is distilling yak airag in her ger (left), and dairying suspended in the sterile dairy facility of the Blessed by Yak cooperative (right). Khatgal July 2019 (left) and September 2022 (right).

The new starter culture disrupted the entire dairying routine. Miigaa explained that it needed to be fermented at exactly forty degrees Celsius and that it thus needed double the time for fermentation (four instead of two hours) and turning cultured milk into yoghurt. This ultimately shifted the production schedule to such an extent that it became unfeasible to maintain production. Combined with the other factors that complicated the dairying processes, the introduction of the industrial khöröngö brought the production to a halt altogether. As I have demonstrated above, capitalizing on the transformative potential of

[79] In fact, the KDP even sponsored the university training for two dairy technicians from Khatgal who were supposed to manage the facility after graduation, but according to cooperative members I talked to, they did not manage to support their livelihoods on the salary they received in Khatgal.

khöröngö depended on a plethora of variables, including multispecies relationships as well as transport infrastructures, geographic distance, dairy technology, and microbes as actors of transformation.

Recent literature in anthropology and STS addresses how various forms of heritage biowealth, localised in specific world regions, become integrated into the dynamics of global networks of capitalist development and biopolitics, often resulting in the alienation of these valuable and situated biosocial entities (Livingston 2019; Yates-Doerr 2017; Tsing 2015). Anna Tsing, for instance, argues that "[p]rogress is a forward march, drawing other kinds of time into its rhythms. Without that driving beat, we might notice other temporal patterns. Each living thing remakes the world through seasonal pulses of growth, lifetime reproductive patterns, and geographies of expansion" (Tsing 2015, 21). In Khatgal, these dynamics were inverted in case of the Blessed by Yak cooperative as the versatile human-microbe interactions in the framework of dairy pastoralism were undermined by the introduction of allegedly superior ferments from a large European biotech company, reflecting neocolonial food politics (van Dooren 2007). These European ferments were considered superior because they are standardized, controllable, and thus considered more efficient, stable, and profitable. Homemade starters were sweepingly done away with by simply being considered too sour or unclean, without being scientifically studied regarding their microbial properties to begin with. That way, the profound multispecies knowledge of herder women was being devalued, too. Timescapes, regimes of production, and gender issues clashed here. What was left out of the picture was that pastoral ferments embody stability and continuity and have done so for centuries because they are incommensurable and neatly incorporated into domestic micro-ecologies that were maintained by the hard work and deep knowledge of herder women. Pastoral khöröngö, then, was an antidote to producing surplus value and profit from milk to market.

Conclusion: Distance Through Infrastructures

Today milk is still deeply embedded in Mongolian pastoral society and a broad range of diverse dairy products is produced on the pastoral household level (Ruhlmann 2019). Yet, the circumstances in which these foods are produced have changed following the introduction of new technologies, sterile equipment and a standardised approach to food security and human health. Dairying practices in Mongolia depend on a range of variables, including climate and weather, pasture and animal health, microbial activity, and material culture, all of which point to the complexity, continuity and fragility of pastoral dairying. Social and spatial mobility, as well as the cross-generational exchange of dairying knowledge and technology, have contributed to the maintaining of rich dairy practices in Mongolian pastoral society for centuries, if not millennia.

In pastoral milk fermentation cycles, humans and dairy microbes interact in such ways that they help to sustain interdependent relationships across geographic scales, generations of kin, and animated ecologies. It is through the work and knowledge of pastoral women that these interdependent relationships of Mongolia's microbial heritage and diversity of dairying practices have been preserved for so long, and they maintain great potential to sustain this diversity in the future. However, the long history of pastoral dairying faces a host of challenges, including rural urban migration, poor infrastructure, inadequate access to markets, and an increasing use of industrial, non-organic equipment and techniques.

The introduction of bio-engineered, standardized European starter cultures to the production cycle of the Blessed by Yak cooperative demonstrated how disregarding pastoral dairying as a multispecies ecology where humans, animals, and microbes interact in nuanced ways disrupted growth. It remained unclear if those starter cultures were intentionally engineered as "terminated seed" (van Dooren 2007, 71), i.e., that they were supposed to die due to the fact of being "produced through an engineered seed-death which cancels out all future generations." Whether intentional or not, the industrial starter temporarily terminated the cooperative's production cycle. The suspension of production in the dairy facility, on the other hand, highlighted the reliability of pastoral infrastructures, including homemade ferments and the ger environment. Re-transferring milk fermentation from the sterile dairy facility to the ger enabled Miigaa and her colleagues to keep dairying. However, the dairying environment was not the only factor that impacted the production. Market-oriented production demanded time from the

herders that they struggled to provide given their household activities. The time invested furthermore did not guarantee stable incomes in response as market prices for milk turned out to be more fluid than the milk itself.

For similar reasons, Dalaimyagmar distanced herself from the cooperative. For her, production was not attuned to the daily lives of herders and their dairying routines. Dalaimyagmar complained that there was no real collective approach and cooperative members were only interested in their individual well-being. Although the Khovsgol Dairy Project aimed to establish an infrastructural framework based on education and equipment through which cooperative herders could collectively generate growth and profit through the commodification of their products, the provided infrastructures were unequally distributed and accessible. Baasan, for instance, successfully managed to provide fresh milk to the dairy facility for three consecutive summers, for which she was also monetarily rewarded. While her success rooted in her expertise and hard work, milk supply was logistically much easier for her since she lived only a few kilometers away from the dairy facility, much closer than her friend Dalaimyagmar.

Dalaimyagmar and Byambaa, on the other hand, lived at least twenty kilometers away from the dairy facility. They knew very well and valued the ecology of their summer pasture at Ulaan Davaa, knowing that the vegetation figured strongly in the quality and taste of their animals' milk. As cooperative herders were made responsible for organizing the milk supply, Dalaimyagmar felt excluded. She suggested that a milk truck was much more efficient for the cooperative. She remembered how milk trucks during socialist times traveled to herder households at their summer pastures to collect fresh milk. Dalaimyagmar was convinced that if the cooperative did the same, it would allow herders to go about their daily lives and at the same time create collective contributions to collective benefits. The present mode of individualized and centralized infrastructure, however, created an additional layer of social distance to the spatial distance and a temporal rupture for the rhythms of pastoral dairying ecologies.

Futures Foreclosed? Concluding Remarks

"There is no end to what a living world will demand of you."[80]

Image 30: Milk tea in light and shadow. Khatgal, July 2017.

By comprising a multitude of actors of transformation khöröngö was subject to various kinds of growth in Khatgal. Each of these different kinds of khöröngö relied on specially attuned circumstances to mobilize its growth potential while at the same time demanding that these circumstances be maintained. Khöröngö flourished in demanding environments while reproducing demanding environments. Maintaining khöröngö in form of water, fences, and ferments depended on how humans engaged with and responded to the demands of these more-than-human environments, and how these environments responded to human actions. These ways of responding pointed to particular responsibilities that required practices of care and protection within the multiple, intersecting moral ecologies that unfolded in Khatgal and the Khövsgöl Dalai watershed. As van Dooren and Rose (2016, 89) note, through "exploring *response-ability*—the capacity to respond—we move beyond simplistic framings of responsibility as a question of human agency in a passive and inert world. All living creatures, and others too, respond to the world around them" (italics in original).

[80] Butler 1993, quoted in Livingston 2019, 125.

In Khatgal such responses took up many shapes and were issued by human and more-than-human actors guided by specific moral considerations. According to Catarina Scaramelli (2019, 10) "[m]oral ecologies are crisscrossed with and productive of politics and reveal the complex ways in which practices of ecological care, conservation, and love can at the same time also involve violence, dispossession, and marginalization of unwanted people, organisms, and ecological relations." In my research, I was able to study how such dynamics unfolded and affected collective life in Khatgal and beyond. Located at the shores of Khövsgöl Dalai, a body of water that was considered pure and unique and thus ascribed exceptional value within the geography of Khatgal and Mongolia, life in Khatgal was constantly lived between pollution and protection as well as between care and precarity.

The wealth that the exceptional environment of Khövsgöl Dalai entailed reached far beyond Khatgal and Mongolia, as it attracted international development and conservation initiatives. These initiatives, however, significantly contributed to the socioeconomic marginalization of individual people and Khatgal as a whole. Under the precursor of aiming to improve livelihoods, development work was unfolding as short-term growth and long-term wealth extraction. For instance, when I attended the yak festival in 2018, a large public event where herders presented their skills in riding and roping yaks, I met the project manager of the ADB project 'Integrated Livelihoods Improvement and Sustainable Tourism in Khuvsgul Lake National Park (MON 9183)'. She explained that she would not regard it beneficial how many businesses in Khatgal were run by private people from the city taking away economic benefits from Khatgal. The ADB project had the objective to improve the livelihoods of local families through community-based tourism (Asian Development Bank 2015), but the overall strategy turned out controversial; according to the project leader, the ADB claimed to support herders and villagers in Khatgal by providing them with loans with a 2,4% interest rate. The irony was striking. Despite being aware of the problem that profits generated by tourist businesses were diverted to urban centers, the benefits of loans, too, were to the detriment of Khatgal's inhabitants in the long term. Our conversation underscored that development followed the road, but not unconditionally since "new roads concurrently enhance the presence of the state, intrusion of the external (regional and global), and prospects of exploitation and expropriation" (Diener and Batjav 2019, 13). Development initiatives like the ADB project registered that "infrastructures are material constructions,

maintained through work, that always produce ecological effects and carry political meaning" (Scaramelli 2019, 8).

In Khatgal, development and pollution were two sides of the same coin. Water, land, and milk were pure entities that were significantly prone to pollution, which they experienced in different ways. In the case of Khatgal and Khövsgöl Dalai, the lake was translated from a pure source of life that actively nourished multispecies life to a proxy for natural purity to be gazed at and attract tourist business. Khatgal's inhabitants knew that Khövsgöl Dalai fell victim to various kinds of pollution that related to human activity past and present. From the perspective of those who led precarious lives in Khatgal, including Odonchuluun and Oyunaa, it was the arrival of such "unwanted people, organisms, and ecological relations" (Scaramelli 2019, 10) that caused pollution in form of trash, dust, wastewater, and disproportionate wealth accumulation. Wealth accumulation was not only considered pollution because it took place disproportionally, but also because it led to exponential pollution. Larger tourist camps meant more visitors who produced more trash and more wastewater. Responses to these kinds of pollution materialized through fire, a violent form of purification. More so, private households who managed to accumulate certain material forms of property and wealth that promised to further mobilize the growth potential of private khöröngö, including cat cabins or motorized vehicles, fell victim to theft and injurious talk. Individualism and egoism, as mentioned by Odonchuluun who did not own a khashaa, seemed to have spread across all spheres of the village.

But moral ecologies do not simply comprise responses that can be read as resistance to capitalist dynamics, as argued by Scaramelli (2019, 86). Rather, "[t]hey are nested within capitalist processes, histories of land expropriation, class and gender hierarchies, and exclusionary ethnonationalism" (ibid.). The introduction of foreign standardized ferments was a case in point. The establishment of the dairy facility was after all desired by the cooperative members as they wished for monetary income. Only when the new starter cultures were introduced, they turned out as another form of pollution that affected dairy ecologies by suspending production cycles, and consequently growth, as well as by disrupting the very stability they promised. Development agendas as promoted by the state, international organizations, and NGOs, with roads being their figurative and material prime example, were praised to similar levels as Khövsgöl Dalai was praised by people in Khatgal. The difference was that development failed the people it was supposed to reach, unlike the mother ocean as well as the herder women I worked with. Under all

the instabilities that capitalist development generated, these women managed to keep things alive. Yet they were never talked about in ways that went beyond the symbolism of nourishing mothers.

The problem was not that these ferments were foreign. The excursion to the Gobi Desert underscored that ferments from far away were even desired and contributed to the value of dairy products. Rather, it was the industrial and standardized background of these bio-engineered ferments that demanded forms of care and infrastructures that were entirely different from those that worked so well among pastoral herder women in Khatgal. With reference to the work of Maria Puig de la Bellacasa (2012), Thom van Dooren (2014, 291f.) points out three key components of care as "a particularly profound engagement with the world":

> As an affective state, caring is an embodied phenomenon, the product of intellectual and emotional competencies: to care is to be affected by another, to be emotionally at stake in them in some way. As an ethical obligation, to care is to become subject to another, to recognize an obligation to look after another. Finally, as a practical labor, caring requires more from us than abstract well wishing, it requires that we get involved in some concrete way, that we do something (wherever possible) to take care of another.

The assumed superiority of these bio-engineered ferments was their own obstacle, demonstrating that, according to Clapperton Chakanetsa Mavhunga (2017, 4), "[i]t requires not merely looking at how people respond to incoming things, but placing the latter's arrival, meanings, knowledges, and materialities within the locals' technological longue durée." If development initiatives, international organizations, and the state *cared* about this longue durée and about generating continuous growth through the lens of "[c]are as a concrete work of maintenance, with ethical and affective implications, and as a vital politics in interdependent worlds" (Puig de la Bellacasa 2016, 5), thoroughly studying pastoral dairying and taking seriously the life worlds of pastoralists and their multispecies companions would have been a first step. Otherwise, development simply mirrored neocolonial and neoliberal modes of extractivism that capitalized on an assumed purity of the nomadic past. Ultimately, through reflective methodologies like translation, anthropologists can explore the complex narratives of individuals navigating between precarity and prosperity, while also analyzing the power structures shaping these

experiences. In doing so, they contribute significantly to understanding and maintaining well-being by actively engaging in care and recognizing the importance and impacts of care work.

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